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From biological hazard to social disaster, vulnerability and resilience: a case study of Bac Ninh province in Vietnam during the Covid-19 pandemic

Anh Dao Nguyen

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**From Biological Hazard to Social Disaster – Vulnerability and Resilience.
A Case Study of Bac Ninh Province in Vietnam during the Covid-19 Pandemic**

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Master's Thesis

Master 2 - International Development Studies

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LIST OF ABBREVIATIONS

BNESC	Bac Ninh Employment Service Center
Co.Ltd	Limited Company
FDI	Foreign Direct Investment
GRDP	Gross Regional Domestic Product
ILO	International Labor Organization
MOET	The Ministry of Education and Training
MOH	The Ministry of Health
MSEs	Micro, small-sized enterprises
NSC	The National Steering Committee
PAR	Pressure and Release
SARS	Severe Acute Respiratory Syndrome
UK	The United Kingdom
UNDRR	United Nations Office for Disaster Risk Reduction
UNICEF	United Nations Children’s Fund
US	The United State
VNPT	Vietnam Posts and Telecommunications Group
WHO	World Health Organization

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CHAPTER 1: INTRODUCTION

It has been more than a year and a half since the first pneumonia patient with an unknown etiology was declared in Wuhan, Hubei Province, China, December 2019 (Zhu et al., 2020). A few months later, the disease named Covid-19 caused by SAR-CoV-2 was announced by the World Health Organization (WHO) as a Public Health Emergency of International Concern (World Health Organization, 2020a). Covid-19 started becoming a global pandemic on the 11th of March 2020 due to the dramatically escalating number of positive cases and the growing number of negatively impacted countries (World Health Organization, 2020b). By the 17th of June 2021, there are more than 177 million confirmed cases around the world, including nearly 4 million deaths (European Centre for Disease Prevention and Control, 2021). The United States, India and Brazil are momentarily the top 3 countries severely affected with around 80.6 million cases and 1.5 million deaths, which make up nearly half of the total cases in the whole world (European Centre for Disease Prevention and Control, 2021).

Vietnam was one of the very first countries impacted by the virus. It manifested as such because Vietnam is among the 14 neighboring countries of China, sharing a 1,300-kilometer land border (N. H. Nguyen et al., 2020), and the Vietnamese and Chinese economies have strong connections. Indeed, in recent years, the two countries have kept close long-term bilateral relationships in multiple fields, including foreign trade, diplomacy, science and technology, and tourism. Moreover, at the moment, China is considered one of the fastest-growing economies in the world, which is stimulating the cooperation between the two countries, inducing more and more travel between the two. Therefore, because the pandemic originated in China, its contagious nature naturally brought it to China.

Vietnam at present has been going through the fourth wave of dealing with the Covid-19 pandemic. The new variant of Covid-19, a combination of the British and Indian variants transmitting more quickly in the air than the previous strains, has been currently active in Vietnam since April 27, 2021 (Thuy An & Le Phuong, 2021). During almost two years of facing Covid-19, the Vietnamese government announced multiple policies to tackle this hurdle. Through social media, newspapers, and international reports, it is not difficult to see that Vietnam has been encouraged and received many compliments due to its ability to effectively deal with the Covid-19 pandemic (Dabla-Norris et al., 2021). Meanwhile, on the other hand, many people remain skeptical about the outcome of Vietnam's fight against Covid-19. They

criticize that Vietnam has been hiding the actual number of infections and deaths, and the published figures have not reflected precisely the current situation in Vietnam (Whong, 2020). We have yet to discuss the accuracy of the data. However, if we only pay attention to the daily reported figures, we will be overlooking the wider picture of what has been happening in Vietnam; it is clear the statistics do not properly reflect the disproportionate vulnerabilities suffered by Vietnamese residents and their differences in resilience after each wave of the Covid-19 crisis.

Besides being a Vietnamese resident observing the dire consequences of the Covid-19 pandemic to my home country of Vietnam, I am also an International Development Studies student accumulating serious background knowledge about Facing Environmental Issues, particularly Disaster Risk Reduction. That is why I chose the topic entitled *“From Biological Hazard to Social Disaster – Vulnerability and Resilience. A Case Study of Bac Ninh Province in Vietnam during the Covid-19 Pandemic”* for the Master’s thesis. In relation to my case study, I direct my research toward answering the question *“In Bac Ninh province, do the effects of the pandemic crisis and the resilience of the local society depend on an articulation between the practices of each inhabitant, the contribution of the community and the measures taken by the public authorities?”*

To clarify this main question, we will together gradually explore the concepts of hazard and vulnerability, two key components of disaster risk (Wisner et al., 2003) and I will also review the theory of resilience. They will be utilized as the grounds for a case study of Bac Ninh province. For the contextualization, I will first present the actual situation of the ongoing Covid-19 pandemic in Vietnam, and review the policies and strategies that have already been announced by the Vietnamese government so that reader will have a holistic picture of the situation in Vietnam in general before intensively exploring the case study of Bac Ninh province. The methodology of collecting data by using both qualitative approach and quantitative approach and analysis will be presented before getting down to the research results divided into three sub-sections: (1) Bac Ninh authorities’ measures; (2) Adverse Impacts on Socio-Economic Development and (3) Community and Social Connections. Following the results will be a discussion section which will ultimately end on be my final thoughts and conclusion.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1. Frame the concept: What kind of Hazard is Covid-19?

Before going into details and answering the above research question, it is crucial to frame what hazard category Covid-19 falls into. The ways we frame such an event and its consequences will determine the means deployed to deal with the situation. Therefore, this section intends to clarify our understanding of what a hazard is then answering the question 'What kind of hazard is Covid-19?'

According to the United Nations Office for Disaster Risk Reduction (UNDRR), a hazard is defined as “a potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future threats and can have different origins: natural (geological, hydro-meteorological and biological) or induced by human processes (environmental degradation and technological hazards) (United Nations Office for Disaster Risk Reduction, 2007, p. 5). Epidemics or Pandemics are those example of biological hazards, which are “of organic origin or conveyed by biological vectors, including pathogenic microorganisms, toxins and bioactive substances [...] [They] are also defined by their infectiousness or toxicity, or other characteristics of the pathogen such as dose-response, incubation period, case fatality rate and estimation of the pathogen for transmission” (United Nations, 2017, p. 19). Based on both parts of the UNDRR definition, the Covid-19 pandemic can be considered a natural hazard, particularly a biological hazard¹. So, what distinguishes Covid-19 as a unique biological hazard? While most other natural hazards require evacuation away from a crisis point, pandemics require people to stay in one place and to limit social and economic interactions to cut off transmission routes. That means people, rather than protecting themselves by moving away from danger, have to protect both themselves and others through their immobility. This characteristic of immobility which characterized the fight against Covid-19 leads to the specific consequences explored through the concept of socially constructed vulnerability.

¹ We have chosen not to consider the rumors spread through social networks as founded, as they are not supported or based on any serious or solid scientific evidence.

2.2. Vulnerability

There are different ways to approach vulnerability. This section will gradually present the various concepts and definitions of vulnerability through its historical development.

Emerging in the mid-20th century, the first notion of vulnerability to disaster concentrated on the biophysical aspects. A simple concept based on response to the severity of a natural hazard. In *"Natural Hazards: Explanation and Integration"*, Tobin and Montz, 1997 stated that "The traditional view of natural hazards has ascribed all or almost all responsibility for them to the processes of the geophysical world. The view has meant that the root cause of large-scale death and destruction has been attributed to the extremes of nature rather than encompassing the human world. Frequently, disaster victims have been view as unfortunates who could do little but react to physical processes. The physical world then has been seen as an external force, separate from human forces" (Tobin & Montz, 1997, p. 8). This traditional conception and approach to vulnerability exclusively focuses on the physical phenomena of disaster. It leads to the belief that humans can do nothing when facing disasters since they are natural phenomena and considered inevitable. Despite the geophysical, meteorological and hydrological instrumentation and technological advancement, people still viewed disasters as if they were the same things as the phenomena that caused them. It was impossible to predict with precision the occurrence of such an event and, therefore as a consequence, the damages and losses are unavoidable.

O'Brien et al.,2004 further entitled this interpretation 'outcome vulnerability', whereby vulnerability was referred to as the end point of the analysis (O'Brien et al., 2004). Kelly and Adger, 2000 indicated that "assessment of vulnerability is the end point of a sequence of analyses beginning with projections of future emission trends, moving on to the development of climate scenarios, thence to biophysical impact studies and the identification of adaptive options" (Kelly & Adger, 2000, p. 326). This concept of vulnerability involving passivity and suffering, which means any remaining consequences after adaptations defines the levels of vulnerability and vulnerability represents a present inability to surmount external pressures or changes.

The concept of vulnerability started changing in the early 1980s when social science researchers critically argued about the old concept. They denounced that vulnerability cannot be limited to the potential physical damage or demographic determinants, instead, it

has social characteristics. Wisner is a typical scholar of the new concept. In the book *“At Risk: Natural Hazards, People’s Vulnerability and Disasters”*, Wisner and his colleagues, 2003 emphasized that *“by vulnerability we mean the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard. It involves a combination of factors that determine the degree to which someone’s life, livelihood, property and other assets are put a risk by a discrete and identifiable event (or series or ‘cascade’ of such events) in nature and society”* (Wisner et al., 2003, p. 11). It means that a disaster only takes place when the losses and damages surpass the capacity of the population to support or resist them or when its impacts impede people’s recovery. In other words, vulnerability cannot be measured without reference to a population’s capacity to absorb, respond and recover from the effects of subsequent hazard events (Westgate & O’Keefe, 1976).

O’Brien et al., 2004 called this interpretation ‘contextual vulnerability’, whereby vulnerability is considered a starting point for analysis, a characteristic of social and ecological systems generated by different factors, and environmental, economic, social, political and cultural processes. By grasping those processes, measures and policies can be identified in order to alleviate vulnerability, enhance adaptive capacity or illuminate adaptation options or constraints (O’Brien et al., 2004).

The distinction between those two interpretations can be explained by their contextual backgrounds and the purposes of the research from which they originated. The outcome vulnerability or end point approach originated by attempting to quantify vulnerability, answering some questions such as “what is the extent of a specific hazard problem?” or “Do the costs of that event outweigh the costs to mitigate it?”. The attention here is exclusive biophysical vulnerability, in which the most vulnerable constitute those residing in the most hazardous physical environments, thus experiencing the most threatening physical changes (Liverman, 2001).

The contextual vulnerability or starting point approach focuses on assessing social vulnerability by identifying the character, distribution and causes of vulnerability. Research questions here could be “Who is the most vulnerable from the hazard? And why?” and “How can vulnerability be reduced?” Instead of paying attention to biophysical aspects alone;

social, economic, political and cultural factors are included as a crucial step in developing integrated assessment models (O'Brien, 2013 cited in (Iwama et al., 2016)).

There are two common models of disaster risk in terms of vulnerability analysis in specific hazard situations, which are (1) Pressure and Release (PAR) model; and (2) Assess model (Wisner et al., 2003). First, the PAR model presents the result of the interaction between natural hazards and vulnerable people. There are two elements in this model: (1) pressure and (2) release. While pressure arises from people's vulnerability and the effects of the hazard on those people at different levels of vulnerability, release derives from the reduction of disaster (Wisner et al., 2003). Wisner et al., 2003 also indicated that vulnerability has three levels which connect the disaster to social processes: (1) global level, (2) intermediate level and (3) local level. At the global level, 'root causes' include economic, social and political structures. Wisner et al., 2003 stated that "The most important root causes that give rise to vulnerability (and that reproduce vulnerability over time) are economic, demographic, and political processes. These affect the allocation and distribution of resources between different groups of people[...]Root causes reflect the distribution of power in a society" (Wisner et al., 2003, p. 52). The next level of the chain of vulnerability is 'dynamic pressures', which are described as "processes and activities that 'translate' the effects of roots causes both temporally and spatially into unsafe conditions. They are more contemporary or immediate, conjunctural manifestations of general underlying economic, social and political patterns" (Wisner et al., 2003, p. 53). Dynamic pressures arise to respond to the economic, social and political inequalities inbuilt in roots causes. Entirely, 'unsafe conditions' are the last in the progression of vulnerability, illustrated below, "The specific forms in which the vulnerability of a population is expressed in time and space in conjunction with a hazard" (Wisner et al., 2003, p. 55). At this level, pressures here focus not only on physical conditions such as living in hazardous places or working under insecure conditions but also on human well-being within society. The following figure will show the detail of this model.

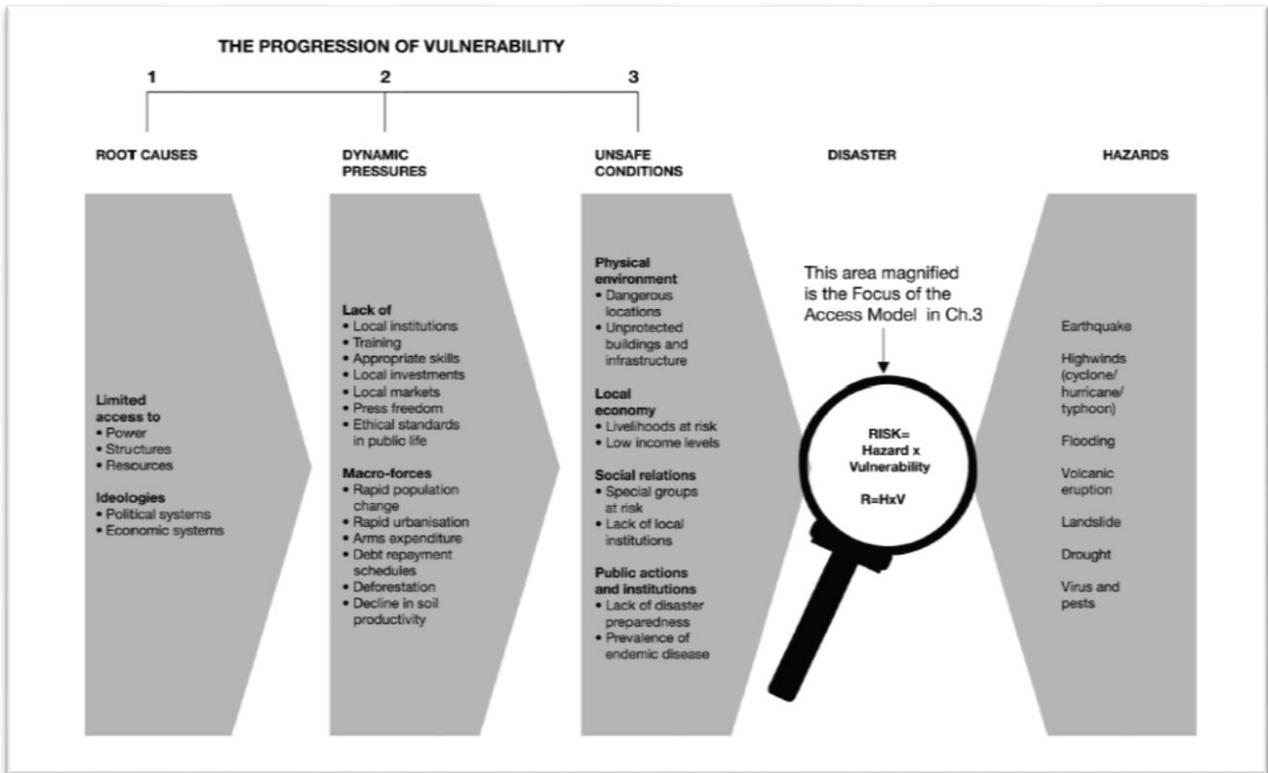


Figure 1: 'Pressure' that result in disasters: the progression of vulnerability

Source: (Wisner et al., 2003, p. 51)

The PAR model clearly shows the connection between the impact of a natural hazard on humans and multiple factors and processes that generate vulnerability. However, it does not provide the precise integration between vulnerability and how hazards themselves impact people. Notably it also does not explain how differentially vulnerable impacts of hazard on various society or different groups within society. In addition, it is a static model, and it does not account for change of society itself at the beginning, during and after a disaster. Therefore, the second model, named the Access model, occurs to solve the limits of the PAR model.

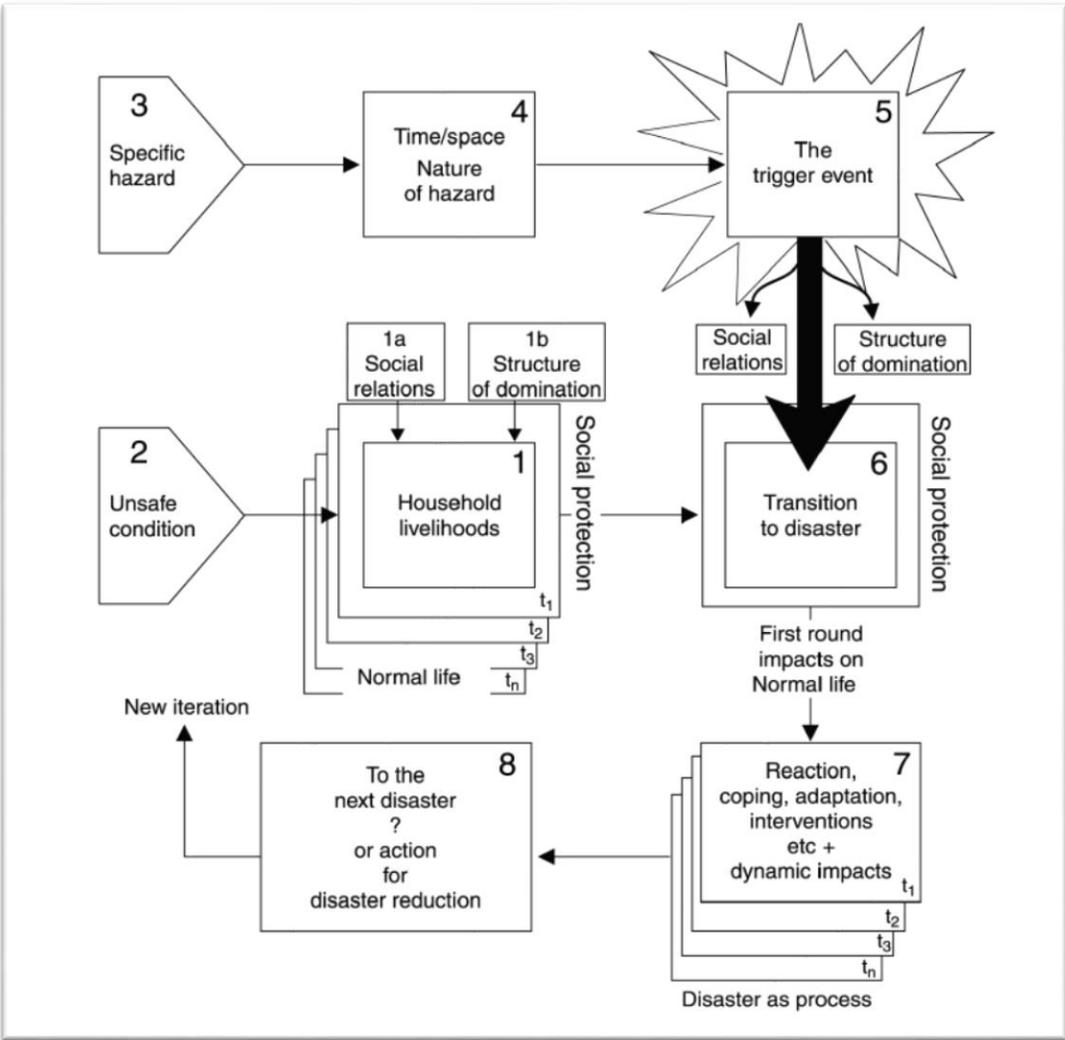


Figure 2: The Access model

Source: (Wisner et al., 2003, p. 89)

The Access model emphasizes how the variations in vulnerability to hazards are essential in differentiating the level of impact on different groups of people (Wisner et al., 2003). What is intended here is that when facing an equivalent hazard, vulnerability could be different, hinging on the capacity of each family absorb the effects. Wisner et al., 2003 stated that “most people are vulnerable because they have inadequate livelihoods, which are not resilient in the face of shock, and they are often poor. They are poor because they suffer specific relations of exploitation, unequal bargaining and discrimination within the political economy” (Wisner et al., 2003, p. 56). For example, in our context of facing a biological hazard, particularly in the case of the Covid-19 pandemic, people are required to be immobile

to protect others and themselves. For many people, especially in countries where the public authorities have not much the resources to deploy social support systems, the quarantine blocked potential income-generating activities and undermined the livelihoods of millions of people causing an economic shock from the government policy. It can be seen clearly that those who are well-off financially will probably be less vulnerable than those who lost their jobs or have low-income jobs. Once the Covid-19 is over, those who lost their jobs might suffer for a long while. Therefore, the Access model allows us to study vulnerability by involving the ability of each individual, household, group and community to deploy resources required for security in their daily lives. It would allow an evaluation during pre-disaster times to determine their ability to adapt to a new threatening situation. Livelihood in normal life plays an essential role in people's decision-making actions prior to, during and after a disaster occurs. By pre-evaluation, the level of the impact may be able to be lessened by preparation.

