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Ministry of Planning and
Investment of Vietnam

ECO-INDUSTRIAL PARKS VIET NAM

PREVENTION, PREPAREDNESS AND RESPONSE
TO ENVIRONMENTAL ACCIDENTS FOR COMMUNITIES,
WORKERS, AND MUNICIPALITIES.

**EXPERIENCES AND PRACTICES FROM
OTHER COUNTRIES**



INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT

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ACRONYMS AND ABBREVIATIONS

APELL	Awareness and Preparedness for Emergencies at Local Level
ARA	Appropriate regulatory authority
COA	certificates of authorization
CPR	cardiopulmonary resuscitation
DDM	Department of Disaster Management
EMR	Environmental Management Representative
EMS	Environmental Management System
EPA	Environmental Protection Agency
EPD	Environmental Protection Department (of Hong Kong)
ERP	Environmental emergency response procedure
GDP	gross domestic product
IZ	industrial zone
IFRC	Red Cross and Red Crescent National Societies
NTRS	NT Recycling Solutions
OECD	Organisation for Economic Co-operation and Development
PMU	Project Management Unit
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WB	World Bank
WHO	World Health Organization

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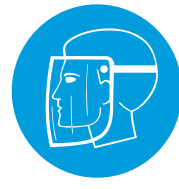
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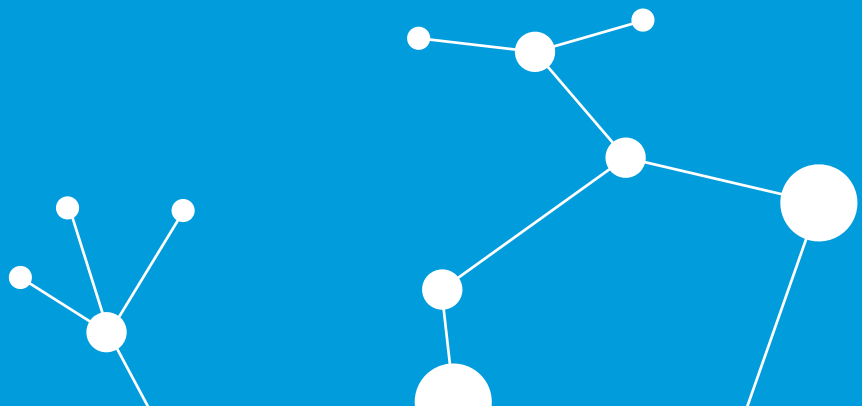


INTRODUCTION

Environmental accidents and natural disasters are increasing in number and intensity. Most of them are unpredictable, and so people have to be well prepared to protect themselves in the most secure ways. The impacts from disasters are extremely devastating and significantly affect people, the environment and business organizations. Moreover, the risk of industrial accidents should not be underestimated. Indeed, a firm can be the object of an accident that could have been avoided with the proper controls and safety measures. A lot of prevention is required in order to avoid and/or minimize the risk of industrial accident that could happen.

This report is part of Component 1 (Review and analyze international and domestic experience on environmental accidents) of the assignment, “*Capacity building in communities to respond to environmental accidents or disasters from industrial zones*”. The overall objective of this report is to provide a comprehensive review of international and national experiences on prevention, preparedness and response to environmental accidents to ensure that all stakeholders are able to respond in a timely and effective manner.

This report was prepared for Vietnam’s reference and use. It includes guidance for preparedness and steps to follow from emergency scenarios from other countries in the region, such as Japan, the Philippines and Indonesia. Additional experiences and lessons learned from other international organizations, such as World Health Organization (WHO), United Nations Environment Programme (UNEP) and Red Cross and Red Crescent National Societies (IFRC), etc., have been reviewed and considered while compiling this report.

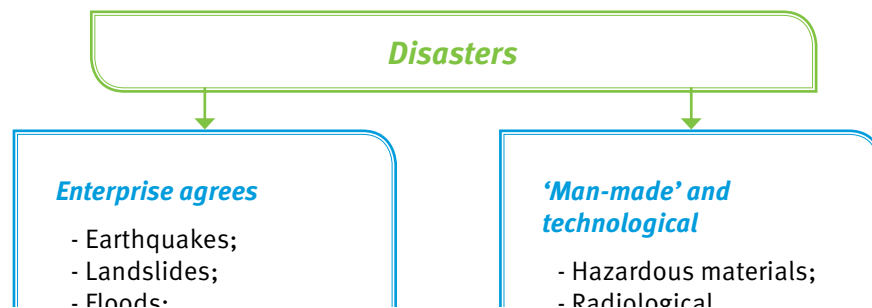


I. CLASSIFICATION OF NATURAL DISASTERS AND ENVIRONMENTAL ACCIDENTS

Climate change impacts have increased the awareness of the threat that natural disasters pose on communities already prone to extreme weather events, and to industrial zones, chemical facilities and critical infrastructure such as oil, chemical and gas tanks/storage, pipelines and nuclear plants. These environmental accidents, often caused by natural disasters, can have severe consequences for the agriculture, ecosystems, human health, economy development and industries. According to the World Bank, Vietnam loses 1-1.5 percent of GDP annually due to natural disasters, which hinders the social and economic development of the country (World Bank, 2009).

Disasters are divided into two groups: natural and environmental. Some authors consider environmental disasters an accident caused by people or technology. Figure 1 describes disaster classification, natural and 'man-made', and components of each type (Faleschini, F. *et al.*, 2017).

Figure 1. Disaster classification



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