

Historical perspectives on typhoons and tropical storms in the natural and socio-economic system of Nam Dinh (Vietnam)

John Kleinen *

*Amsterdam School for Social Science Research (ASSR) and the Maritime Research Centre (MARE), University of Amsterdam,
Office: O.Z. Achterburgwal 185, 1012 DK Amsterdam, The Netherlands*

Received 1 October 2004; received in revised form 1 April 2005; accepted 26 May 2006

Abstract

This contribution starts with a brief introduction of the effects of typhoons and tropical storms on Vietnam, focusing in particular on the coastal region of Nam Dinh, a province in the northern part of the country and part of the Red River Delta. The magnitude of damage caused by a natural disaster is not solely determined by the direct physical impact of the event, but also depends on the socio-economic and political circumstances that shape a person or a groups' daily life. Such conditions define where and how people live and work. An overview of the major events since the 19th century shows how important it is to study these events in historical perspective. This paper briefly considers various conceptualizations and definitions of vulnerability. It analyses the destruction caused by a natural disaster in terms of peoples' vulnerability in a deltaic region. A distinction is made between collective vulnerability and individual vulnerability, each leading to different levels of perception of the disaster. The levels overlap in the discussion because they are interwoven and dependent on one another.

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Keywords: Vietnam; Typhoons; Climate extremes; Institutional analysis; Vulnerability; Resilience; Historical analysis

1. Introduction

This paper examines the relationships between storm events and human life in colonial and post-colonial Vietnam at various levels of historical time. I will argue that historical data from documents and oral reports supplement the limited instrumental measurements of meteorological phenomena of the French colonial period and even the more elaborated data of the post-1945 period. The extent of the consequences of natural hazards as typhoons is not only measured by quantitative or statistical data but also by information received from contemporaries, ego documents and documents stored in archives. I will further argue that the dimension of a disaster is influenced by the measure of vulnerability and resilience of the society that is

struck by a natural hazard. In other words “(H)azards may be physical phenomena but disasters occur as a result of a community's political structure, economic system and social order that expose its people to the dangers inherent in (...) climatic disturbances” (Bankoff, 2003a). The destruction caused by a disaster in terms of peoples' vulnerability is further analytically separated into two levels, collective vulnerability and individual vulnerability. Several factors that influence vulnerability will be considered throughout the discussion at both levels. The levels overlap in the discussion because they are interwoven and dependent on one another.

2. Tropical cyclones

Of all regular recurring natural hazards, tropical cyclones pose the most dangerous threat to life and property in the coastal areas of the tropics and subtropics in various parts of the world. The term tropical cyclone is a

* Tel.: +31 20 5252742; fax: +31 20 5253010.
E-mail address: j.g.g.m.kleinen@uva.nl

generic term for “a non-frontal, synoptic scale, low-pressure system over tropical or sub-tropical waters with organized convection (i.e., thunderstorm activity) and definite cyclonic surface wind circulation” (Holland, 1993). Once a tropical cyclone reaches wind speeds of at least 60 km/h, it is called a “tropical storm”. Winds above 120 km/h (64 knots) are called a “typhoon” in the Northwest Pacific Ocean or hurricanes elsewhere. Tropical cyclones with maximum sustained surface winds of less than 60 km/h (34 knots) are called “tropical depressions” (Neumann, 1993).

2.1. Typhoons and tropical storms in Vietnam

On 11 November 2001, the tropical storm Lingling carried winds of 110 km/h, gusting up to 140 km/h, and moved with a speed of 130 km/h towards the coast of Vietnam. Reports from 10 to 12 November 2001, showed the damage Lingling (also called Tropical Storm No. 8) had caused in central Vietnam: 18 deaths, 100 injuries, and over 1000 homes destroyed. Lingling was the fourth disaster that struck Vietnam in 2001 leaving 339 people killed and more than 1.5 million people affected. Four years earlier, the tropical storm Linda past over the tip of the Mekong delta, and turned out to be the greatest storm of the century, according to Vietnamese government sources. Nearly 800 people died and 2132 remained missing, thousands of fishing boats sank, over 300,000 houses were ruined and around 22,000 ha of rice paddy destroyed. The economic damage was estimated US \$ 600 million (UNDP, 2000).