In addition, Wisner et al., 2003 also pointed out that "slow-onset disasters require careful analysis of social adaptation, the emergence of new rules of inclusion and exclusion regarding networks of support and changing access qualifications for new and existing income opportunities" (Wisner et al., 2003, p. 109). That means, social and structural factors also inherently engage in one's vulnerability. Vulnerability to hazards is not a permanent state and communities are absolutely not helpless in the face of hazards that affect them. Even if severe hazards occur and their adverse outcomes might be not unavoidable, individuals and communities have their skills, capacities and opportunities, which can be built upon to strengthen their resilience to ensure that they are able to cope with hazards, adapt to change, and move out of their vulnerability.

We already discovered the fundamental concepts of vulnerability through its historical development. In the next section, the concept of resilience will be explored.

2.3. Resilience

The concept of resilience has been utilized more frequently in both theoretical and practical terms in a wide range of disaster risk reduction. Similar to the development of the vulnerability concept, the definition of resilience has evolved with an assortment of disciplines throughout the years. In the ecological literature, the first notion viewed resilience as the ability to absorb the impacts of stresses, shocks and changes before a state-change happened (Holling, 1973). After that, in 1999, Tobin recommended a composite sustainable

and resilient framework for communities in hazardous environments (Tobin, 1999). Paton et al., 2000 proposed a risk management model for disaster stress (Paton et al., 2000), while Bradley and Grainger, 2004 suggested a social resilience model in which stakeholders change from performance into survival strategies when the severity of constraints surpasses a critical threshold (Bradley & Grainger, 2004).

Although there are a large number of definitions of resilience, it can be generally defined in two specific ways: (1) as a desired outcome or (2) as a process leading to a desired outcome (Kaplan, 1999). The following table will reveal a refined conceptualization of resilience from more outcome-oriented to more process-oriented.

Table 1: Definition of resilience

Author	Definition
Wildavsky, 1991	Resilience is the capacity to cope with unanticipated dangers after they have become manifest, learning to bounce back.
Holling et al., 1995	It is the buffer capacity or the ability of a system to absorb perturbation, or the magnitude of disturbance that can be absorbed before a system changes its structure by changing the variables.
Home and Orr, 1998	Resilience is a fundamental quality of individuals, groups and organizations and systems as a whole to respond productively to significant change that disrupts the expected pattern of events without engaging in an extended period of regressive behavior.
Comfort, 1999	The capacity to adapt existing resources and skills to new systems and operating conditions.
Cardona, 2003	The capacity of the damaged ecosystem or community to absorb negative impacts and recover from these.

Pelling, 2003	The ability of an actor to cope with or adapt to hazard stress.
Resilience Alliance, 2005	Ecosystem resilience is the capacity of an ecosystem to tolerate disturbance without collapsing into a qualitatively different state that is controlled by a different set of processes. A resilient ecosystem can withstand shocks and rebuild itself when necessary. Resilience in social systems has the added capacity of humans to anticipate and plan for the future.
UNISDR, 2005	The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This determined by the degree to which the social system is capable of organizing itself to increase this capacity for learning from past disasters for better future protection and to improve risk reduction measures.
Cutter, 2008	Resilience is the ability of a social system to respond and recover from disasters and includes those inherent conditions that allow the system to absorb impacts and cope with an event, as well as post-event, adaptive processes that facilitate the ability of the social systems to re-organize change, and learn in response to a threat.

Source: (S. B. Manyena, 2006, p. 437)

According to table 1, it is not difficult to recognize that earlier authors tended to think of resilience as a specific outcome while the latter descriptions emphasize the complexity of resilience as a process involving learning, adaptation, anticipation and improvement in structures, actors and functions. In other words, with the traditional notions of resilience, when referring to humans lives, the importance of resilience is an attempt to recover within the shortest possible time to bring back the community to its pre-disaster state. Therefore,

the series of terms 'bounce back', 'absorb perturbation', 'withstand', 'return to normal' frequently occurred in multiple academic papers or journal articles in the 1990s.

However, within the past two decades, many scholars criticized this notion. Some disputed that this is static and fails to acknowledge that a community can never return to its pre-disaster norm and Kelman is one of them. In the article "*Climate Change's Role in Disaster Risk Reduction's Future: Beyond Vulnerability and Resilience*", Kelman et al., 2015 argued that "Yet returning to normal means returning to poor development, poverty, vulnerability, and disaster, not building a better future" (Kelman et al., 2015, p. 22). If resilience involves a return to pre-disaster conditions, it can somehow return to the conditions, including vulnerability, which would lead to another disaster (Tobin, 1999). Paton and Johnston, 2006 also denounced that the 'bouncing back' neither captures the changed reality nor epitomizes the new situations wreaked by a disaster: "The usage [of bounce back], however, captures neither the reality of disaster experience nor its full implications. Even if people wanted to return to their previous state, changes to the physical, social and psychological reality of societal life emanating from a disaster can make this untenable. That is, the post-disaster reality, irrespective of whether it reflects the direct consequences of disaster or recovery and rebuilding activities undertaken, will present community members with a new reality that may differ in several fundamental ways from that prevailing pre-disaster. It is the changed reality (whether from the disaster itself or social response to it) that people must adapt to" (Paton and Johnston, 2006, pp.7-8, cited in (B. Manyena et al., 2011)). The experience of a disaster creates a new physical, social and psychological landscape within the community. Therefore, instead of defining resilience as 'bounce back', resilience in the new concept is defined as 'bounce forward' or 'build back better', which pay attention to the capability to adapt and attain positive transformation in long-term rather than quick fixes or return to the same state as before the disaster (Birkmann & Wisner, 2006). In this approach, the disaster is considered as a tool for promoting positive growth within the community and has the "potential to create opportunity for doing new things, for innovation and for development" (Folke, 2006, p. 253).

Maguire & Hagan, 2007 synthesized all mentioned conceptualizations together to define resilience along with three components: (1) Resistance: the ability to absorb or withstand shocks and external pressures; (2) Recovery: the ability to return to pre-disaster conditions as quickly as possible and (3) Creativity: the ability to learn from the experience, transform

and increase functionality after the disaster (Maguire & Hagan, 2007, p. 17). This definition incorporates the distinct conceptualization of resilience and provides a holistic approach to discover resilience before, during and after a disaster event.

To further understand resilience, it is crucial to determine its indicators, whereby it involves the identification of factors at higher levels by comparing communities that have responded differently to similar disasters. Maguire & Hagan, 2007 conducted several literatures relating to resilience and came up with the nine key indicators of resilience: (1) Trust; (2) Leadership; (3) Collective efficacy; (4) Social capital; (5) Social cohesion and sense of community; (6) Community involvement; (7) Existing norms/attitudes/values; (8) Community and information and (9) Resource dependency (Maguire & Hagan, 2007, p. 19). This might be one of the most holistic analyses of resilience since many scholars have a tendency to concentrate on analyzing some specific aspects of resilience, such as economic or social factors, rather than all of the dimensions of this multifaceted concept (Aldrich & Meyer, 2015).

However, criticisms of the resilience concept denounce that it tends to ignore the power relations and presents a depoliticized, neutral portrayal of the processes affecting disaster risk and vulnerability (Kuhlicke, 2010). It means that when power structures do not engage enough in the resilience-building process, it can lead to unequal relations rather than building up resilience for those who lack power (Ingalls & Stedman, 2016). Analyzing the recovery process from both vulnerability and resilience perspectives allows us to focus on both the larger-scale structural processes and discover the opportunities for moving forwards and reducing the effects of hazards.

In the following chapters, I will gradually apply these two concepts to the case study of my home province of Bac Ninh. We will first see the vulnerability of many different objects of Bac Ninh citizens is suffering because of being under multiple policies from the Vietnamese government from the state to local level. Then how they built their resilience before and have adapted to the new situation during the pandemic based on their experience facing many prior biological hazards. Ultimately, from all the knowledge I have accumulated from researching the resilience framework, I will propose initiatives toward sustainable long-term resilience suit with the current situation in Bac Ninh province.

CHAPTER 3: CONTEXT BACKGROUND

In this chapter, the first section will be the background of Covid-19 in Vietnam and how the Vietnamese government responded to this crisis. Thus, readers will have a big picture of the situation in Vietnam before intensively explored the case in my home province of Bac Ninh. Then in the second section, I will introduce some background information of Bac Ninh, including location, demographics, a history of socio-economic development. The overview of the Covid-19 situation in Bac Ninh will also be presented so that readers will have the basic contextual information necessary to grasp and analyze my results, which will be presented in Chapter 5.

3.1. Background of Covid-19 in Vietnam

Vietnam is currently handling its fourth wave of the Covid-19 pandemic. The newest variant of Covid-19, a combination of the British and Indian variants transmitting more quickly in the air than previous strains, is now active within the country (P. Nguyen & Neghaiwi, 2021). During these past two years dealing with Covid-19, the Vietnamese government announced multiple policies to tackle this hurdle. Before explaining the methodology and results of my research thesis, let us begin with a brief overview of the Covid-19 pandemic situation in Vietnam and review different responses that occurred throughout each wave.

Epidemiology

Epi Update COVID-19

Tests	Cases	Deaths	ICU Admissions
1,247,153	1,791	6	84 (TBU)
NAT Tests past 7 days (-7.0% 7-day)	New cases past 7days (+9.2% 7-day)	Deaths past 7days (+0% 7-day)	ICU Admissions past 7days (+34 CASES 7-day)
7,529,570	10,538	59	168 (TBC)
Cumulative NAT Tests	Cumulative Cases	Cumulative Deaths	Cumulative ICU Admissions

2.7%	4,145	At least 33	18 (TBC)
Imported Cases in past 28 days (170)	Cases in past 28 days with no link (TBD)	Active Clusters (TBD)	Active clusters with >3 generations

Health Service Provision COVID-19

Most of national hospital staff Health care workers trained in COVID19 Case Management	57 Healthcare worker cases reported past week (Total: 92)	1,791 Hospitals admitting COVID-19 patients past week	1,500 ICU beds for COVID-19 patients (estimated in TBU currently 30 affected provinces) (out of approx. 3,500 beds nationwide)	30,000 (TBC) Non-ICU Hospital beds for COVID-19 patients (As of 23 May – 30 field hospitals being set up across the country; one ICU centre each set up in Bac Giang and Bac Ninh)
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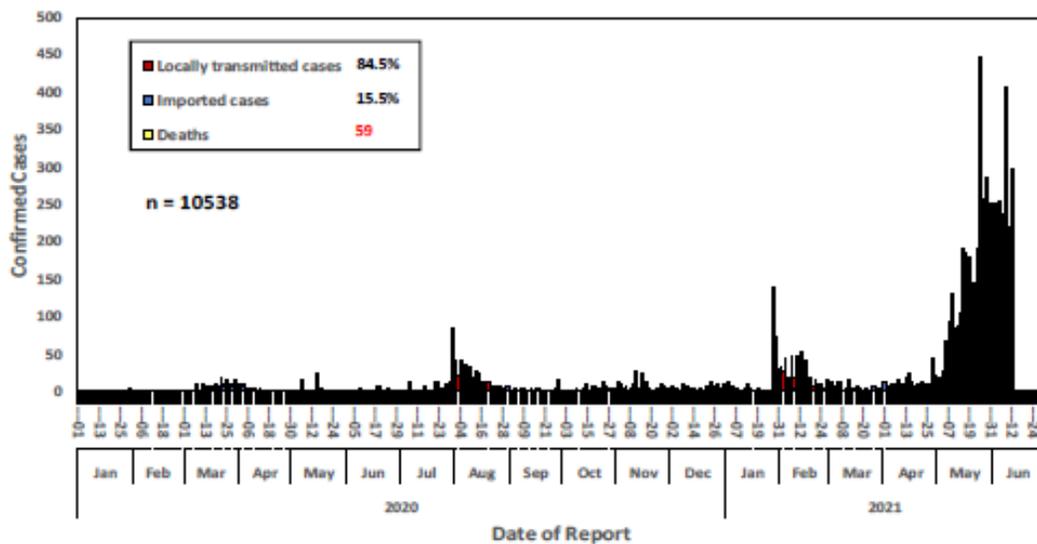


Figure 3: Epidemic curve of Covid-19 laboratory confirmed cases, Viet Nam, by date of reporting, 23 Jan 2020 – 13 Jun 2021

Source: Covid-19 in Viet Nam Situation Report 46 (WHO Vietnam, 2021b)

3.1.1. An Overview of the Covid-19 Situation in Vietnam

A. The first wave

Outside of China, Vietnam, along with the Republic of Korea, Japan, Thailand, Taiwan and the United States, are the very first countries to report confirmed Covid-19 cases. The first two cases identified in Vietnam were two Chinese men who traveled directly from Wuhan, China, on the 23rd of January, 2020 (GardaWorld, 2020). Subsequently, many cases were quickly confirmed in Vietnam. After five months, by the 30th of June, the whole nation recorded 355 positive Covid-19 cases but had no lethal outcome; 325 patients recovered entirely and were discharged from the hospitals (General Department of Preventative Medicine, 2020).

The first wave of the Covid-19 pandemic can be divided into three sub-stages (L. T. T. Tran et al., 2021). The first stage of the first wave started the 23rd of January 2020, when the first case was confirmed and lasted until the 6th of March 2020. There were 16 patients epidemiologically related to China. On the 1st of February 2020, the Prime Minister announced the outbreak of Covid-19 and its transmission to the public. Multiple tight measures against the pandemic were deployed, including traveling restrictions and bans, visa suspensions, mandatory quarantine and health declaration from people who came from severely impacted countries such as China, Italy, the UK, Germany and Spain (Prime Minister of Vietnam, 2020a). In addition, every school from kindergartens to university in the whole country was closed. From the 14th of February to the 6th of March 2020, no new cases were reported in public records. With the motivation to maintain the economy, the Vietnamese government started stimulating international tourism from countries less affected by Covid-19. Meanwhile, Vietnamese residents living abroad were gradually repatriated (L. T. T. Tran et al., 2021). Unfortunately, because of loosening the control of potentially infected travelers from countries less affected by Covid-19, the second group of cases began.

The second stage of the first wave was from the 7th of March to the 22nd of April 2020, when some new cases were reported linked to those visiting or returning from the US, Europe and the Republic of Korea (Le H., 2020). There were 252 cases, of which 154 cases were imported cases, accounting for 61.1 percent (General Department of Preventative Medicine, 2020). At this stage, the government utilized even stricter responses such as border shutdowns, whereby all international flights were prohibited from entering Vietnam, domestic travel was

restricted, facemask obligations were enforced and social distancing was nationally required at work and in public spaces (L. T. T. Tran et al., 2021).

The third stage of the first wave was from the 23rd of April to the 19th of July 2020, when Vietnam almost controlled the Covid-19 pandemic by eliminating community transmission. The government determined this when they documented that all 116 positive cases confirmed were imported cases (General Department of Preventative Medicine, 2020). Of these cases everyone was required to immediately take a 2-week quarantine at concentrated isolation areas when landing in the Vietnamese territory². No deaths were reported. Every strict regulation such as curfews, lockdown, and social distancing were lifted. Students were allowed to be back to school and most economic activities were allowed. The country gradually returned to the normal life.

B. The second wave

After 99 days without any further local cases, the second wave of the infection began on the 25th of July 2020 with the Ministry of Health announcing the 416th case in Da Nang, the most prominent tourist city in the country hosting more than 8 million tourists annually (Nong et al., 2021). On the 28th of July 2020, the Da Nang authority locked down the city for 15 days (Vietnam Ministry of Health, 2020c). During one week from the 25th of July 2020 to the 31st of July 2020, the number of new cases across the country with epidemiological factors related to Da Nang increased by approximately 30 percent, the fastest-growing rate since the beginning of the pandemic (Lan Anh & Xuan Long, 2020). The first death due to Covid-19 in Vietnam was also recorded on the 31st of July (Bui Thu, 2020). In response, Vietnam again imposed similar restrictive strategies as the first outbreak. Two months later, they contained the disease for the second time, and allowed all economic activities to resume as normal (Walden, 2020).

C. The third wave

The country entered the third wave of the outbreak when Vietnam recorded 84 community transmission cases in a single day in Hai Duong and Quang Ninh province. Most of them were related to a Hai Duong migrant worker diagnosed with the UK coronavirus variant by the

² Although Vietnam closed the border from all countries, there were some 'special relief flights' to pick up Vietnamese citizens from areas heavily affected by the Covid-19 pandemics and bring them back home.

Japanese government after landing in Japan on the 17th of January 2021 (Vietnamvisa, 2021). At this time, instead of locking down the whole country, the Vietnamese government decided only to quarantine the areas directly related to infected people to limit the economic impact (WHO Vietnam, 2021a). However, after two weeks, the number of cases still increased significantly without any signs of slowing down. Therefore, on the 15th of February 2021, the entire province of Hai Duong locked down for 15 days, while Ha Noi and Ho Chi Minh City, the two biggest cities of Vietnam, stopped all entertainment activities (France 24, 2021a). This wave can be considered the most severe outbreak since the beginning of the pandemic mostly as a result of slow tracing processes, mismanagement in quarantine facilities, and a complacency by Vietnamese citizens who started ignoring the lockdown rules after being restricted for so long (Le Nga & Thu Anh, 2021). Vietnam started deploying Covid-19 vaccinations on the 8th of March after it was determined the pandemic had spread to 13 cities and provinces cross the country (T. Nguyen, 2021).

D. The fourth wave

Despite the release of the vaccine, by the end of April 2021, for the first time, Vietnam had experienced the SARS-CoV-2 virus variants with the most robust infection rate globally from India and the UK (P. Nguyen & Neghaiwi, 2021). The new strains had the ability to diffuse faster than the original one from Wuhan, China. In just a few weeks, more than 1,600 cases had been recorded in 28 cities and provinces; meanwhile, the number of new cases was increasing dramatically and at an alarming rate (Tan, 2021). Bac Giang and Bac Ninh (my province) are two provinces who were especially impacted by this wave (Onishi, 2021). See the distribution of Covid-19 cases in Figure 2 below by provinces from the 27th of April 2021 to the 20th of June 2021 (WHO Vietnam, 2021c) .

3.1.2. The Vietnamese Government's Responses

When the pandemic started breaking out in China with the very first case that emerged in December 2019, the Vietnamese government ordered measures to prevent and counter the spread of the disease into Vietnam. They immediately dominated all points of entry in both land crossing points and airports. Three key authorities were involved in Covid-19 control at those points. Soldiers were utilized at land crossing points and borders, immigration officers at airports and healthcare workers served wherever needed (Vietnam Ministry of Transportation, 2020). In addition, the National Steering Committee for Covid-19 Prevention

and Control (NSC), a multi-ministerial and multispectral committee was also assembled and led by Deputy Prime Minister – Vu Duc Dam (L. T. T. Tran et al., 2021). The NSC was established on the 30th of January, 2020, a week after the first few reported cases (L. T. T. Tran et al., 2021). The NSC worked directly on behalf of the government to control and assess the pandemic. Multiple key ministers under the NSC played essential roles in making crucial decisions and systemically coordinating the implementation of containment measures.

The Ministry of Health (MOH) became the main player to coordinate Covid-19 containment measures among its sub-agencies and other ministries. It provided technical guidelines under the direction of the NSC for prevention, treatment, surveillance and monitoring. Notably, the MOH issued the first interim guidelines for the diagnosis and treatment of Covid-19. They also collaborated with different ministries to come up with a plan with different scenarios when Vietnam had no Covid-19 cases. The scenarios were divided into five levels: (1) the disease penetrates the country, (2) the infection is transmitted within the country, (3) there are dozens of cases identified within the country, (4) the disease is transmitted in the community with a thousand and up to three thousand cases and (5) there is large-scale community transmission with more than ten thousands cases (United Nations Vietnam, 2020). When interviewed by the Exemplar in Global Health in July 2020 and asked this question by Vu Duc Dam “Why did Vietnam have to do that?” the Deputy Prime Minister responded, “Because we are well aware that Vietnam’s treatment system is limited and cannot be compared to that of developed countries. As such, we needed to do everything to ensure not too many are infected. Our spirit is that to always consider a worse scenario so that the situation would not actually worsen” (Exemplars in Global Health, 2020).

A. Quarantine, Restrictions and Lockdown

Due to its limited resources, Vietnam deployed a strategy of early detection, isolation, contact tracing and quarantine. To ease the process of case investigation and contact tracing and quarantine, Vietnam re-identified the definition of cases, of which the ‘four rings of quarantine’ system was established (Vietnam Ministry of Health, 2020b). People who carried a risk of coronavirus contamination were labeled ‘F’, and had to quarantine from two weeks to a month. F0 was a confirmed positive case, while F1 was a close contact of F0, F2 was a close contact of F1 and F3 was a close contact of F2 (Vietnam Ministry of Health, 2020a). See the following figure for detail how each type of F quarantine.



Figure 4: The ‘four rings’ of the quarantine system against Covid-19 in Vietnam

Source: (Vietnam Ministry of Health, 2020a)

Vietnam ordered restrictive domestic movement since March 2020, during the peak period of the first wave. For instance, the tourism industry closed in some places from the 9th of March 2020, then they applied the closure to the entire country in April 2020 during the period of national social distancing (VGP News, 2020). Another example could be the school shutdown from the 6th of February 2020 until May 2020 (Dieu Thu, 2020). As in many countries worldwide, the social distancing order in Vietnam restricted most activities such as non-essential business activities or un-serviced public transportation. People were required to stay home and work from home and were only allowed to go out for essential activities such as buying food or medicine (Prime Minister of Vietnam, 2020b).

Lockdown was more restrictive than social distancing, and people were not allowed to abandon quarantine places, which were maintained by the Vietnam People's Armed Forces, accompanied by the Medical staff (Vietnam Ministry of Health, 2020b). Medical staff performed temperature checks twice per day and provided other urgent healthcare while military soldiers and policemen ensured the security of the quarantine areas. In Vietnam,

lockdown was typically ordered when a case was identified. It could be applied regardless of the size of the regions, from a residential building to an entire district (Vietnam Ministry of Health, 2020b).

B. Evacuation and repatriation

As mentioned above, although Vietnam closed the border from all countries, there were some 'special relief flights' to pick up Vietnamese citizens from areas heavily affected by the Covid-19 pandemic and bring them back home. As of January 2021, more than 80,000 Vietnamese people have been flown back to the nation on 299 repatriation flights from 60 countries and territories worldwide (Bao Nhan Dan, 2021). Before that, on the 28th July 2020, the Vietnam Airlines repatriation flight VN05 departed from the Hanoi capital to Equatorial Guinea to bring 219 Vietnamese workers back to Vietnam (Doan, 2020). Of the 219 returning people, there were 129 infected with Covid-19 (Doan, 2020). Two doctors and two nurses of the Hanoi National Hospital of Tropical Diseases promptly provide emergency and support to the patients on that plane; medical stretchers were mounted on the aircraft, providing emergency aid to severe patients (Doan, 2020). In addition, health authorities also arranged a variety of medical equipment to support passengers. The rest of the passengers who were not infected with Covid-19 were required to immediately take a 2-week quarantine at the concentrated isolation area when landing at the Hanoi capital (Doan, 2020).

C. Public communication and propaganda

Since the beginning of the pandemic, the Vietnamese government has communicated with the public by setting up websites and telephone hotlines to update the latest situations. In addition, the MOH regularly sent out their reminders to residents through text messaging and mobile applications such as Bluezone, NCOVI and Vietnamhealth (Dang Khoa, 2020). They also have published an extensive amount of information and data about the outbreak every day during the crisis, including messages on preventive measures called "5K", which are 'khau trang' (face masks), 'khu khuan' (disinfection), 'khoang cach' (distancing), 'khong tu tap' (no gatherings) and 'khai bao y te' (health declarations) (UNICEF Vietnam, 2021).

The Vietnamese government utilized its propaganda apparatus to help tackle the Covid-19 pandemic. The Central Propaganda Department is accountable for disseminating the propaganda through mass media (Trieu, 2020). They called on reserves of nationalism and war discourse, mobilized to touch public sentiment. A history of struggle against foreign

aggression was evoked in discourses of ‘the nation’, ‘solidarity’, ‘sacrifice’, ‘heroes’ and ‘the enemy’. Before the Prime Minister issued the directive national lockdown, on the 30th of March 2020, the General Secretary of the Communist Party – Nguyen Phu Trong, issued the following call: “For the sake of the whole nation of Vietnam, let us work together, unanimously surmounting all difficulties and challenges to overcome the Covid-19 pandemic” (Q. P. Pham, 2021). This reminded the Vietnamese of their wartime history when the government needed the citizens’ cooperation to survive and fight against the war. The system of loudspeakers, set up to alert residents of immediate attacks and bombings during the Vietnam War, was utilized again for the Covid-19 related updates (M. Nguyen, 2020). In addition, many public posters were strategically placed to diffuse the phrase as ‘War against Covid-19’ or ‘Beat the pandemic like beating invaders’ in order to illustrate the efforts to contain the Covid-19 pandemic (Q. P. Pham, 2021).

D. Financial support

To support Vietnamese citizens in difficulties due to the Covid-19 pandemic, on the 10th of April 2020, the Vietnamese government approved an aid package worth 62 trillion VND, equivalent to 2.6 billion USD (Vietnam Ministry of Labor, Invalids and Social Affairs, 2020). A year later, on the 1st of July, the Vietnamese government carried on to issue resolution 68 on the financial support package worth 26 trillion VND (1.13 billion USD) for the poor and businesses hit by Covid-19 (Le H. V., 2021). Beneficiaries of these support packages included employees who were postponed or suspended from their labor contracts, part-time workers who were unemployed but had not received their unemployment benefits, enterprises who had no revenue or no financial source to pay for salaries, and children and pregnant women (Fair Wear, 2021). According to the Ministry of Labor, Invalids and Social Affairs, by the 29th of June 2020, there were more than 11 million individuals from an approved list of 15.8 million vulnerable people and 6,196 household businesses receiving support from the social assistance package (Le H. V., 2021). However, due to the complicated procedures regarding disbursement of the financial support packages, this support still has not reached all the poor, especially those among the poorest provinces such as Hoa Binh, Thanh Hoa, Nghe An and Binh Dinh (H. H. Tran, 2021).

E. Covid-19 vaccination

Witnessing the complicated situation of the Covid-19 pandemic, the Vietnamese government launched the '*Covid-19 vaccination in Vietnam*', an immunization campaign against the coronavirus. The campaign started on the 8th of March 2021, after the government approved the Oxford-AstraZeneca Covid-19 vaccine on the 30th of January 2021 (J. P. Vu Khanh, 2021). Following the approval of the AstraZeneca vaccine, the Sputnik V from Russia was approved on the 23rd of March 2021 (France 24, 2021b). The Sinopharm Covid-19 vaccine from China was approved for emergency use on the 4th of June 2021, while Pfizer-BioNTech and Moderna were later ratified on the 12th of June and 29th of June 2021, respectively (N. Le, 2021). In the meantime, the Vietnamese researchers still keep developing the country's own vaccine. There are two locally produced vaccines, COVIVAC and Nanocovax, that are still in the trial stages and began January 2021 (Tomoya, 2021). Although Vietnam is known as a country with expeditious disease prevention and keeping outbreaks under control, the nation's Covid-19 vaccination program has been much slower than other countries in the Asia-Pacific region (Reuters, 2021). As of the 14th of July 2021, Vietnam had only administered 4,146,767 vaccine doses across the country, an exiguous fraction of the total population of more than 96 million citizens (Thai Binh, 2021b).

3.2. Background on Bac Ninh Province

In this section, I will introduce some background information on my home province of Bac Ninh including location, demographics, and a history of socio-economic development so that readers will have the basic contextual information necessary to grasp and analyze my results. I will focus on the location of Bac Ninh to show where it is and how small it is in comparison to other cities and province in Vietnam (Wikipedia, 2021).



Figure 6: Administrative map of Bac Ninh



Figure 5: Location of Bac Ninh within Vietnam

Source: Bac Ninh province (Wikipedia, 2021)

Bac Ninh is the smallest province of Vietnam with 822.7 square kilometers of total natural land area, including Bac Ninh city and seven districts (Tu Son, Tien Du, Thuan Thanh, Luong Tai, Que Vo, Yen Phong and Gia Binh) (Ministry of Planning and Investment of Vietnam, 2021). It is located in the Red River Delta in the North of Vietnam, situated to the east of Hanoi, the nation's capital. Geographically it is bordered by Hanoi, the capital, Bac Giang province, Hai Duong province, Hung Yen province and Thai Nguyen province (Ministry of Planning and Investment of Vietnam, 2021).

According to the General Statistics Office of Vietnam, Bac Ninh's population is 1,368,840 people, accounting for only 1.4 percent of the country's population. The number of men (676,060) and women (692,060) is pretty evenly divided, however, only 27.5 percent of the province's population (376,418 people) live in urban areas, whereas 72.5 percent of the population (992,422 people) live in rural areas. (General Statistic Office of Vietnam, 2020b).

Although Bac Ninh is the smallest of all Vietnamese municipalities, it has the third-highest population density of all the 63 provinces and cities, lower only than that of Hanoi capital and Ho Chi Minh City. In 2019, there were approximately 1,700 people per one square kilometer of land in Bac Ninh, which is nearly five times higher than the average population density of the whole country (General Statistic Office of Vietnam, 2020b). Bac Ninh has a young population with around 777,700 people in the working-age group from 15, accounting for 56.85 percent of the total population. From this group, women laborers comprised 52 percent (General Statistic Office of Vietnam, 2020b).



Figure 7: A high population density in Bac Ninh

Source: (Ha Vu, 2021)

Bac Ninh is prominent in industrial development in Vietnam and is rapidly growing in industrialization and modernization. The whole province has 16 industrial parks comprising 7,691 hectares and employing 331,000 workers from both inside and outside the province (Vietnam Ministry of Health Portal, 2021), Yen Phong and Que Vo are the two largest scale industrial parks (Viet Cuong, 2021). From 2020 until now, despite being impacted by the

Covid-19 pandemic, those industrial parks have lured a number of foreign direct investment projects. These projects brought to Bac Ninh nearly 1 billion USD from big international corporations such as Samsung, Orion from South Korea, Canon, Sumitomo from Japan, ABB from Switzerland and PepsiCo from the US (Viet Cuong, 2021). With those distributions from industrial parks, the economic structure of Bac Ninh is as follows: the proportion of industry-construction sector now accounts for 74.7 percent of the whole economy, followed by services sector accounting for 22.1 percent, and agriculture remaining low at 3.2 percent (Phuong Thuy, 2020).

Due to its development in industrialization and a very positive annual reported economic growth rate of over 6 percent, of which it increased by 9.2 percent in 2016-2019 alone (Phuong Thuy, 2020), Bac Ninh has attracted a large number of people from outside the boundaries to permanently move within the province. The majority of those people are of childbearing age which is leading to a rapid increase in the number of children enrolling in kindergarten and primary school (Trong Khanh, 2018). According to the statistic of Bac Ninh Department of Education and Training, the whole province currently has 501 schools with more than 345 thousand students at all levels, from kindergarten to high school. Public schools make up 93.6 percent of these schools (H. Tam & L. Khai, 2020). Last year, as compared to the previous years, 5 new schools were added within the province. Enrollment increased by 14,000 students, in which the largest influx was within the primary level with 6,665 students. The junior high level increased by 3,676 students and the increase in high school level was 856 students (H. Tam & L. Khai, 2020). The rapid escalation of the number of students has put pressure on the facilities as well as the teaching staff. In fact, many primary schools have more than 50 students per class (Nguyen T. T. N., 2021), which somehow affects the quality of training and learning of both teachers and students.

When it comes to the quality of citizens' lives, Bac Ninh is the second-highest province in the country regarding GRDP per capita (only following by Ho Chi Minh city) with 6,613 USD, 2.1 times higher than that of the whole nation (Thai Binh, 2020). The province's per capita monthly income also stands the fifth, with 5.44 million VND (equivalent to 236.73 USD) lower only than Binh Duong province, Ho Chi Minh City, Ha Noi capital and Dong Nai province (The An, 2021). However, there is a huge gap between the income per capita in rural and urban areas and also a huge gap in the actual difference in income between all groups. According to the General Statistics Office of Vietnam, in 2019, the average monthly income of urban

citizens was 6.022 million VND (equivalent to 262.06 USD), nearly 2 times higher than that of rural ones (3.399 million VND is equivalent to 147.92 USD) (General Statistics Office of Vietnam, 2020b). In addition, the difference between the highest income group and the lowest income group was 6.9 times, of which people in the lowest income group only earns 1.768 million VND (equivalent to 76.94 USD) per month while this figure in the highest income group was 12.284 million VND (equivalent to 534.57 USD) (General Statistics Office of Vietnam, 2020a). The above statistics will help explain the different impacts that the Covid-19 pandemic has had within each group of people in Bac Ninh province.

3.2.1. An Overview of Covid-19 in Bac Ninh Province

At present, Bac Ninh is the province with the second largest number of confirmed Covid-19 cases in Vietnam (after Bac Giang province), reaching 1532 cases on the 20th of June 2021, of which 827 cases are men and 705 cases are women. The working-age group from 15 to 40 is the group with the highest number of positive cases, accounting for 59.40 percent of the total cases in the province (WHO Vietnam, 2021c). Once they had their first case in the public community, Bac Ninh started deploying large-scale testing for all cases related to the outbreak. However, the process of pandemic control has been slow because of tight working conditions in industrial parks. As mentioned above, Bac Ninh has many industrial parks with 331,000 workers, thus the new variant of the Coronavirus is spreading quickly. See Figure 9 below for the distribution of Covid-19 cases in different city and districts across Bac Ninh province updated on the 20th of June 2021 (Bac Ninh Information and Communication Technology Center, 2021).

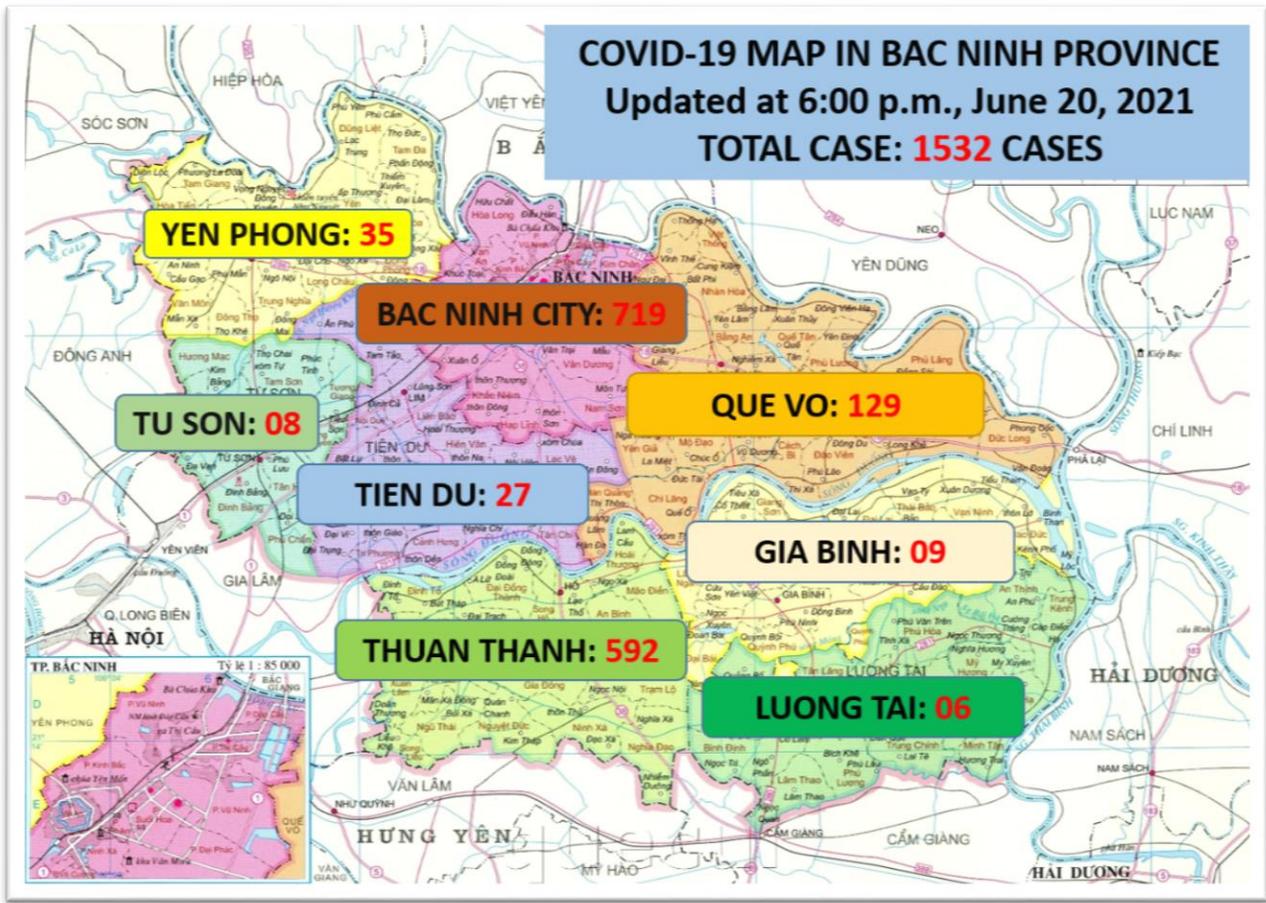


Figure 8: The distribution of Covid-19 cases in Bac Ninh city and 7 districts across Bac Ninh province updated on June 20, 2021

Source: (Bac Ninh Information and Communication Technology Center, 2021)

The detailed situation of how Bac Ninh authorities measured the severe impacts of Covid-19 by announcing many policies which had yet to implement in any cities or provinces in Vietnam and how Bac Ninh citizens have been affected by Covid-19 will be presented in Chapter 5: Results. But, first, let us look at the research methodology.

CHAPTER 4: METHODOLOGY

During the research period, flight restrictions and quarantines in both France and Vietnam necessitated remote data collection, which guided methodological choices. Despite this situation, communication technologies allowed me to implement most of the work I intended to do during my research field. In order to answer the questions about the impact of Covid-19 on human life among Bac Ninh's residents and to better understand how public authorities and inhabitants are responding to this crisis, I will utilize both qualitative and quantitative approaches.

4.1. Quantitative Approach

For my primary quantitative data, a survey questionnaire with 32 questions was created and made public via Google Forms. Responses from the survey were collected from June 18, 2021 to July 17, 2021 (see Appendix 1 for a copy of the survey questionnaire). The questions were translated into Vietnamese to be accessible to all audiences. A link to the survey questionnaire was posted on my personal Facebook account and also shared in different Facebook groups for Bac Ninh residents, Bac Ninh high school for the gifted which was the high school I attended, Bac Ninh panorama, and Bac Ninh city. I also really appreciated my mother, who shared my link with her friends and her colleagues so that my link could reach more Bac Ninh residents. In the end, I had 295 respondents, however, three responses were removed from the analysis because in response to the first question of "Do you live in Bac Ninh province?", they answered "No." Thus, the total number of responses utilized in the results section is 292.