Over 70% of Vietnam’s population is currently at risk from all kinds of natural disasters. Recently, in 2000 and 2001 natural disasters claimed 1338 lives and caused total material losses of over US\$ 800 million. More than 3000 people remained unaccounted for (UNDP, 2000). These

natural disasters pose enormous risks for communities, and are one of the main causes of poverty. A recent UNDP report stresses in line with WHO priority the need for an adequate disaster rehabilitation system in order to restore people’s livelihoods, and to improve social services and infrastructure (NCSSH, 2000).

Vietnam is often a victim of typhoons, although it never experienced disasters comparable to the ones in coastal areas in Bangladesh where in, e.g., 1970 a typhoon—induced storm surge killed between 450 and 500,000 people and altered huge parts of the coastline in one night (Hanson, 1988). Since the beginning of the 20th century nearly 25,000 lives have been lost in Vietnam as a direct result of extended floods, typhoons and epidemics leaving aside the enormous amounts of lost harvests, material property and extended damage in terms of unstable infrastructure (MARD, 1997; UNDP, 2000).

The number of typhoons and tropical storms that approached or affected Vietnam during the 20th century is roughly counted at a number of 786 of which 348 are typhoons with wind speeds greater than 120 km/h. These storms hit the mainland, especially the coastal provinces in the North and the Centre of Vietnam (Fig. 1), but only an estimated 20% poses a serious threat for the local population.

Aggregate data for Vietnam as a whole from the National Climatic Data Center (NCDC) in Washington, DC show a wide year-to-year variability of typhoon approaches between 1884 and 1995, ranging from once a year to as many as twelve a year in recent decades (see Figs. 2a and b based on NCDC, 1996; cf. see also Kelly and Adger, 2000). Nearly 3000 tropical storms and typhoons occurred in the North-Western Pacific of which Vietnam is an integral part, at an average of 24.3 storms a year.

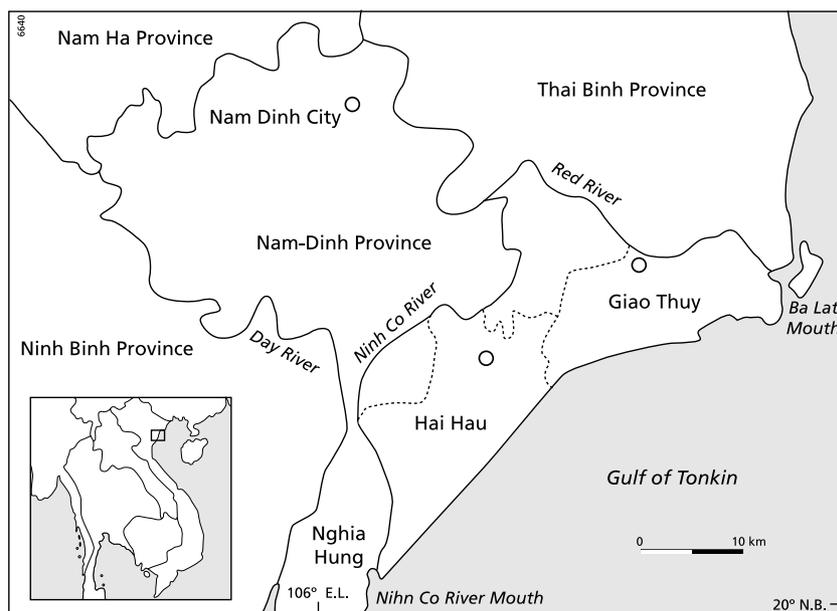


Fig. 1. Map of Vietnam and part of the Red River Delta, including Nam Dinh province, with its three coastal districts.

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