Out of 292 responses, the age distribution coincides with Bac Ninh demographic data with only 2.7 percent of respondents were under 18 while 97.3 percent fell into the working-age group from 18, of which 8.9 percent were from 18 to 24, 35.6 percent were from 25 to 34, 29.8 percent were from 35 to 44, 22.6 percent were from 45 to 54 and 0.3 percent were above 55 years old (Appendix 1). Thus, this category of age will reflect precisely how Covid-19 impacts the livelihoods of each age group of people.

4.2. Qualitative Approach

For qualitative data collection, I used both primary and secondary sources. For my primary data, a series of interviews with relevant local community members and organizations from different fields are presented in a table in Appendix 2. All interviews were conducted via Zoom since I am in France and interviewees are all in Bac Ninh, Vietnam. Also, each interview was performed in Vietnamese and transcribed. I only translated the relevant information from each interview for data presentation instead of translating every sentence. A full list of questions asked during each interview is located in Appendix 3.

The first interview was with Mr. Van Tuyen Trinh, the Principal of Nguyen Dang Dao junior high school (A2, interview 1). He has worked in the education field for more than twenty years and has been a principal of this school for 5 years. He is well qualified to provide insight into how Bac Ninh teachers and junior high students have dealt with the transition to distance learning through online classes and the challenges they have been facing during this complicated time. I also interviewed Mr. Van Hung Nguyen, Vice Dean of Mechanical Engineering Faculty of Bac Ninh College of Industry (A2, interview 6), in order to compare the impacts of Covid-19 on different age groups of students. While in the first interview, students were in the 10- to 14-year-olds, in interview 6, the age group was from 18 to 22.

Another wonderful interviewee was Ms. Thu Hang Nguyen, Vice President of the *Keeping up your dreams* Charity Group (A2, interview 2). She is actually a primary school teacher who has been passionate about doing charity projects. Before running projects to support epidemic areas heavily affected by Covid-19, her charity group had already implemented multiple projects for disadvantaged people, such as assisting students in remote regions by reconstructing their schools, sponsoring textbook and education equipment distribution, and donating necessities for people in seasonally flooded areas. Since she has worked with these most vulnerable people groups throughout the pandemic, I knew through interviewing her, I would be able to collect much valuable information concerning how the Covid-19 pandemic has effected these specific groups.

Next, I spoke with Mr. Quang Thanh Nguyen, Deputy President of Bac Ninh Department of Planning and Investment (A2, interview 3). As a deputy president, he is a decision-maker in approving and disapproving projects related to enhancing social-economic development by

using the investment capital inside and outside the province, especially projects using foreign direct investment (FDI) capital. As mentioned above, Bac Ninh is an industrialization-oriented province with many industrial parks providing jobs for 331,000 people, equivalent to one-fifth of the Bac Ninh population. Therefore, his decision-making can directly impact those people. With him, topics such as the province's preparedness and response to the Covid-19 pandemic were discussed.

In addition, as a communist country, Vietnam People's Armed Forces play a pivotal role in every activity of the country. Besides the function of defending the country, the army also involves responding to and overcoming incidents and disasters. Thus, it would be an omission if I did not mention this subject in my research. Normally, it is really hard to access information from the People's Armed Forces due to its confidentiality. However, thanks to my father, who works in the Bac Ninh Military Base, I had a chance to interview his colleague, Mr. Danh Bac Tran, a Colonel in Political University in Bac Ninh (A2, interview 4). He had worked in Vietnam People's Armed Forces for 35 years and is in his 11th year at Political University. During the pandemic, he acted as a commander and has directly engaged in protecting and ensuring technical logistics for a field hospital temporarily stationed in his university. From our conversation, I now understand more about how a military barrack works in supporting people coping with disasters, particularly Covid-19 in this case.

Mr. Phu Ninh Nguyen, Deputy Director of VNPT Bac Ninh Information Operations Center, was another person who I chose to interview (A2, interview 5). When the Covid-19 pandemic emerged in Bac Ninh, inhabitants were not allowed to go out if they were not in an emergency situation. So, how can people stay up-to-date on Covid-19 news? How many positive cases and deaths were reported every day? Furthermore, which policies needed to be announced by the public authority to surmount Covid-19? How could local people promptly update that information? I perceived that those questions would best be answered by the representative of VNPT Bac Ninh Information Operation Center.

Since the Covid-19 broke out, doctors and healthcare staff are people who have directly interacted with infected patients. Unfortunately, I cannot contact anyone who has treated patients infected with Covid-19. However, I had a fruitful conversation with Dr. Ba Hien Do, Head of Nephrology and Dialysis Department of Bac Ninh General Hospital (A2, interview 7). He has had 10 plus years of experience in the Intensive Care Unit, having worked in this

department since 2011. When the number of Covid-19 cases in Bac Ninh increased rapidly, leading to an increase in severe cases, he transferred many doctors from his department to support the Department of Infectious Disease, which directly received Covid-19 infected patients for treatments. Various insights from Dr. Ba Hien will feature in the discussion on resilience.

The last person I chose to interview was Ms. Thao Nguyen Vu, an accountant of the Éloge France Vietnam Pharmaceutical Joint Stock Company, located in Que Vo industrial Park of Bac Ninh (A2, interview 8). She is also a landlord of twelve workers who have worked in Que Vo industrial park. Speaking with her, I obtained truthful information about how the Covid-19 pandemic and the public authorities' policies have affected not only her family's life but also the lives of twelve workers living in her inn. These twelve residents would be considered representatives of the entire large workforce in the industrial zones of Bac Ninh.

Since the case study location is my home province, I think this provides me a huge advantage. Born and raised in Bac Ninh, it was easier for interviewees to trust me and agree to be interviewed since they know me pretty well through my parents. I also am very fortunate to be able to interview people holding such high positions within the province. Do understand I was so lucky because it would be really difficult to contact them due to the high position they are holding. In addition, my family's network was extremely helpful for the survey portion of this study. Through this network, I received a large number of responses in a short period of time, for which I am very thankful. However, also due to the positions of the interviewees, I think it is inevitable there would be a slight individual bias. They would definitely want to express their own feelings and opinions but also be sure the province's response looks good. Therefore, I will be really critical in the analysis of the results.

For the secondary data, I utilized information published by the General Statistic Office of Vietnam and the Ministry of Planning and Investment of Vietnam as references to gain information about Bac Ninh context regarding the location, demographics, and socio-economic development from 2020. In addition, I also referenced information from journal articles, newspapers and reports related to the disproportionate impact of Covid-19 on Vietnam in general so that we can see overall Vietnam's situation before exploring intensively in the case study of Bac Ninh province.

4.3. Limitation

There are some limits to the study's methodology. One issue occurred during the time the survey was public and that was lack of questions concerning the vaccine. Initially, the survey was comprised of only 30 questions. However, after receiving 45 responses, one respondent mentioned the importance of examining vaccinations, which I had yet to mention in my survey. In response to this feedback, I supplemented my survey with two more questions related to vaccines. Thus, in the analysis of the results, there would be 45 fewer respondents to the two vaccination questions on my survey. Another issue worth mentioning was a few misspellings in typing because of the Vietnamese accent. For example, in the occupation question, if two responses had the same content 'worker in industrial parks' but were typed in different ways: 'cong nhan' and 'công nhân', it came out two different categories. Therefore, to fix this problem, I combined the percentage of these two categories together. Ultimately, because the Covid-19 pandemic prevented me from traveling back to my home country of Vietnam, I did not have a chance to interview all interviewees in person. Therefore, I could not conduct a formal 'informed consent' as it is usually required before every interview research. However, because of being aware of this methodological requisite, before each online interview, I asked the interviewees' permission to mention their names and also record our video conversation in order to utilize their information as my reference, and they allowed me to do that. Therefore, I legally mention the interviewees' names and their information in this paper.

CHAPTER 5: RESULTS

The Covid-19 crisis has had multidimensional impacts on the lives of all populations in Vietnam in general and in particular in Bac Ninh province. This chapter will present the results of my research on how Bac Ninh authorities measured the severe impacts of Covid-19 on socio-economic development; including the multiple policies enacted which directly impact Bac Ninh citizens. Furthermore, it will explore the way local people have faced this crisis by adjusting themselves to suit the new situation and how community and social connections have engaged in supporting people in overcoming this difficult period.

I will note that the pandemic has not affected everyone at the same level. The most vulnerable people were children, migrant workers, unskilled workers, informal workers, micro, small-sized enterprises (MSEs). Even before this pandemic, they were experiencing vulnerability due to being susceptible by external influences. From the study of official documents, it is easy to observe that Bac Ninh government did consider these vulnerabilities before announcing their policies. However, based on the authorities' priority, their policies have had both positive and negative impacts on Bac Ninh citizens.

5.1. Bac Ninh Authorities' Measures

This section presents the results of work carried out based on official documents and information from some of my interviewees working in local government offices in order to understand the framework within which public authorities structure their response to the pandemic risk.

To tackle the Covid-19 pandemic, Bac Ninh authorities have announced many policies following Vietnamese government guidelines. Despite being recommended by the national government some of them had yet to be implemented in any cities or provinces nationwide. However, as a result of Bac Ninh enforcing these policies at a specific time, they managed to control the epidemic situation. The number of deaths and infections in the community slightly decreased, while the number of recovered people gradually increased (Thai Binh, 2021a).

5.1.1. Isolation and Social Distancing

As soon as the first cases were recorded in the province, the Bac Ninh public authorities at all levels promptly issued many documents directing and guiding the implementation of a Covid-19 prevention and control initiative for each stage of the pandemic at each specific time. As a result, as of May 20, 2021, Bac Ninh province implemented social distancing for seven district administrative units. Thereby, Bac Ninh city, Thuan Thanh district and Yen Phong district, Que Vo district applied Directive 16³; while Tu Son districts and Tien Du districts and Luong Tai districts applied Directive 15⁴ under the directive of the Prime Minister (Bao Bac Ninh, 2021). Meanwhile, from May 24 to June 2, 2021, Bac Ninh Provincial People's Committee⁵ issued a decision to establish 697 checkpoints to control people and vehicles entering and leaving the province to prevent the transmission of the virus (Phi Long, 2021b). At each checkpoint, an intentional set of participants was arranged with the community Covid-19 team, the protection of the residential group, the ward police, the ward committee force, the coordination force of the district police (Phi Long, 2021b). They were divided into daily shifts from 6:30 am to 10:00 pm. The task of each checkpoint was to control people entering and exiting an area. You were only allowed to exit or enter the area in case of emergency and even in such a case special travel documents were required. Everyone who passed through a checkpoint had to declare where they came from, if they returned from a dangerous pandemic area, and their intended travel routes. All information was saved in the province's information system in order to quickly detect and trace those involved in case of an infection breakout. Whenever someone was found to return from a dangerous pandemic

³ Directive 16 sets out the principle that families are isolated from families, villages are isolated from villages, communes are isolated from communes, districts are isolated from districts, provinces are isolated from provinces. Manufacturing must maintain a safe distance; all workers must wear masks and disinfect according to regulations. Every citizen stays at home, only goes out in emergency situations (X. P. Nguyen, 2020b).

⁴ Directive 15 requires provinces to apply measures to limit mass gatherings; stopping meetings, events with more than 20 people in one room; do not gather more than ten people outside of offices, schools, or hospitals; requires the implementation of a minimum distance of two meters between people in public places; temporarily suspend the operation of business and service establishments in the area, except for those dealing in essential goods and services (X. P. Nguyen, 2020a).

⁵ Provincial-level People's Committees are responsible for observing the Constitution, laws, documents of superior state agencies, and resolutions of the provincial-level People's Councils in order to ensure the implementation of policies and measures for socio-economic development, strengthening national defense and security, and implementing other policies in the locality (Ministry of Justice, n.d.)

area, he or she would be immediately placed in an isolated center to avoid infection in the community (Thanh Thuong, 2021a).



Figure 9: A checkpoint at the entrance gate in Thuan Thanh district, Bac Ninh province, on May 9, 2021

Source: (Thanh Thuong, 2021a)

Since citizens were not allowed to go out without permission, notably those in units implementing social distancing according to Directive 16 of the Prime Minister, they had to be given special market entry cards to shop at the local markets. These cards allowed each household to go to the market once every 3 days to buy essential goods. They were given 5 cards to enter the market for 15 days. In each card, the date, name, address, and phone number of the person going to the market had to be stated transparently, and each card was valid for one-time use (Tran T., 2021).

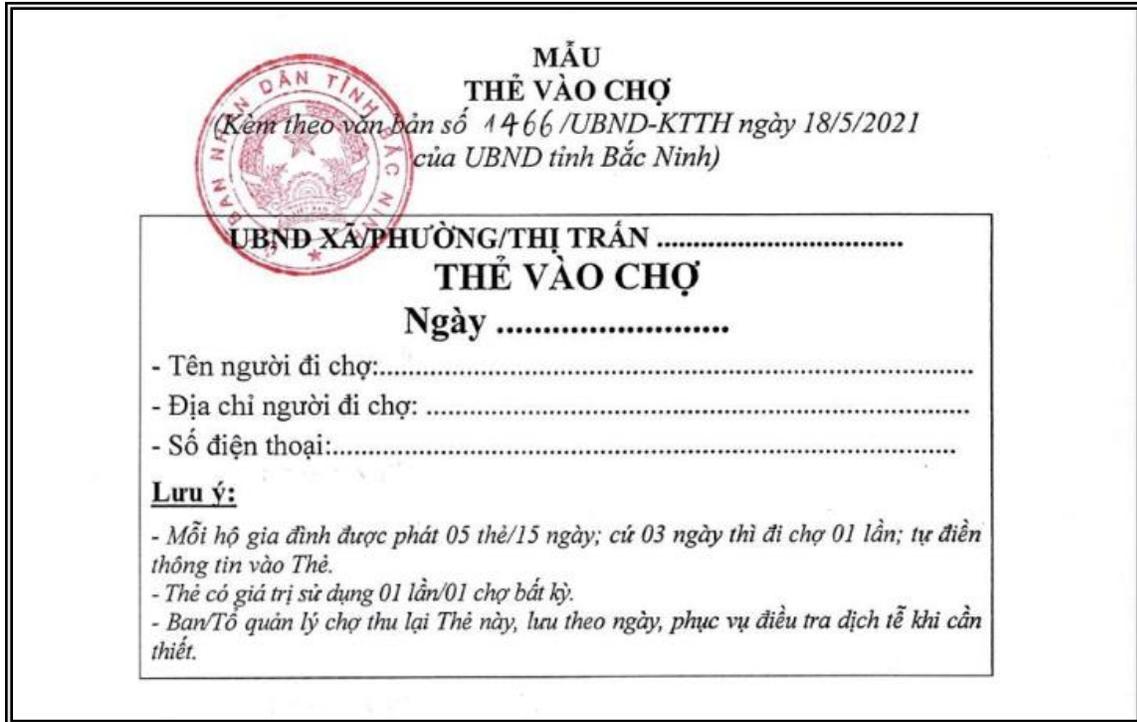


Figure 10: Sample of the market entry card in Bac Ninh province

Source: (Tran T., 2021)

5.1.2. Establishing Field Hospitals

In mid-May 2021, four temporary field hospitals were established to support the province’s hospitals deal with the rising number of Covid-19 infected patients in the area: Medical Centers of Gia Binh district, Tien Du district, Thuan Thanh district, and Lung Hospital and Traditional Medicine and Rehabilitation Hospital of Bac Ninh province (Phi Long, 2021a). The field hospitals had the tasks of organizing emergency care, collecting, isolating, and treating patients on the spot, while staying involved in preventing the outbreak from spreading in the community, minimizing the number of infected people and deaths (Phi Long, 2021a).

By the end of May 2021, the No.1 infectious field hospital under the command of the General Department of Logistics under the Ministry of National Defense was established. It was located in the Politic University in Bac Ninh province (Van Chuong, 2021). Mr. Danh Bac Tran, a Colonel in Bac Ninh Political Hospital, as well as a commander directly involved in the fight against the pandemic notified me that:

“The No.1 infectious field hospital was established in a speedy time. After receiving the order, the two units had two hours to arrange their belongings in order to make way for the barracks as a field hospital. After more than a day since transferring the premises, the infectious field hospital has officially operated with 300 beds (ready to raise to 500 beds if needed). This hospital is chaired by Military Medical Hospital 354, with the participation of forces and equipment of many Military Medical Hospitals responsible for treating mild and moderate Covid-19 patients” (D. B. Tran, personal communication, July 7, 2021)



Figure 11: Solders in the Bac Ninh Political University installed medical equipment for the No.1 infectious field hospital

Source: (Van Chuong, 2021)

The Military Army forces played an important role in fighting Covid-19 in Vietnam and Bac Ninh in particular. They are highly disciplined and well-trained, notably those who are both soldiers and doctors. Therefore, the field hospitals established by this force were completed quickly with high accuracy.

5.1.3. Public Communication and Propaganda

Although Bac Ninh is the smallest province of Vietnam, there are 1,368,840 citizens across 822.7 square kilometers (a density of 1,664/km²) (General Statistic Office of Vietnam, 2020b). It was a challenge for public authorities to diffuse information related to the Covid-19 situation to all citizens, especially when they were not allowed to go out due to the shelter in place order. Therefore, technology was the solution that the Bac Ninh government decided to use. Every Bac Ninh citizen was encouraged to install special mobile applications constructed by the Vietnam Minister of Information and Communication cooperated with VNPT, called Bluezone and NCoVI, intended for the dissemination of Covid-19 related information (T. Pham, 2021). Up to now, about 45 percent of Bac Ninh citizens have already installed the Bluezone application and were actively using it to share Covid-19 updates or related material. As a result, Bac Ninh became one of the provinces having the most Bluezone users nationwide (P. N. Nguyen, personal communication, July 17, 2021). In addition, a province switchboard also was built and operated to serve those who do not have a smartphone, allowing them to use regular calling to make medical declarations. With AR technology, virtual agents can make phone calls to capture people's situations, and store their data for easy traceability later (P. N. Nguyen, personal communication, July 17, 2021). Furthermore, for those who do not have the means of electronic devices, apart from the above approaches, each neighborhood had a team called the "Covid-19 team", with a mission to disseminate the latest news, messages and policies announced by the public authorities from all levels to each household. At the same time, the public loudspeaker system also contributed to bringing critical information to people, including updates on vaccine availability, sampling data, and testing sites. Each ward and commune had many such speaker clusters. Therefore, people's access to information was quick and accurate from the government (P. N. Nguyen, personal communication, July 17, 2021).

5.1.4. Industrial Parks Controlling

Bac Ninh has 16 industrial zones and clusters, including 10 large industrial parks in the North, with a total of 331,000 employees, of which only 30 percent are local workers while the rest derives from 20 other provinces and cities nationwide (Vietnam Ministry of Health Portal, 2021). On the 9th of May 2021, the first case of Covid-19 was recorded in an industrial park in Bac Ninh province identified at Johnson Health Technology Co., Ltd, at Thuan Thanh 2

industrial park, in Thuan Thanh district (Thai Hung & Thanh Thuong, 2021). After that, the province recorded many more cases in other industrial zones from many different sources of infection. However, instead of closing all the industrial parks, the Bac Ninh government made a decision that had yet to be implemented anywhere in Vietnam by that point: *“Keep producing while fighting Covid-19”*. Mr. Quang Thanh Nguyen, deputy president of Bac Ninh Department of Planning and Investment explained more about this dual goal:

“If Bac Ninh chose to freeze all the economy in order to focus on fighting the epidemic, it would be easier for the government and frontline forces. However, it will lead to dire consequences for the economy of not only the province but also the whole country, even affecting the global supply chain because there are many factories in this supply chain in Bac Ninh, such as Samsung or Canon. Furthermore, it is estimated that in one day of stopping production, the value of the industrial output in Bac Ninh will decrease by 3,600 billion VND, excluding other commercial services, it will be a huge loss. In addition, nearly half a million workers will have to quit their jobs and stay in densely populated hostels, which is even riskier in terms of epidemic prevention. Therefore, we decided to keep producing while fighting Covid-19” (Q. T. Nguyen, personal communication, July 3, 2021).

In response to this expectation for continued production, management boards of industrial parks coordinated with public authorities to request companies to arrange their employees in the direction of what came to be known as the “Three together” policy: “eating together, living together, and working together.” For this initiative, people who worked in the same factories began living together in a concentrated accommodation after their shifts (Ha Quan, 2021). The province also set up 40 inspection teams to assess the registration conditions of each factory in order to make sure that they meet the safety requirements according to the guidelines of the MOH (Gia Chinh, 2021). See below an example of implementing the “Three together” in the Goertek Technology Vina Co., Ltd, at Que Vo industrial park.



Figure 12: 3,000 workers of Goertek company - Bac Ninh staying at the factory to maintain production during the outbreak in Bac Ninh

Source: (Minh Anh, 2021)

However, there were still a large number of workers who could not remain at the factories after their shift because of their personal situations. For example, there were many women workers who needed to take care of their children, and other workers who were forced to stay in blockade areas. Mr. Quang Thanh Nguyen informed me that these workers, who were not continuing at the factory, were supported with food, necessities and received unemployment benefits (Q. T. Nguyen, personal communication, July 3, 2021).

5.2. Adverse Impacts on Socio-Economic Development

Although it is not deniable that the public authorities at all levels were attempting to mitigate the impacts of the Covid-19 pandemic by implementing these policies, the adverse consequences on social and economic development have been significant. The quantitative information and some qualitative information extracted from interviews will reflect the adverse socio-economic impacts.

5.2.1. Negative Economic Impacts Take a Toll on Every Citizen

The Covid-19 pandemic has seriously impacted the economy in terms of employment. According to the General Statistic Office of Vietnam, for the first quarters of 2020, in the whole country of Vietnam, 30.8 million out of 51.8 million employed workers were negatively affected by the pandemic, of which 17.6 million people experienced income reduction and 2.4 million lost their jobs entirely (General Statistic Office of Vietnam, 2020a). This brought increased the unemployment rate of the working-age population in the whole country from 2.04 percent in 2019 to 2.73 in the first two quarters of 2021, while urban areas experienced an increase of 4.46 percent (RFI Tieng Viet, 2020). With young people from 15 to 24 years old, the unemployment rate was estimated at 7.44 percent, of which the urban area is 10.34 percent at the first quarter of 2021, bringing it to its highest points in the last ten years (Phuc Minh, 2021). I know the percentage seems low and does not change that much compared to other countries severely impacted by Covid-19, especially those from Africa, such as Nigeria (from 27.1 percent in 2020 to 33.3 percent in June 2021) or Angola (from 29.0 percent in 2020 to 31.6 percent in June 2021) (Trading Economics, 2021). However, with a population of nearly 100 million people, the actual number in Vietnam is absolutely huge.

Bac Ninh did not avoid this trend. The emergence of Covid-19 threatened widespread job losses in the whole province. A large number of workers went from having a full-time job status to being temporarily laid off, underemployed, or even unemployed during the outbreak of Covid-19.

Table 2: The number and percentage of pre-pandemic employment status of each category of occupation according to my survey

Type of occupation	A full time job		A part time job		Multiple part time jobs		Unemployment		Retired			
	Number	%	Number	%	Number	%	Number	%	number	%	Number	%
Health staff	30	10.3	27	90.0	2	6.7	1	0.3	-	-	-	-
Teacher	117	40.1	102	87.2	12	10.3	2	1.7	-	-	1	0.8
Office worker	78	26.4	77	98.7	1	1.3	-	-	-	-	-	-
Worker in the industrial park	21	6.5	18	85.7	3	14.3	-	-	-	-	-	-
Student	19	7.2	8	42.1	2	10.5	-	-	9	47.4	-	-
Informal worker	15	5.1	7	46.7	6	40.0	2	13.3	-	-	-	-
Other (Soldier, Farmer, Engineering,...)	12	4.4	12	100	-	-	-	-	-	-	-	-

Source: Appendix 1

Table 3: The number and percentage of employment status of each category of occupation during Covid-19 according to my survey

Type of occupation	No change		Suspended/ Laid off		New jobs		Same employment but fewer hours		Other		Switched to working/studying remotely			
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%		
Health staff	30	10.3	25	83.3	-	-	-	-	2	6.7	3 (work more)	10.0	4	13.3
Teacher	117	40.1	33	28.2	21	17.9	-	-	63	53.9	-	-	109	93.2
Office worker	78	26.4	32	41.0	8	10.3	-	-	38	48.7	-	-	51	65.4
Worker in the industrial park	21	6.5	6	28.6	13	61.9	-	-	2	9.5	-	-	1	4.8
Student	19	7.2	5	26.3	2	10.6	1	5.3	3	15.7	8	42.1	16	84.2
Informal worker	15	5.1	1	6.7	5	33.3	-	-	9	60.0	-	-	4	26.7
Other	12	4.4	8	66.7	-	-	1	8.3	3	25.0	-	-	5	41.7

Source: Appendix 1

According to the Management Board of Industrial Parks report of Bac Ninh province, Covid-19 has caused more than 200,000 of 331,000 employees working in 16 industrial parks to be laid off (Nhat Tan, 2021). As of June 2, 2021, only one-third of employees maintained production in the form of workers who both produce and stay in factories, which means that after workers finish their shift, they remained in the concentrated accommodation area at their factory instead of going home (Nhat Tan, 2021).

Out of 292 responses to my survey, there were only 21 responses from workers who worked at the factories in industrial parks (Appendix 1). However, 13 of those 21 people said they were laid off or suspended from their work, accounting for 61.9 percent. Because of such jobless, the income of those people significantly decreased, while some of them did not receive any income during the social distancing period. Respondent number 72 said:

"The social distancing period is too long. I don't know when I will be able to work again. Bac Ninh's policy forces workers to stay at the factory. However, because of having a baby who has not been weaned, I cannot stay. I have no income and no support at all from the provincial union. This situation is lasting too long; I don't know when I will be able to work again. Bac Ninh's policy has not changed that much with time. It's been almost two months since I have been out of work" (Appendix 1).

When translating this response from the original Vietnamese, I tried to clearly capture the worry this woman experienced. She was clearly in great distress to repeat the concerning sentence *"I don't know when I will be able to work again"* twice.

This woman is not the only one facing this situation, there are thousands of workers in the industrial parks who share the same situation. Ms. Thao Nguyen Vu, an accountant of the Éloge France Vietnam Pharmaceutical Joint Stock Company Vietnam, explained the situation of workers in her company:

"Because the company I am working for is a drug manufacturing company with a small scale of about 100 workers working at the factory, even when the pandemic reached its peak, the company could not close. However, only one-third of the workers have kept working in manufacturing. They remained at the factory after finishing their shift. The rest were temporarily suspended. In such cases, not everyone received the same financial assistance from the company. Those who were on the list to stay at the

factory but did not follow were suspended without being paid. Those who wanted to stay but the company temporarily did not need that person to work received 3,920,000 VND (equivalent to 172.23 USD) during their time off from work. Even I myself had to switch to work from home and only received 70 percent of my salary” (Vu T. N., personal communication, August 4, 2021).

There were many different policies announced in this small scale company. Thus, perhaps there would be multiple various financial assistance policies applied in those with bigger scales.

Moreover, Ms. Thao Nguyen Vu also mentioned that she had to switch to work from home during the social distancing period. In my survey questions, 64.7 percent of people responded “yes” to the question of working remotely (Appendix 1), most of them were teachers, professional educators, and white-collar workers. Those who could work from home except health staff who are directly working on the frontline against Covid-19, had a higher level of education with at least a Bachelor’s degree. They were well educated enough to keep their jobs, although in some cases, they had to work fewer hours than usual. Workers, who worked in industrial parks, had an at most high school diploma (19 out of 21 responses in my survey). They were the ones most negatively affected by changes in their working environment. When the unexpected shock of Covid-19 occurred, they were the very first and hardest hit. This education gap can be seen as a root cause of vulnerability which then introduced dynamic pressures and unsafe conditions by a lack of skills and training, thus exacerbating vulnerabilities.

Workers in the factories were not the only ones who took a hard hit during this crisis. Informal workers were also among the most vulnerable groups due to the lack of basic social protection schemes such as income security or health insurance benefits offered to those with formal jobs (ILO Vietnam, 2020). 15 respondents in the quantitative study were informal workers who worked for micro enterprises and household businesses. During the social distancing period, only 6.7 percent had no change employment status answered, whereas 33.3 percent of them had to suspend their businesses or were reluctant to self-isolate, 60.0 percent had to reduce their working hours, thereby leading to desperately income impacts, which for the long-term negatively impacted their quality of life.

Another vulnerable group I need to mention was migrant workers. Of these 200,000 workers being laid off, 30,000 of them were migrant workers from mountainous areas (Nhat Tan, 2021). Job losses in urban areas often drove these workers and their families back to rural areas if they could not afford their rent, healthcare services, and groceries. In response to the question “What is your household size?” 67.8 percent of respondents answered ‘from three to five people’; 29.5 percent were ‘above 5 people’, and only 2.7 percent said their household size was ‘one or two people’ (Appendix 1). This means that besides taking care of themselves, many workers had to take care of other members of their families, such as their kids or their parents. Before the crisis, many workers' household monthly income was less than 10 million VND (equivalent to 434 USD/month) (Appendix 1). Although it was relatively low to provide for 4 or 5 family members, at least with this amount of monthly income, they could manage to live. Now, with no income, it is near impossible to maintain their own living standards in urban areas, much less if they need to look after others; the more people in the family, the higher the financial burden. Living in a low-income condition is one of the categories of unsafe conditions, which can develop into significant vulnerability (Wisner et al., 2003).

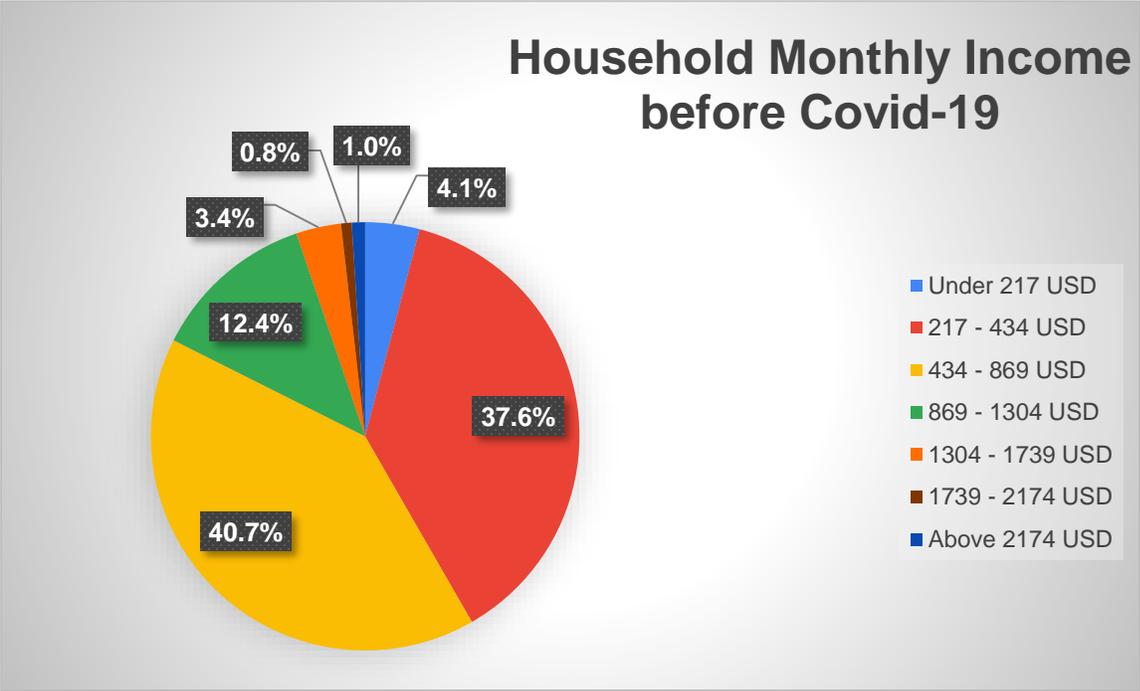


Figure 13: Household Monthly Income before Covid-19

Source: Appendix 1

Meanwhile, as this crisis exacerbated difficulties among the vulnerable people by decreasing their income, it also increased their expenses. Ms. Thao Nguyen Vu further explained:

"Before the pandemic, when workers took part in manufacturing at the factories in the industrial parks, they were provided two meals per day since they worked 12 hour shifts. Thus, they were not only earning money but they also did not have to pay for their food. At present, they are forced to stay at home with no income or with a small stipend of only 3,920,000 VND (172.23 USD) but they have to spend more money on food, electricity, and water bills" (Vu T. N., personal communication, August 4, 2021).

53.8 percent of survey respondents said they found it difficult to pay all their bills since the start of the lockdown restrictions (Appendix 1). Therefore, they either withdrew money from their savings accounts or borrowed money from their relatives to cover their cost of living. Thus, despite the containment of community transmission and the revival of some economic activities, the adverse impacts of Covid-19 on each individual and household income will remain deep and long-lasting in the following months, cause hardships in each family's daily life, especially those with predisposed income or educational vulnerabilities.

5.2.2. Impact on Quality and Inclusive Education and Learning

Since the Covid-19 pandemic broke out at the end of 2019, the Ministry of Education and Training (MOET) decided to let students stay at home and promote distance learning for all students from primary school to university (Duong, 2020). As of May 2021, Bac Ninh entered into its third online learning session. The two previous sessions were in December 2019 and at the end of January 2021, respectively (V. T. Trinh, personal communication, June 10, 2021). At the beginning of the most recent outbreak, students left for a four-day holiday for Vietnam Reunification Day (April 30) and International Workers' Day (May 1), they had no idea they would not return to school for the rest of the academic school year. However, this being a third such lock down, most teachers and students were able to readjust to distance learning quickly. Mr. Van Hung Nguyen, Vice Dean of Mechanical Engineering Faculty of Bac Ninh College of Industry, proudly shared with me:

"The epidemic broke out in Bac Ninh province after the holiday of April 30 to May 1, 2021. On May 5, the first cases of infection appeared in the Thuan Thanh district. Soon after that, the school changed its status to online education. Since 2020, online

teaching has been organized, so the confusion in accessing online teaching and learning is almost gone. This time, the transition happened very quickly.” (V. H. Nguyen, personal communication, July 19, 2021).

Mr. Van Tuyen Trinh, the principal of Nguyen Dang Dao junior high school, also had the same opinion:

“After three times, online learning via Zoom is deployed by 100 percent for all teachers and students. It has gone into order quite methodically” (V. T. Trinh, personal communication, June 10, 2021).

However, accessing online learning at the primary school level was been much more difficult. The percentage of primary school students utilizing the Internet in Bac Ninh is pretty low. According to an elementary assessment before the 2021-2022 school year in Bac Ninh city, only 30.6 percent out of 24,139 primary students are able to connect to the Internet to proactively follow their school schedule; 65.6 percent can connect to the Internet but have to depend on their parents’ electronic devices and only be able to follow online lessons when their parents are home; and still, 3.8 percent of students are unable to study online due to a lack of Internet or Internet connection devices (Dao, 2021). To further explain, in Vietnam in general, the Internet service is cheap. Vietnam even is considered one of the countries with the lowest price of Internet service in the world (Anh Kiet, 2021). On average, Vietnamese people only need to pay 260,000 VND (equivalent to 11.27 USD) per month for Internet connection (Anh Kiet, 2021). Therefore, those who cannot access the Internet are often those in the lowest-income category. Unfortunately, I cannot know the living conditions of 3.8 percent of those above students in Bac Ninh city, which has the highest per capita income in the province (Xuan Lan, 2018). I wonder if this figure would be likely higher in other districts of Bac Ninh province, where people have a lower standard of living relative to Bac Ninh city.

To reach more students, especially those who did not have a computer or the Internet, besides teaching and learning via Zoom, Bac Ninh Department of Education and Training also implemented distance learning through the Bac Ninh TV channel (Trinh K., 2021). However, those distance learning programs only focused on 5th, 9th, 12th grade, because these are the three years at which students must take their transfer exams⁶, and they also only

⁶ After finishing the final year of each school level, students have to take a transfer exam to determine which school they will enroll in the coming year.

concentrated on a few subjects such as Mathematics, Vietnamese literature, and English, which are so the subjects of the transfer exams (Trinh K., 2021). There were a few programs for early childhood education, notably for kids in kindergarten and the first grade. However, since these children had only just begun reading and writing, it was hard for them to follow distance learning as their young age left them with inadequate awareness and they would often quickly forget what they learned. Ms. Thao Nguyen Vu was so worried about her second kid: *“My son was in the first grade last year. Since school had closed for a while, he forgot how to write letters and numbers. He even wrote the number 5 backwards”* (Vu T. N., personal communication, August 4, 2021).

Although it is not denied that online learning provided a considerable solution to maintain student learning during the Covid-19 pandemic, this learning method still cannot replace traditional education at the physical schools in Bac Ninh province due to its drawbacks. Also college students, especially those studying in technical fields, require a lot of practical work, while online learning only provides basic theoretical knowledge for students. Mr. Van Hung Nguyen noted that:

“In my Mechanical Engineering Faculty, students have a total of 3,500-hour study before graduating, of which about 1,500 hours of practicing account for 40 percent. Therefore, if the social distancing period lasts too long, it will negatively affect the quality of their training” (V. H. Nguyen, personal communication, July 19, 2021).

For younger students, notably at primary and junior high school levels, their capacity to self-study is apparently inefficient. Online teaching is still a one-way teaching method, the teacher plays the role of transmitting the lectures, while the knowledge accumulation of students is limited. Teachers noted that, during the school closures, students tended to study less than required and sometimes not study at all (V. T. Trinh, personal communication, June 10, 2021). Furthermore, online learning has been considered to lead to minor health issues. Some responses I received illustrated that their kids suffered from health problems such as temporary vision, hearing, neck and back problems after starring at the screen for a long time, which might increase anxiety levels and psycho-social issues among children (Appendix 1).

In addition, not only did students struggle through the online learning period, but teachers also encountered other issues while conducting online and distance learning courses. During

a personal interview, Mr. Van Tuyen Trinh explained the challenges that teachers at his school had to deal with:

“Although the implementation of online teaching has been conducted for all teachers in the school, we are still facing many challenges. First, despite having been trained on how to prepare online lessons during the Covid-19 pandemic, the online method is still pretty new to some teachers, especially for the elderly teachers. They did not feel comfortable conducting online courses. Second, a lack of interaction between teachers and students somehow impacted the quality of sessions. And third, teachers could not check-in and give feedback to their students immediately as they could in the classroom” (V. T. Trinh, personal communication, June 10, 2021).

It was so hard for both teachers and students to conduct online learning sessions during the social distancing period. And it was even more challenging for those who could not access this method at all. At present, in August 2021, the new academic year 2021-2022 is about to begin. Teachers and students in Bac Ninh province have yet to know if their schools can reopen or not. The plan has constantly changed depending on the evolution of the Covid-19 pandemic in the province. The more time the crisis carries on, the more suffering it brings to teachers and students. Those who come from low-income families cannot approach online learning, so they will likely fall very behind. Even when school reopens, it will take time and effort for them to catch up with their counterparts who were living in better learning condition during the lock-downs. Now we can see how the layers of vulnerability build up in different groups in education sector. Their situation could worsen as the distance learning period is being prolonged, even beyond the confines of this pandemic. So, let us move on to another important aspect, which is psycho-social well-being.

5.2.3. Immobility Impacts Psycho-Social Well-being

The Covid-19 crisis has not only severely affected the livelihood of each citizen and their quality of education, but it has also triggered fear and mental distress among people. Answering the question, "How concerned are you about catching Covid-19?", only 3.8 percent of people selected, 'Not at all', whereas 96.2 percent responded from 'a bit' to 'extremely', of which the percentages for 'a bit', 'moderately', 'very' and 'extremely' were 29.8 percent, 34.6 percent, 29.5 percent and 2.4 percent, respectively (Appendix 1). As a follow up, I asked the question, “Has your mental health been negatively impacted by Covid-

19 and the lockdown restrictions?” Only 9.2 percent of respondents answered they were not worried at all, whereas 90.8 percent felt worried from ‘a bit’ to ‘extremely’, of which the percentages for 'a bit', 'moderately', 'very' and 'extremely' were 34.9 percent, 30.8 percent, 18.2 percent and 6.8 percent, respectively (Appendix 1).

Children were the very first objects negatively impacted. This unprecedented pandemic created many overwhelming changes in children’s mental health. As a consequence of social distancing and school closures, children’s daily lives were severely disrupted. Without being able to go out, everything constricted into four walls, a crisis in children’s mental health could emerge due to their stress, boredom, lack of motivation, anxiety and depression. Many survey respondents reported such concerns observed in their children. Respondent number 289 said: *“My children were not allowed to hang out with their friends. They were so sad”* (Appendix 1); while respondent number 221 explained: *“Children’s activities were turned upside down, despite my efforts to create more games, lessons and activities for them”* (Appendix 1).

Furthermore, during the social distancing period, children had limited or no outdoor physical activities, instead their leisure activities were those which exposed them to excessive Internet use. Respondent number 97 said:

“Covid-19 is slowly impacting family living habits, especially school-age children: gradually losing study habits, using smartphones more to play games and watch movies. There is no play space, which affects the psychology and mental health of my children” (Appendix 1).

Ms. Thao Nguyen Vu also said:

“Normally the daily limit for my children using the computer or TV was about 30 minutes per day. However, during the social distancing period, I allowed my kids to have more time playing on the Internet and watching TV since they had nothing else to do” (Vu T. N., personal communication, August 4, 2021).

In addition, this crisis also created isolation among family members, especially those who have worked on the frontline against Covid-19. Mr. Danh Bac Tran shared his personal situation:

“I have not been home for two months, although my house is at the Back Gate of Bac Ninh Political University, and I can see my house every day from my barrack. My family has five members but lives in four places. I think not only my family but many families have similar situations since Bac Ninh neither allows people in the province to go out nor people from other provinces to enter until the Covid-19 pandemic is under control” (D. B. Tran, personal communication, July 7, 2021).

He also shared a story of his comrade:

“There was a comrade in my unit whose father passed away, but he could not return to his hometown to mourn his father. Even if he returned, he would have to quarantine for 21 days because of coming from a dangerous epidemic area, so he still couldn't attend his father's funeral. Therefore, he had to do his mourning in Bac Ninh away from his family” (D. B. Tran, personal communication, July 7, 2021).

A similar story on family stress was shared by a healthcare staff:

“During the Covid-19 pandemic, my work at the healthcare center became much busier. My family's life was turned upside down because I had to go on duty continuously and could not look after my children. My husband also had to work more since he is a police officer on the frontline against Covid-19. Therefore, I had to send my kids to their grandparents.” (Respondent number 241, Appendix 1).

I received many such stories through my questionnaire surrounding how Covid-19 negatively impacts the psycho-socio well-being of Bac Ninh citizens, but I cannot list them all here. Unfortunately, this concern does not seem to be a priority of the public authorities at this complicated moment. Their first and foremost goal is always to mitigate the number of positive cases and deaths and maintain provincial economic growth. We will intensively discuss this in Chapter 6: Discussion. Now, let us move into the last aspect I would like to present, community and social connections. This is one of the most important sections because it determines how Bac Ninh inhabitants have been adapting and building resilience before, during, and after each pandemic wave.

5.3. Community and Social Connections

Communities bear the brunt of the effects of Covid-19 on socio-economic development. They also constitute the key to respond to the pandemic and ensure the longer-term recovery of society. The Covid-19 pandemic has put a social networks test on everyone, with some strengthening their connections while others struggle to maintain their connectedness. Even so, I would say that I am so proud of how communities in my province have supported each other before and during this pandemic period. When asked the question “Before Covid-19, did you feel welcome/supported/connected to the local community in Bac Ninh?” the answer was nearly 100 percent “Yes” (99.3 percent) (Appendix 1). Ms. Thu Hang Nguyen, vice president of charity group called *Keeping Up Your Dreams* claimed that “*the spirit of solidarity of Vietnamese people in general and Bac Ninh people in particular are wonderful, and we are always willing to help those in need*” (T. H. Nguyen, personal communication, June 11, 2021). According to the survey, the shelter in place order did make the physical connection between people feel less (51.4 percent of people felt they had less physical connections) (Appendix 1), but that does not mean their social networks were weaker. To make it more clear, my survey questions from 18 to 21 shed light on how community and social networks have been involved in mitigating the socio-economic impact of the Covid-19 crisis in Bac Ninh province.

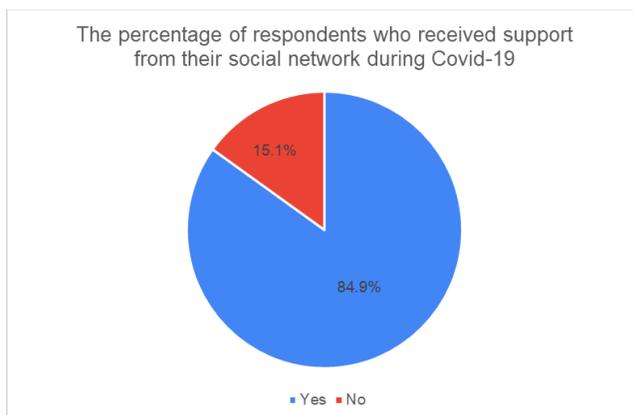


Figure 14: The percentage of respondents who received support from their social network during Covid-19

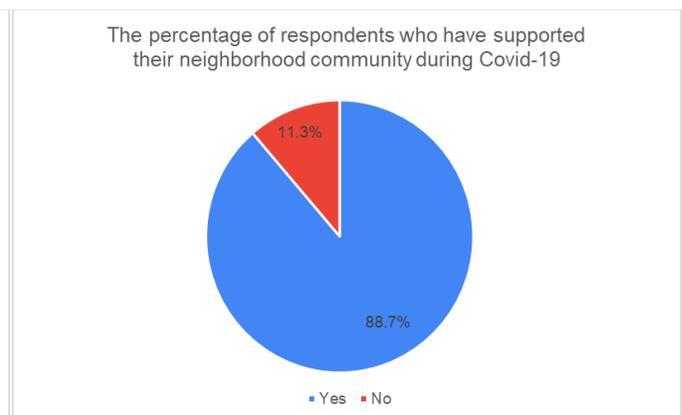


Figure 15: The percentage of respondents who have supported their neighborhood community during Covid-19

Source: Appendix 1

In regards to the question of “Do you have a strong network of friends and family who have supported you during this pandemic period?” 84.9 percent of respondents answered “Yes” and only 15.1 percent of people answered “No”. At the opposite question of “Have you been

supporting the neighborhood community during this time?” the percentages of those who answered “Yes” versus “No” is similar to the previous question with 88.7 percent answering “Yes” and 11.3 percent answering “No” (Appendix 1). Of course, it might be impossible for those with limited resources to contribute to the community even if they would like to do so. However, for those who answered “Yes”, 71.1 percent donated food, necessities, and money, whereas 25.0 percent participated in volunteering activities such as supporting healthcare missions or buying food for neighbors who were self-isolating after contact with an infected person.

I am not surprised when I observed these results. During my 23 years growing up in Bac Ninh province, I witnessed and participated in multiple charity and volunteer projects to support vulnerable groups in overcoming their difficult times so I know it is the general culture of the province. With this unprecedented event of Covid-19, there is no exception. A large number of projects have been launched to support underprivileged people who are struggling with difficulties due to the pandemic such as the *Free Rice ATM* or *Zero VND Supermarket* which provided rice, and essential goods to people for free.



Figure 17: Each person receives a 3 kg package of rice

Source: (Vietnam Investment Review, 2020)

Ms. Thu Hang Nguyen informed me that:

“The vulnerable people not only received support from one individual or organization, but they received it from multiple organizations in different ways and, they received it not once but many times. For example, workers in Khac Niem industrial park were the first to struggle with Covid-19 because they were forced to stay home while did not



Figure 16: Underprivileged people are waiting to receive rice from "Rice ATM"

have abundant food or economic source. Second, they did not have families or relatives next to them, so they could not get any support from their families. It was wonderful that their landlords offered support to them by decreasing their rent. After that, they received food and essential goods from many charities in the province” (T. H. Nguyen, personal communication, June 11, 2021).

The intention here is that those who came to receive this support did not have to prove their need, or poverty, or unprivileged nature to anyone. Everyone who needed these packages was more than welcome to come and take them. It was a sensitive initiative, especially for undocumented workers and people who did not have any certificates to prove their situation. The question can arise here: Is this the best way to approach the impoverished or are there other more efficient ways? Those are all discussed in the next chapter 6: Discussion.

CHAPTER 6: DISCUSSION

It has been almost four months since the fourth wave of Covid-19 occurred in Bac Ninh province. Looking at the ongoing reports of the Covid-19 situation, it is indisputable that Bac Ninh has done a great job to mitigate the transmission of Coronavirus and keep the numbers of positive cases and deaths pretty low due to strict governmental policies. However, the disproportionate impacts on socio-economic development and the emerging vulnerabilities among people in other aspects of life have been significant, as presented in Chapter 5. Now, it is time for us to completely answer the research question that was posed at the beginning of this research: *“In Bac Ninh province, do the effects of the pandemic crisis and the resilience of the local society depend on an articulation between the practices of each inhabitant, the contribution of the community, and the measures taken by the public authorities?”* First, we will see if Bac Ninh citizens were well prepared to face a biological hazard such as Covid-19 by going through a section on resilience-building before the pandemic. Then I will present my reception to the measures of public authorities and inhabitants’ practices during the crisis period. Consequently, long-term sustainable resilience will also be intensively discussed in this chapter.

6.1. Resilience Building before Covid-19

As discussed in Chapter 2, the most valuable preparation for facing a new disaster is the experiences people have accumulated from past disasters, through which they implement changes to improve resilience. In the past two decades, Vietnam in general and Bac Ninh in particular experienced many biological hazards including: SARS in 2003, Avian Influenza between 2004 and 2010, and Measles in 2014 (Do B. H., personal communication, July 30, 2021), (Mackey & Liang, 2012). Although these were each kept under control and never grew into a national epidemic, the dangerous of these outbreaks cannot be denied. Each of these previous biological hazards served unique roles in preparing the province for the outbreak of Covid-19. For example, the crucial measures which were implemented during the SARS outbreak in 2003 are now being applied to Covid-19: (1) promptly identifying people infected with SARS, their movements and contacts, (2) effectively isolating patients in hospitals, (3) appropriately protecting medical staff, (4) comprehensively identifying and isolating contacted cases; (5) checking-in international travelers and (6) accurately disseminating information in a timely manner (Brouqui, 2009). Therefore, before Covid-19 even reached

Bac Ninh province, many SARS outbreak strategies were put into place to stop the situation from getting worse than it could.

With such experiences accumulated, Bac Ninh citizens strongly believed in how Bac Ninh's government responded to Covid-19. In my survey questionnaire, I asked a question "Do you agree/feel comfortable with the way Bac Ninh's government responded to Covid-19?" 93.5 percent of respondents answered "Yes", whereas only 6.5 percent answered "No". Also, because of the strong trust in the public authorities, although there were many adverse consequences regarding socio-economic development as presented in the previous chapter, most of Bac Ninh inhabitants strictly followed all the government regulations. 92.8 percent of respondents thought the local community had done a good job following the social distancing rules.

Social distancing regulations however placed many strains on the employment sector as discussed in Chapter 5; at which point Bac Ninh Employment Service Center (BNESC) stepped in to play an essential role during the Covid-19 response. Established in 2006, BNESC is a place to counsel and introduce jobs to support unemployed workers. In other words, it is as a bridge to connect enterprises and workers, especially migrant workers (Hoai Phuong, 2021). In addition, BNESC also implements solutions to facilitate procedures for employees to receive unemployment insurance. During the Covid-19 pandemic, because Bac Ninh implemented the social distancing order, many businesses were suspended, leading to a large number of workers losing their jobs. Therefore, these workers reached out to BNESC with the desire to receive their unemployment insurance soon. As a result, the number of applications for unemployment insurance benefits sent to the BNESC increased significantly from about 1,000 profiles per month in 2020 to 4,000 profiles per month in 2021 (Nguyet Ta, 2021). In order to support workers as quickly as possible during this difficult time, BNESC informed workers to receive information and submit documents online instead of traveling to the BNESC center as before. This helped speed up the settlement of unemployment benefits while still following the social distancing order. As of July 2021, BNESC settled unemployment insurance for approximately 4,000 employees with an amount of more than 83 billion VND (3.64 million USD), while at the same time, advising on job introductions for more than 2,300 employees returning to work (Nguyet Ta, 2021). After having operated for 15 years, BNESC has built a layer of trust within the community and the results of our survey seems to confirm that Bac Ninh workers know that BNESC is always there if they need help.

Unlike BNESEC who has provided services to Bac Ninh inhabitants for 15 years, there were also many charity groups and organizations who were only recently established yet, because of the pressures of the pandemic, have been able to run many projects to support the local community. A charity group called *Keep Up Your Dreams* is one such example. Established by six teachers from two local schools in the winter of 2020, this group has already implemented multiple projects for vulnerable people, such as assisting students in mountainous areas and donating necessities for people in seasonally flooded regions. Being that the group originated from a team of teachers, they quickly gained great trust from the community. Therefore, during this Covid-19 crisis, the group has been able to quickly scale up their projects, even those with high funding demands such as: donating medical equipment for hospitals in the province or distributing food and essential goods for people in locked-down areas. As of January 2021, they have implemented around 40 projects both small and large scale and have raised 565 million VND (24,818 USD) from community members (T. H. Nguyen, personal communication, June 11, 2021). It is such a large amount of money for a group that was only formulated last year but it has brought great benefits to the community. Having established organizations or charity groups right in the community is essential during disasters such as Covid-19 because they are trusted by community members and can bridge the gap in assistance between the government and Bac Ninh citizens. Also, local community groups are able to adapt to the new situation quickly while making sure to provide help to vulnerable people in the community which is essentially for resiliency-building.

To sum up, in Bac Ninh province, three levels of scale have been mobilized: citizens, established charity groups and organizations and public authorities. The lesson to be learned from their actions is a low level of coordination. This crisis showed the need for coordination between different groups of stakeholders dedicated to population support. As Zanotti (2010) suggested in a different context, in times of disaster management, the “Cacophony of Aid” among stakeholders is a factor that makes things more difficult. Therefore, coordination can be necessary to effectively improve collective responses (Zanotti, 2010).

6.2. Reception to Public Authorities' Measures and Inhabitants' Practices during Covid-19

As we can see from the beginning of this research, preparedness from prior disasters and responses during almost two years of the Covid-19 pandemic have taken seriously at every point. It is not denied that Bac Ninh province has done a good job of minimizing the number of positive cases (1,823 cases reported on the 27th of August, 2021) for a long time when compared to the south of Vietnam⁷ (VnExpress, 2021). However, these strict regulations have come at a cost, and if Bac Ninh authorities and residents do not recognize and consider these costs carefully, it could lead to longer lasting vulnerabilities and, ultimately, another social disaster in the future.

6.2.1. A Gap between Public Authorities' Perspective and the Actual Situation of Citizens

It has been almost two years since the Covid-19 pandemic started emerging in China and expanded into a global crisis; since then, people have started to get used to the existence of Covid-19 in their lives. Each individual, household and community has had to adapt for such a long time and is continuing to adapt until the pandemic is over. In Vietnam, these adaptations are ongoing at all levels from the Vietnamese government to local government and from local organizations to individuals.

As I mentioned in Chapter 3, the Vietnamese government approved two aid packages worth 62 trillion VND (2.6 billion USD) and 26 trillion VND (1.13 billion USD) to support the poor and small businesses hit by Covid-19 who were not eligible for unemployment benefits. Everyone who wanted to receive support from these packages had to prove that they worked at enterprises, cooperatives, public non-business unit, or private educational institution and were suspended or laid off at the request of competent state agencies to prevent and control the COVID-19 pandemic. After being validated, they received 3,700,000 VND (equivalent to 162.23 USD) during their time off from work (Minh Huong, 2021). However, there were still many people who could not prove their employment situation, such as informal or undocumented workers. In fact, the issue of inequalities between informal workers and

⁷ As of July 2021, the new Delta variant reached the south of Vietnam. The new infected case numbers surged to thousands daily and were increasingly hard to control. The highest single-day record was 17,409 cases on the 27th of August, 2021, equivalent to eight times the number of all cases in Vietnam in all of 2020 (VnExpress, 2021).

formal workers in Vietnam is actually not new. When Vietnam started promoting industrialization and modernization since Vietnam's revolution in 1986, the inter-provincial migration flows have grown up significantly, leading to an increasing number of undocumented migrant workers (Phan & Coxhead, 2010). Because they were unknown to the state from the point of view of registration, it could be hard for the authorities to approach them: a few support structures exist to provide assistance with capacity building, technical and accounts training, market access, or information. Thus, the informal sector ultimately seems to be an unidentified object to public policy in Vietnam (Thi et al., 2010). When it comes to facing disasters, the number of workers and the extent of suffering from natural disasters depends on the different temporalities of each event. In the case of flood risk in central Vietnam, it occurred seasonally in a short period almost every year. Therefore, the number of impacted people caused by floods has gradually decreased after each flood season, and local institutions were able to timely support their local people (Razafindrabe et al., 2014). However, when the time of disaster lasted long as this unprecedented crisis Covid-19 pandemic, more people fell into vulnerable groups. Meanwhile, the institutions from the state to the local level have struggled to deal with two challenging parallel missions: (1) taking measures to mitigate socio-economic degradation; and (2) controlling the consequences of the crisis, which led to the increase of high mortality rates and contaminated people (WHO Vietnam, 2021d). Consequently, even though the authorities approved two social support packages worth enormous value to support vulnerable groups, many people still could not receive them from the government.

When it comes to Bac Ninh province, the situation was similar. When asked the question, "How did Bac Ninh public authorities support vulnerable people?" Mr. Quang Thanh Nguyen vehemently answered me that:

"[All vulnerable people] were supported with food, necessities and received unemployment benefits. We were determined to leave no one behind" (Q. T. Nguyen, personal communication, July 3, 2021).

Nevertheless, in reality, not all vulnerable people in Bac Ninh could access the support from the authorities. In response to the question of, "Have you received unemployment benefits/food access/essential goods from the government?" 49.7 percent of respondents answered "No", 23.3 percent said "Yes" and the final 27.1 percent confirmed that they did

not qualify to receive these supports (Appendix 1). Thus, there was still a huge gap between the perspective of the public's authorities and the actual situation of Bac Ninh inhabitants. A question arises here can be whether the local authorities grasp the holistic situation of what is happening in their locality.

Having only heard reports from his subordinates, Mr. Quang Thanh Nguyen assumed that he had fully grasped the situation of all the people of his province. He was so confident to say that everything was under control quickly, and the province was fully capable of resources to maintain its inhabitants' lives. According to Mr. Quang Thanh Nguyen, the current policies have been effective because, although people's lives have been disturbed, the impacts were not too severe. He informed me that:

"The provincial authorities set up 40 inspection teams to assess the registration conditions of each factory in order to make sure that they meet the safety requirements according to the guidelines of the MOH. Only factories that met the safety requirements were allowed to continue operating [...] We also consulted with the factory owners about each worker's situation. Only those who were eligible and voluntarily registered to stay at the factories could continue manufacturing. Such workers would receive wages, so most of them agreed to stay. Meanwhile, those who were not continuing at the factory were supported with food, necessities and received unemployment benefits" (Q. T. Nguyen, personal communication, July 3, 2021).

However, as we saw in Chapter 5, the story of respondent number 72 was very different from what Mr. Quang Thanh Nguyen said above. She was forced to stay at the factory, but she simply could not because of her personal situation. Consequently, she has had no income and no support from the provincial union in almost two months since she has been out of work. She also was one of a few respondents who answered "Not at all" for the question of "How concerned are you about catching Covid-19?". When people are in such dire straits that their livelihood is severely impacted, they will think of nothing more than having enough money to cover the basic needs of their family. The initial concern of respondent number 72 at that moment was whether or not she had enough food for the next few days, this took precedent over concerns for her physical health as it relates to Covid-19. She needed to know how she could receive any support from the government to live through this challenging time which, for her, is still ongoing.

Another aspect that exacerbates this gap could be the slow vaccine rollout. As Dr. Ba Hien Do said:

“In the early stages we controlled this pandemic by the following steps: detecting, isolating, tracking and tracing, and stamping it out. However, in the most recent broke out with it spreading as much as it is now, it is practically untraceable. There are no places to isolate. Therefore, the most valuable tool now to control this pandemic is to vaccinate the people. Covering everyone with vaccines to achieve herd immunity will be the only way to repel this disease. Since this virus currently has no specific treatment, all we can do is limit its effects. Specifically now, through vaccination.” (Do B. H., personal communication, July 30, 2021).

This is another example of how previous biological hazards prepared Bac Ninh for Covid-19. Having experienced human cases of avian influenza between 2004 and 2010 and Measles in 2014 authorities knew one of the main reasons for the outbreak was inappropriate slowness in the vaccination process (Quynh Hoa, 2014). Thus, Bac Ninh citizens were aware of the importance of vaccination, notably with the infectious disease does not yet have any other treatments, as is the case with Covid-19.

In the question of “Do you want to be vaccinated against Covid-19?” 96.4 percent answered, “Yes”, while only 3.6 percent answered “No” (Appendix 1). However, because of confidence in the social distancing policies, public authorities seemed to display complacency and hesitated to implement immunization programs when the number of positive cases was still low. As of the 14th of July 2021, only 4,146,767 vaccine doses have been administered in the whole country of Vietnam, a minor fraction (only 4.2 percent) of the total population of more than 96 million citizens (Thai Binh, 2021b). In Bac Ninh province, as of 6a.m on the 2nd of August 2021, 276,819 people accounting for the one-sixth provincial population have been vaccinated, of which only 23,927 people received their second dose, while 252,892 people received only their first dose (Thanh Thuong, 2021b). These ratios were quite similar to the responses I received from my survey. Out of 238 people who wanted to get the Covid-19 vaccines, 39.7 percent have not yet been vaccinated, 48.6 percent just took their first shot and only 11.7 percent have been full vaccinated (Appendix 1). In relation to vaccine distributions, Mr. Quang Thanh Nguyen noted that besides prioritizing those who are working on the frontline against Covid-19, vaccines were also provided to workers in the industrial

parks due to their high risk of infection. Therefore, most workers who stayed at the factories and continued manufacturing got fully vaccinated from the first phase of vaccinations (Q. T. Nguyen, personal communication, July 3, 2021). However, Ms. Thao Nguyen Vu offered contradicting information:

“In fact, in Que Vo industrial park, only a few big-scale corporations can get vaccines for their workers. My company is small scale, so it is not a priority object. Even the company’s director has already registered with the management board of the industrial park, but there has been no vaccine to inject [...] I also have twelve workers living in my inn who have yet to get vaccinated” (Vu T. N., personal communication, August 4, 2021).

As of the end of August 2021, Bac Ninh is not considered a dangerous pandemic area anymore. Meanwhile, Southern Vietnam has grown worse, with about 10,000 positive cases reported per day (Thuy Linh, 2021). In response, most of the vaccines resource intended for Bac Ninh citizens are now being redirected to some provinces in the south of Vietnam. Therefore, people who have not been vaccinated, especially workers in industrial parks, are living in fear of being infected with Covid-19 at any time. In the history of dealing with various outbreaks of infectious diseases including measles, myelitis and avian influenza in all over the world, there were many lessons could be learned: First, one of the main reason exacerbated the infectious diseases into epidemics or pandemics is hesitating to vaccinated people (Oostvogel et al., 1994) and the second lesson could be worth to mention intervening earlier even with low target coverage, but a wider age range might be more effective than intervening later with high coverage in similar settings (Grais et al., 2008). Therefore, if the Bac Ninh authorities learned from these cases and even in the right Bac Ninh itself as mentioned above in order to pay more attention and facilitate the immunization program sooner, more people would be vaccinated, which would accelerate the process of controlling the Covid-19 pandemic in the province.

It seems that local authorities still have yet to capture what is really happening in their locality. The higher the position they hold, the harder it is for them to grasp the holistic situation of the most vulnerable people at the bottom of society, much less understand how they have been coping with this pandemic. The gap between public authorities’ perspectives and the actual situation of inhabitants still exists and cannot shrink without the

transformation of public authorities in terms of approaching the real condition of the real vulnerable people.

6.2.2. Ignoring Psycho-socio Well-being in Light of the Crisis

According to a research article *Mental health priorities in Vietnam: a mixed-method analysis*, mental health, and psychological well-being did not appear to be a priority of the general Vietnamese community (Niemi et al., 2010). Unprecedented measures at unprecedented scales were taken by the Vietnamese government. In other words, there were no regular programs for mental health promotion, no explicit policies address mental health and psychological well-being (Niemi et al., 2010). Even regarding research on the prevalence of mental health disorders in Vietnam, there were a few comprehensive epidemiological studies (Vuong et al., 2011). These two are concepts which are often overlooked and ignored. People are conscious of their adverse effects on human lives, but not many people pay serious attention to or seek effective solutions for these concerns. During the social distancing period of this Covid-19 pandemic, mental health and psychological well-being discussions became more transparent because of the shelter in place order as it was beginning to lead to loneliness, fear, distress, and depression throughout the population especially among young people. In order to deal with these stresses, many people chose to immerse themselves in digital media, such as playing video games, watching TV, and spending more time on social media such as Facebook, Instagram, and Twitter. However, frequently utilizing digital media was not very beneficial; it might provide distraction in a very short time, but it would not entirely solve the problem. Furthermore, it often lead to diminished interactions between family members in the household, a decrease in the general size of social circles, and escalated loneliness and depression (Chew et al., 2020).

In addition, mental health centers and assistance hotlines are not very common in Bac Ninh province. During my research, I took a lot of time to search for a psychological center or a clinic that provided mental health services across the province, but even from a researcher's perspective I found very little information. In this industrialized province, enhancing economic growth is always the first and foremost goal of the public authorities. This perspective was made clear through an interview with Mr. Quang Thanh Nguyen where he discussed economic issues as the highest concern during the pandemic:

“It is estimated that in one day of stopping production, the value of the industrial output in Bac Ninh will decrease by 3,600 billion VND, excluding other commercial services, it will be a huge loss” (Q. T. Nguyen, personal communication, July 3, 2021).

What Mr. Quang Thanh Nguyen failed to take into account is how mental health and psychological well-being can also influence workers’ behaviors, which directly impacts their level of output. Ms. Thao Nguyen Vu gave an example:

“Under the fear of contracting Covid-19 at any time since the pandemic, some workers at my company quit their jobs and went back to their home villages. This led to a dire consequence for both workers and the company as the workers were out of work and the company had to recruit new employees” (Vu T. N., personal communication, August 4, 2021).

It is time for public authorities to seriously pay attention to the mental health and psychological well-being of Bac Ninh citizens, and recognize its equal importance to and interconnectedness with economic growth.

6.2.3. Success and Challenges of Grassroots Organizations

Grassroots organizations which were established within the community have generated inclusive responses to Covid-19. First, they have demonstrated an enormous capacity to respond to the immediate needs of low-income groups. Many community-based groups have helped to fill gaps between the residents’ needs and the government’s assistance; for example, by donating rice in *Free Rice ATM* projects, distributing free food in *Zero VND Supermarket* or establishing community kitchens in some places. Therefore, most vulnerable people have been supported in a timely manner throughout the crisis, especially migrants and migrant workers who are faced with many challenges including: housing issues and lack of social protection such as access healthcare services, social insurance and neighborhood connectedness. Second, grassroots organizations have participated in supporting medical missions by volunteering to take samples test of inhabitants in epidemic areas, and they have donated medical equipment and medicines to hospitals in the province. Moreover, through their contributions, their positive actions have spread to others. Ms. Thu Hang Nguyen said:

“Since I directly participated in this sampling work, from the beginning, many people were still cautious and afraid because they saw me directly working in the epidemic area. However, then they recognized that I was still healthy and kept my spirits up.

Therefore, they started to get involved too. The social effect is so good that I hope it will spread it to many people – relatives, friends, and colleagues – to join this anti-epidemic support work”(T. H. Nguyen, personal communication, June 11, 2021).

However, despite their successes, grassroots groups are still facing many challenges in running their projects. Ms. Thu Hang Nguyen talked about her charity group *Keeping Up Your Dreams*:

“Because the group was only recently established, there are not yet clear rules and regulations. Therefore, our group is facing many problems. First, the viewpoints of group members are not always in accord with one another, although we all have the same goal, which is to support the local community. Second, sometimes donor shipments do not meet the requirements of the place that received them. For example, buying medical products that guarantee both the origins and quality during this pandemic is a big challenge. And the biggest challenge is that it is not always easy for our group to raise funds from the community, especially for projects that require large amounts of money” (T. H. Nguyen, personal communication, June 11, 2021).

In addition, many projects were carried out spontaneously; therefore, they were only temporary solutions for a specified – and often short – timeframe. The initiative *Free Rice ATM* was originally a great idea because it could reach a large number of unprivileged people; everyone was allowed to come and take those rice packages without proving their need. However, this initiative was only effective for a short period due to limited rice resource. Also, the most critical issue was immobility at some locked-down places prevented many impoverished people from receiving this support. In fact, the term ‘immobility’ is not only discussed regarding facing biological hazards as this Covid-19 pandemic, but it is also a common situation with other natural disasters. For example, hurricane Katrina occurred in 2005 in New Orleans, Louisiana, USA, induced devastating many main roads, isolated some areas in the Gulf Coast, leading to thousands of people not being able to access food and healthcare for some time (Gabe et al., 2005). Although the characteristics of immobility in these events were different: in the Covid-19 pandemic cases, citizens’ immobility were intervened by the directives of the public authorities, while in the case of hurricane Katrina, external physical factors such as infrastructure prevented people from evacuating, they were all involuntary immobility, of which people wanted to move, but yet lacked the ability to do

so. As a consequence, it reduced the ability to access food or necessities or healthcare services, which significantly increase vulnerability among people, especially impoverished people. There were also many community-based organizations emerging in support of local people in overcoming the adverse impact of this hurricane. However, in the article named *Disaster-Related Human Rights Violations and Corruption: A 10-Year Review of Post-Hurricane Katrina New Orleans*, Voigt, and Thornton (2015) stated that charitable endeavor or volunteering only helped a handful of disaster victims without involving intensively in any efforts at changing mechanisms while the dire consequences from disasters continue to escalate disparities and disproportionately impact the minority population (Voigt & Thornton, 2015). I understand it is hard for one project *as Free Rice ATM* to be able to reach all the vulnerable groups, and I also perceive that a project will not be a sustainable solution if it cannot reach the root causes of an issue or lacks cooperation between the community and the public authorities. Therefore, we need long-term strategies that require a transformation of social and political relations towards sustainable resilience; these grassroots organizations have begun that process, but they have not yet made it all the way to sustainable programming.

6.3. Sustainable Resilience in the Long-term

6.3.1. Supporting the Livelihoods of Vulnerable People, especially Migrant Workers

The unprecedented Covid-19 crisis has put social protection provisions to the test; never before have so many people lost their livelihoods so quickly. As we now know, there are 331,000 employees who worked in the industrial parks in Bac Ninh province before Covid-19, and when the crisis occurred, about 200,000 of them were temporarily laid off or suspended, of which two-thirds of these were migrant workers. The impacts of this crisis on livelihoods are not only severe in the short term, but they also persist in the medium and long term. So the question that arises here is how can we ensure that migrant workers are protected for the long term?

Now more than ever, offering a better social protection for vulnerable people could be a great solution. Vulnerable people, notably migrant workers who have lost their stable income due to this crisis, are the best positioned to benefit from livelihood development programs such as savings groups and skills-building. These programs can alleviate the medium-term

effect of Covid-19 and enable workers to establish a better foundation to be more prepared for such shocks in the future. While providing such livelihood development programs for workers, it is also necessary to encourage and implement public works and other proactive labor market programs such as job searching support in order to give migrant workers a chance to return to work after being laid off or suspended due to Covid-19.

For the long term effective policy making, it is crucial to build trust through direct dialogue between the public authorities, enterprises, and workers. In times of crisis, the heightened social tension and lack of faith in the government and other large institutions can be exacerbated at any time if the citizens' lives are not kept as the priority. Therefore, it is necessary to create mechanisms of social dialogue to build the commitment of employers and employees to joint action with the government. Mr. Quang Thanh Nguyen assured that:

“We are trying our best to control the pandemic quickly so that workers can return to work as soon as possible. Next month, we are supposed to hold a virtual meeting with production and business establishments in the province, both FDI enterprises and domestic companies. If enterprises have any difficulties and issues that need the intervention of the public authorities, we will gather them together and focus on solving them” (Q. T. Nguyen, personal communication, July 3, 2021).

I really hope time around the policymakers can genuinely take into account the voice from ground, listening carefully to firsthand accounts of those who do not feel secure during the current situation. This attention is undoubtedly a way to address root causes instead of only focusing on short-term measures to deal with emergency situation. As Waymer and Heath (2007) emphasized that “these voices [from vulnerable people directly impacted by the hurricane Katrina] help frame the crisis, the quality of response to it, and the lessons learned that can mitigate future crises of similar kinds. If the voices are not heard during the crisis, they are likely to be stronger and more condemning after the fact. This realization can inform and enhance crisis communication research and best practices while also strengthening the quality of emergency response planning and response protocols” (Waymer & Heath, 2007, p. 96).

6.3.2. Expansion of Social Services Including Mental Health and Psychological Well-being Services

Bac Ninh has done a good job of providing Covid-19 tests and treatments for positive cases for free for all people in the community, including uninsured people, and undocumented migrant (Do B. H., personal communication, July 30, 2021). However, this is a notable exception; normally those who do not have insurance cannot access advanced treatment, or if so, they would have to face a massive medical debt because the cost of such treatment is so high. Not being able to afford healthcare services can be a reason people hesitate to look for medical treatment, which can put their lives in greater danger. Therefore, universal healthcare can be an effective solution to help shrink the health inequality gap by providing the same access, care, and treatment to all people regardless of their socio-economic status. In fact, the free universal access healthcare system was implemented in Vietnam before the 1980s (N. Do et al., 2014). When the economic reformed from a centralized economy to a market-oriented economy in 1986, the free universal healthcare system was also shifted into a user fee system subsidized by the Vietnamese government (N. Do et al., 2014). As a consequence, the out-of-pocket expenses for healthcare increased dramatically from almost nothing to 65 percent of the total health expenditure in 1998, pushing many households in the low-income group into financial crisis (V. T. Tran et al., 2011). In 2002, the *Health Care Funds for the Poor* policy was implemented to support the poor in accessing public healthcare services and reduce healthcare expenditures (Matsushima et al., 2019). However, almost two decades have passed since this policy started implementing, the issue of inequality in accessing healthcare services still exists because of people's socio-economic status (K. T. H. Pham et al., 2019). Therefore, it is time to think carefully of universal coverage of health insurance approach again because this will lessen one of the root causes of vulnerabilities that disadvantaged people in Vietnam and particularly in Bac Ninh are currently facing.

In addition, mental and psychological support services need to be strengthened because they are central in addressing the impacts of the pandemic on psycho-social stress and in containing and responding to the mental health issues, which have affected almost everyone, especially young children. Therefore, it is necessary to build up professional psychological centers that provide psychotherapy hotlines so that everyone can receive mental health consultations from professionals. Furthermore, promoting social-emotional learning, mental

health, and psychological well-being education for all people, especially children and young people, is crucial to avoid negative side effects of unchecked mental health.

6.3.3. Long-term Support Students and Shrink the Education Gap

Last but not least, it is crucial to pay more attention to education in order to support students in overcoming the long-term impact of school closures. Loss of classroom time may result in even more significant long-term challenges in the future such as less access to higher education, lower labor market participation, and thus lower future earnings. Therefore, there is an urgent need to mitigate these challenges while also building a more resilient mechanism that can withstand future crises. The data of students who have fallen behind due to the Covid-19 pandemic should be conducted comprehensively in order to timely provide the support they need to meet expected learning targets. The first step could be to conduct a diagnostic assessment to identify students who are falling behind and diagnose their support needs, both in terms of knowledge gaps and learning strategies. For example, students from low-income backgrounds or vulnerable households with parents who are migrant or informal workers may need the most help since the instability of their parents' jobs during the Covid-19 pandemic reduced their ability to access distance learning because they could not pay for a computer or the Internet service. In these cases, efforts should be taken by institutions to ensure that those students are able to access the required resources. As such, subsidizing resources for these students, such as computers and laptops with Internet connectivity, can be a great idea to reduce their barriers to engaging in the lessons.

In addition, to ensure resilient recovery, it is crucial that the education budget is protected. To support the most vulnerable students, the Bac Ninh schools, especially those schools that have served high poverty populations should be prioritized more funds and resources. Also, incentives such as school scholarships might need to be implemented generously to encourage low-income students to remain in school. From a practical perspective, we know that no learning recovery program will be feasible without financial support. In the case of budget cuts, high-income families will still be able to continue paying for their children, while low-income families will not as easily fill this gap. Therefore, education budget allocations are necessary and need to be used effectively in order to support learning recovery interventions, particularly among students with the highest need.

Moving forward, we not only want to recover from the Covid-19 pandemic, but we also want to use the experiences accumulated during this crisis to become better prepared for future-crises. In order to attain this goal, the method in which can be applied in both in person and online should be built and implemented more effectively. The Blending learning model can be a good idea, whereby, it is “the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (Garrison & Kanuka, 2004). This method requires schools to be better prepared to switch quickly between face-to-face learning and online learning as needed; develop curricula that can be taught both in-person and online. Also, teachers need to be provided with better devices and applicable training courses to improve their digital instruction skills (Means et al., 2013). If it can be implemented effectively, it will support student education not only during future pandemics but also during other unexpected events that may induce school closures, such as natural disasters. I understand this is such a long-term process that requires a vision and bold action from public authorities, institutions, teachers, parents, and students, but long-term resilient strategies need such an initiative to help education recover from the negative impacts of Covid-19 and move forward with resilient approaches.

CHAPTER 7: CONCLUSION

This thesis has illustrated how the Covid-19 pandemic has impacted Bac Ninh society. By gradually exploring the two approach concepts vulnerability and resilience, the answer for the question of *“In Bac Ninh province, do the effects of the pandemic crisis, and the resilience of the local society depend on an articulation between the practices of each inhabitant, the contribution of the community, and the measures taken by the public authorities?”* is Yes. The level of socio-economic impacts due to Covid-19 is determined by the interaction among three stakeholders: citizens, communities, and public authorities from state to local level. However, through the thesis results, we can clearly observe that not everyone has been affected at the same level by this crisis. The root causes of political, social, and economic issues left many Bac Ninh citizens behind. Economic exploitation from low-income jobs due to limited education, migrant or undocumented status made many households risk falling into vulnerability even before the pandemic. The inappropriate measure of the public authorities when only focused on keeping people in their houses to mitigate the transmission of the virus seems not to be a comprehensive solution. The issue of getting adequate food, and social services such as education for children, health treatment, especially regarding mental health and psycho-socio well-being, is still ongoing.

Fortunately, Bac Ninh has a strong network of the community. Many charity groups and grassroots organizations were established to support the community members. However, many projects were operated but only solved temporary problems instead of engaging deeper in any efforts solving the root causes while the dire consequences from disasters kept escalating disparities and disproportionately impacted the minority population. For example, free food distribution is crucial to ensure that every citizen has enough food to eat and famine will not happen in Bac Ninh province. However, if the issue of why people have to rely on such food projects was the priority to address, perhaps the real progress in enhancing livelihoods could be considered.

The life of Bac Ninh citizens is still going on with increasing Covid-19 cases reported every day. At present, people genuinely do not know yet when this fourth wave of the pandemic is under control entirely since the country failed to contain its outbreak and many provinces, especially those from South Vietnam, are on the verge of uncontrollability. The more time

this crisis lasts long, the more suffering people have to deal with. Facing biological hazards is never easy but surmounting their socio-economic impacts is much more difficult. The battle fighting against this unprecedented Covid-19 and its consequences in Vietnam and, in particular, in Bac Ninh province is at the tough stage, and it requires the proactive participation of all stakeholders from individuals, communities, and public authorities. Thus, it is urgent to reflect critically, take measures appropriately, and work directly with the root causes inducing vulnerability for many Bac Ninh citizens. Otherwise, they will keep suffering from disproportionate impacts of disasters in the future.

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APPENDIX

Appendix 1: Survey questionnaire

Below is a copy of the survey questionnaire that was distributed digitally and responses collected via Google Forms. Vietnamese version of the survey is available upon request.

1. Do you live in Bac Ninh province?
 - a. Yes
 - b. No
2. How long have you lived in Bac Ninh?
 - a. Less than 1 year **1%**
 - b. 1-3 years **3.1%**
 - c. 3-5 years **1.7%**
 - d. 5-10 years **9.6%**
 - e. 10-20 years **22.9%**
 - f. More than 20 years **61.6%**
3. What is your household size?
 - a. 1, 2 people **2.7%**
 - b. 3-5 people **67.8%**
 - c. Above 5 people **29.5%**
4. Which type of your occupation?
 - a. Health staff **10.3%**
 - b. Professional educator/Teacher **40.1%**
 - c. Office worker (White-collar worker) **26.4%**
 - d. Students **6.5%**
 - e. Workers at the industrial park **7.2%**
 - f. Other (Freelancers: **3.8%**; Soldiers: **1%**)
5. What was your pre-pandemic employment status?
 - a. A full time job **83.6%**
 - b. A part time job **8.6%**
 - c. Multiple past time jobs **2.1%**
 - d. Unemployed **3.1%**
 - e. Retired **0.7%**
 - f. Other _____
6. What is your current pandemic employment status?
 - a. No change **36.6%**
 - b. Laid off **16.8%**
 - c. New job **1%**
 - d. Same employment but fewer hours **40.8%**
 - e. Other **work more 0.9%** _____
7. Have you switched to working remotely?
 - a. Yes **64.7%**
 - b. No **35.3%**
8. How you receive unemployment benefits/Food access/essential goods?
 - a. Yes **23.3%**
 - b. No **49.7%**
 - c. Do not qualify **27.1%**
9. Do you receive your healthcare/insurance from your companies?
 - a. Yes **66.1%**

- b. No **33.9%**
10. Are you the owner or important employee in your company so that you have been going to work like normal?
- a. Yes **17.5%**
b. No **82.5%**
11. Have you lost your healthcare coverage because of this pandemic?
- a. Yes **5.1%**
b. No **94.9%**
12. Is it easy for you to pay all your bills since the start of the lockdown restrictions?
- a. Yes **46.2%**
b. No **53.8%**
13. Did you need to rely on donation services to support yourself/your family during this pandemic?
- a. Yes **11%**
b. No **89%**
14. Are you receiving temporary rental assistance?
- a. Yes **7.5%**
b. No **92.5%**
15. Do you agree/feel comfortable with the way Bac Ninh's government responded to Covid-19?
- a. Yes **93.5%**
b. No **6.5%**
16. Do you think local community has done a good job at following the social distancing rules?
- a. Yes **92.8%**
b. No **7.2%**
17. Before Covid-19 did you feel welcome/supported/connected to the local community in Bac Ninh?
- a. Yes **99.3%**
b. No **0.7%**
18. To your opinion, how has the connection changed?
- a. No change **15.4%**
b. Less connected than before **51.4%**
c. More connected than before **32.5%**
d. Other___**0.6%**__
19. Do you have a strong network of friends and family who have supported you during this pandemic period?
- a. Yes **84.9%**
b. No **15.1%**
20. Have you been supporting the neighborhood community during this time?
- a. Yes **88.7%**
b. No **11.3%**
21. If yes, how have you been supporting?
- a. Volunteering **25.9%**
b. Donating (Food, necessities, money) **71.1%**
c. Other_(both, healthcare mission, buy food for neighbor) ___
22. How concerned are you about catching Covid-19?
- a. Extremely **2.4%**
b. Very **29.5%**

- c. Moderately 34.6%
 - d. A bit 29.8%
 - e. Not at all 3.8%
23. How negatively financially impacted have you been by Covid-19 and the lockdown restrictions?
- a. Extremely 14.0%
 - b. Very 26.0%
 - c. Moderately 33.2%
 - d. A bit 20.9%
 - e. Not at all 5.8%
24. Has your mental health negatively impacted by Covid-19 and the lockdown restrictions?
- a. Extremely 6.8%
 - b. Very 18.2%
 - c. Moderately 30.8%
 - d. A bit 34.9%
 - e. Not at all 9.2%
25. Do you want to be vaccinated against Covid-19?
- a. Yes 96.4%
 - b. No 3.6%
26. If yes, have you been vaccinated yet?
- a. No, I haven't 39.7%
 - b. Yes, I just took a shot 48.6%
 - c. Yes, I already took 2 doses 11.7%
27. Are you worried that lockdown restrictions are taking long time?
- a. Yes 90.4%
 - b. No 9.6%
28. What is your gender?
- a. Male 20.9%
 - b. Female 79.1%
- c. Other
29. What is your age?
- a. Under 18 2.7%
 - b. 18-24 8.9%
 - c. 25-34 35.6%
 - d. 35-44 29.8%
 - e. 45-54 22.6%
 - f. Above 55 0.3%
30. What is the highest level of education you have completed?
- a. High school and below 12.4%
 - b. Undergraduate 70.7%
 - c. Postgraduate 16.9%
31. What is your household monthly income?
- a. Under 5 million VND (< 217 USD) 4.1%
 - b. 5-10 million VND (217-434 USD) 37.6%
 - c. 10-20 million VND (434-869 USD) 40.7%
 - d. 20-30 million VND (869-1304 USD) 12.4%
 - e. 30-40 million VND (1304-1739 USD) 3.4%
 - f. 40-50 million VND (1739-2174 USD) 0.7%
 - g. Above 50 million VND (>2174 USD) 1%
32. In your opinion, what other important things (Covid-19 affects your life) have not been mentioned in this questionnaire?
- Answer: _____

Appendix 2: Survey questionnaire

Below is a table summarizing of the interview conducted.

	Name	Organization	Position	Date of interview	Length	Interview method
1	Van Tuyen Trinh	Nguyen Dang Dao junior high school	Principal	11 th June 2021	41 minutes	Zoom video
2	Thu Hang Nguyen	Charity Group <i>Keeping Up Your Dreams</i>	Vice-president	12 th June 2021	48 minutes	Zoom video
3	Quang Thanh Nguyen	Bac Ninh Department of Planning and Investment	Deputy President	3 rd July 2021	39 minutes	Zoom video
4	Danh Bac Tran	Political University	Colonel	7 th July 2021	58 minutes	Zoom video
5	Phu Ninh Nguyen	VNPT Bac Ninh Information Operations Center	Deputy Director	17 th July 2021	43 minutes	Zoom video
6	Van Hung Nguyen	Bac Ninh College of Industry	Vice Dean of Mechanical Engineering Faculty	19 th July 2021	28 minutes	Zoom video
7	Ba Hien Do	Bac Ninh General Hospital	Head of Nephrology and Dialysis Department	30 th July 2021	54 minutes	Zoom video
8	Thao Nguyen Vu	Éloge France Vietnam Pharmaceutical Joint Stock Company	Accountant	4 th August 2021	51 minutes	Zoom video

Appendix 3: Interview Questions

1. Interview 1: Van Tuyen Trinh, 11th June 2021

- a. Which steps have Nguyen Dang Dao junior high school taken since the crisis broke out in Bac Ninh?
- b. How has 'distance learning class' been? How can you make sure that all students have access to distance learning?
- c. Which difficulties are you facing when you switch to teach online?
 - Have you had to deal with any students who did not show up for distance learning?
 - Have you lost track of any students?
- d. How were grades determined, especially for students who are in the final year of school?
- e. In the long term, do you think how this type of distance learning impacts both teachers and students?
- f. Do you think it is harder for students to return to school again since they study online for a while?
- g. As a Nguyen Dang Dao principal, what challenges have you and your school been facing? What solutions have you come up with to support the teachers and students of the schools?

2. Interview 2: Thu Hang Nguyen, 12th June 2021

- a. How many members are there in your group?
- b. Can you explain a bit about when the charity group *Keeping up your dreams* was established and how does it run/operate?
- c. In your opinion, what have been the main effects of the Covid-19 pandemic in Bac Ninh?
- d. How many projects have your group done since the pandemic started exploding?
- e. How has your group done to reach out to the vulnerable groups who need help the most?
- f. What has your group been doing/preparing to help those who are in need right now?
- g. Do you think everyone in Bac Ninh who needs help right now can be able to get all of the support that they need?
- h. Which challenges has your group faced when running your projects?

3. Interview 3: Quang Thanh Nguyen, 3rd July 2021

- a. In your opinion, how did Covid-19 impact Bac Ninh province?
- b. Before the pandemic occurred in Bac Ninh, how did Bac Ninh authorities prepare for epidemic prevention and control?
- c. During the pandemic, what measures have Bac Ninh authorities taken to detect new infections, control and limit the spread of Covid-19? What are the difficulties and challenges that the public authorities are facing when dealing with the Covid-19 epidemic?
- d. Bac Ninh is a province developing in the direction of industrialization, I know that there are many industrial parks that have been operating in Bac Ninh province. However, with such large scale parks with so many workers are working, the risk of infection of these workers is very high. So what special measures has Bac Ninh taken for this area?
- e. Can you share about the vaccination situation in Bac Ninh province?
- f. In your opinion, what changes in Bac Ninh as a result of this pandemic will be retained and applied in the long run?

4. Interview 4: Danh Bac Tran, 7th July 2021

- a. How long have you worked in this military base?
- b. What are the main missions of every military base in general and you in particular during this challenging time?
 - o What has your military base been doing to support the local community dealing with Covid-19?
 - o What do you think which difficulties that soldiers are facing?
- c. How many soldiers in your military base are taking part in supporting the local community facing Covid-19?
- d. As I know, your military base now is donating some space to be concentrated isolation areas, which scale of it?
- e. Can you share about the military's spirit to help local people fighting Covid-19?

5. Interview 5: Phu Ninh Nguyen, 17th July 2021

- a. What are your main missions as deputy director of VNPT Bac Ninh Information Operations Center?
- b. In your opinion, how has the telecommunications industry contributed (especially in technology) in the prevention and control of the Covid-19 pandemic?

- c. How can local people update information on the situation of infections quickly and accurately?
- d. In your opinion, how can the information about Covid-19 situation be delivered to the vulnerable people, who cannot access social media?
- e. How many users of VNPT's service? According to my research, VNPT has deployed the switchboard 18001119 and the Callbot system to support people to make medical declarations, so how many calls has been received by the center from people in need of assistance. And can you explain more about the operation method of VNPT's Callbot system?
- f. What obstacles has the telecommunications industry in general and VNPT in particular faced during the covid-19 epidemic? How are you dealing with these?
- g. As a person holding an important position in VNPT Bac Ninh Information Operations Center, what policies can be announced so that Bac Ninh telecommunications can optimally support people, especially when the pandemic can be prolonged?

6. Interview 6: Van Hung Nguyen, 19th July 2021

With this interview, I asked similar questions to the first interview with Mr. Van Tuyen Trinh.

7. Interview 7: Ba Hien Do, 30th July 2021

- a. What are the challenges that healthcare workers in general and you, in particular, are facing during this time?
- b. How many doctors, health staff are working on treat Covid-19 patients directly?
- c. Can you share about anti-pandemic effective solutions your hospital is utilizing?
- d. In your opinion, what could help you to face/measure/anticipate future pandemics?
- e. Can you share about the vaccination situation in Bac Ninh?
- f. Has your hospital received support from the local government or community?

8. Interview 8: Thao Nguyen Vu, 4th August 2021

- a. How long have you been working in this organization/company?
- b. How has the pandemic affected your work?
 - Do you have to switch to working from home?
 - Have your working hours cut?
 - Has your salary been reduced?

- c. Has your company had any policies to support workers/employees like you?
 - How many workers are still working in the factory?
 - Have you received healthcare insurance from your company?
 - If workers are laid off or suspended, which policies have been announced by the company's directors to support them?
 - Can you share about the vaccination situation in your company?
- d. How did Covid-19 affect your family's life? And your workers who live in your inn? Have you received any support from the government or the local community?

Appendix 4: SWOC Analyses

In the process of doing my presentation for my Thesis defense, I supplemented two SWOC Analyses to clearly assess strengths, weaknesses, opportunities, challenges of (1) the prevention and control strategies for the Covid-19 of the public authorities from all levels and (2) the grassroots organizations.

1. SWOC Analysis for the Prevention and Control Strategies for the Covid-19 Pandemic

<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none"> - Medical and Health System is gradually enhanced, especially Comprehensive Advancement of Health Emergency System - Quick cooperation in the joint prevention and control of various ministries/departments 	<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none"> - Cases of Covid-19 infection developed in many regions within a short period - Lacks of social dialogues between the government and local people
<p style="text-align: center;">OPPORTUNITIES</p> <ul style="list-style-type: none"> - Further improvement and inspection of the emergency health system - Opportunity for education in infectious diseases 	<p style="text-align: center;">CHALLENGES</p> <ul style="list-style-type: none"> - Maintain the economy - Taking care of public daily life, work, physical and mental health, psychology of people, notably vulnerable groups

A. Strengths

Vietnam in general and Bac Ninh province in particular already faced many biological hazards before, such as SARS in 2003, Avian Influenza between 2004 and 2010, and Measles in 2014. Thus, the public authorities observed the danger of infectious diseases due to the worsening of patients’ situations occurred in a very short time. Therefore, the Medical and Health System from state to local level, especially the Comprehensive Advancement of Health Emergency System, has been gradually enhanced in order to promptly treat patients infected with infectious diseases.

It is not denied that the cooperation in the joint prevention and control of various ministries and departments was implemented quickly. The MOH played the central role to guide people on how to protect themselves and others by diffusing multiple medical messages, of which

the “5K” message was the most important one. Besides, it also collaborated with other ministries such as the Ministry of Science and Technology, the Ministry of Information and Communications, and the Ministry of Education and Training to develop a plan with different scenarios when Vietnam had no Covid-19 cases. Therefore, when Covid-19 cases started reported in Vietnam and in Bac Ninh province, the public authorities were confident with their policies and strategies they already prepared.

B. Opportunities

There are two typical opportunities I want to point out here for the government in the process of implementation of the prevention and control strategies for facing Covid-19. First, this was a chance to further improve and inspect the Emergency Health System. Every time Vietnam and particularly Bac Ninh province experience a biological hazard, they have an opportunity to build up their Emergency Health System comprehensively. The more dangerous infectious disease broke out, the better the system was built gradually to deal with them.

The second opportunity worth to be mentioned was an opportunity for education in infectious diseases. It has been almost two years since the Covid-19 crisis occurred in Vietnam. According to the guidelines of the government agencies through various channels such as a hotline, mobile applications, and loudspeakers system, residents have been aware of the danger of infectious diseases and how they have adversely impacted the socio-economic development among people.

C. Weaknesses

Although there were many strengths and opportunities for the public authorities when they announced the prevention and control strategies for the Covid-19 pandemic, many weaknesses still exist. First, the number of positive cases increased in many regions within a short period. In Vietnam, 62 out of 63 provinces and cities confirmed having positive Covid-19 cases. In Bac Ninh province, only almost two months since May 2021, there have been approximately 2,000 cases reported in all districts across the province. It means that somehow, these governmental strategies were not really effective in controlling the increasing number of cases. The severe second weakness was the lack of social dialogue between the government and local people. The government’s engagement with people and

strategies appeared more fragmented than coherent, leading to a mismatch between the government’s priorities and the residents’ priorities. This top-down approach somehow has yet to solve the root causes inducing vulnerability which created many challenges for the public authorities.

D. Challenges

The social distancing order made many enterprises were suspended, and thousands of workers were laid off temporarily and permanently. It was absolutely challenging for the government to maintain the economy of the whole country of Vietnam and each region across the country. Furthermore, it was even harder to maintain the quality of life of people. Not only physical health but also mental health and psychological illness among people, especially vulnerable groups, were serious issues required the concentration of the government.

2. SWOC Analysis for Grassroots Organizations

Since the top-down approach has disclosed many drawbacks, of which the most one is the mismatch between the public authorities’ priorities and the actual need of local people, the bottom-up approach can be considered alongside.

<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none"> - Understand and observe the actual situation - Strong volunteer base and inspiring leadership 	<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none"> - Carry out spontaneously - Temporary solutions - The view of member has yet to be in accordance with one another
<p style="text-align: center;">OPPORTUNITIES</p> <ul style="list-style-type: none"> - A Capacity to respond to the immediate needs of vulnerable people - Approach a variety of vulnerable groups - Build trust from local people - Easy to raise funds 	<p style="text-align: center;">CHALLENGES</p> <ul style="list-style-type: none"> - Limited financial reserves - Attract the attention of public authorities

A. Strengths

The grassroots organizations have the huge advantage of knowing people, culture, and political environment to develop initiatives and better implement them on the ground. Moreover, because of being established right in the community, such organizations have both a strong volunteer base and inspiring leadership from community members. Therefore, they can observe the real situation of the real vulnerable people from the ground in order to promptly provide advocacy.

B. Opportunities

Being immersed in the community and live right in the local society, grassroots organizations have a capacity to respond to the needs of vulnerable people immediately due to the ability to observe what was happening in the community. They also have a chance to approach and provide help to various vulnerable groups because of the flexibility in the requirement of people who want to receive their support. For example, the Free Rice ATM is a typical idea since everyone who needed these packages of rice was more than welcome to come and take them without proving their need or poverty, or unprivileged nature to anyone. In addition, community-based organizations can raise funds easily and also quickly scale up their projects because they already built great trust from the community. Community members believe that these organizations and charity groups can bridge the gap in assistance between the government and local citizens.

C. Weaknesses

Although having many strengths and opportunities, there are many weaknesses in these grassroots groups in running their projects. First, many projects were carried out spontaneously; therefore, they were only temporary solutions for a specified-and often short-timeframe. Second, because of being established in a very short time: many groups were established the last year 2020, or at the beginning of this year 2021 during the Covid-19 pandemic, the viewpoints of group members were not always in accord with one another since they still have yet regulations or legitimations to operate their organization and run their projects smoothly.

D. Challenges

Some challenges that grassroots organizations are still facing. The first challenge that can be indicated here is that their financial reserves are limited. Since their budget has been donated by the community members, it is apparently unstable. Sometimes, the community-based groups face a challenge to raise funds from the community, especially for projects that require large amounts of money. Furthermore, attracting the attention of public authorities is also one of the biggest challenges for grassroots organizations. These grassroots organizations have begun the process of building the resilience of the community. Still, they have not yet made it all the way to sustainable programming if lack of cooperation with the public authorities. Making the public authorities pay attention to their projects and invest resources such as human resources, and finance resources so that they can expand their projects' scale to approach more vulnerable people is still an arduous hurdle that every grassroots organization is tackling.

To sum up, it is necessary to combine both the top-down approach and the bottom-up approach to build sustainable resilience in society. For further researches or practical works in the future, always consider a grassroots approach before making every decision. The voice from the ground will reveal the root causes of vulnerability among people. Therefore, listening to them in order to surmount directly to root issues inducing vulnerability for many citizens is much better than dealing with the surface problems as we are doing now.