ECO-INDUSTRIAL PARKS VIET NAM
STATUS OF COMMUNITIES LIVING NEAR THE INDUSTRIAL ZONES OF NINH BINH, DA NANG AND CAN THO
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<th>Acronym</th>
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<tr>
<td>CECoD</td>
<td>Centre for Environment and Community Development</td>
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<tr>
<td>EA&amp;ND</td>
<td>Environmental accidents and natural disasters</td>
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<tr>
<td>FDI</td>
<td>Foreign direct investment</td>
</tr>
<tr>
<td>IIDSP</td>
<td>Industrial zone infrastructure developers and service providers</td>
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<tr>
<td>IZ</td>
<td>Industrial zone</td>
</tr>
<tr>
<td>IZMB</td>
<td>Industrial Zone Management Board</td>
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<tr>
<td>MPI</td>
<td>Ministry of Planning and Investment</td>
</tr>
<tr>
<td>ODA</td>
<td>Official development assistance</td>
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<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
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INTRODUCTION

This report was developed within the framework of the UNIDO project “Implementation of Eco-Industrial Park Initiative for Sustainable Industrial Zones in Viet Nam” (hereafter referred to as “EIP Project”), which was implemented jointly with Viet Nam’s Ministry of Planning and Investment (MPI). The project supported four IZs (Gian Khau, Khanh Phu, Hoa Khanh and Tra Noc 1 and 2) in the three provinces of Ninh Binh, Da Nang and Can Tho.

In this context, the project surveyed and assessed the current status of communities surrounding the IZs on issues relating to the awareness and capacity of communities and stakeholders in preventing and responding to environmental accidents and natural disasters (EA&ND). The report also identifies the proportion of the population at high risk of environmental and natural disasters in the four IZs.

Data from investigation, surveys and direct interviews with stakeholders in the field were synthesized, analysed and evaluated. Thereafter, Viet Nam’s industrial environmental standards and codes were used, in combination with the data and maps collected, to determine safe distances in the four IZs and to estimate the proportion of the population vulnerable to EA&ND.
1. ASSESSMENT OF STATUS OF COMMUNITIES LIVING CLOSE TO KHANH PHU AND GIAN KHAU IZS, NINH BINH PROVINCE

1.1. OVERVIEW OF INDUSTRIAL ACTIVITIES IN NINH BINH

According to the plan for the development of Viet Nam’s IZs until 2020, Ninh Binh Province has seven IZs established by the Prime Minister, five of which are in operation, including Tam Diep IZ Phase I, Phuc Son IZ, Khanh Phu IZ and Khanh Cu IZ. In addition, IZs not yet in operation include Tam Diep Phase II and Kim Son. The total area represented by IZs is 1,472 ha. The zones are located in Gia Vien and Yen Khanh districts and Tam Diep and Ninh Binh cities.

The occupancy rate at the IZs of Khanh Phu, Gian Khau and Tam Diep I IZs has already reached 100 percent, while Khanh Cu I, Phuc Son and Tam Diep II are continuing to attract investments.

The total number of workers in Ninh Binh Province is around 37,400, of which 3,400 (9.1 percent) are non-province workers. Most of these are in the provinces neighbouring Ninh Binh, such as Nam Dinh, Thanh Hoa etc. The main types of production carried out in the IZs are in the following sectors: construction materials, mechanical and metal fabrication, automobile production, energy, electronics, fertilizer, textiles, plastic/rubber production, batteries, food processing, cosmetics etc.

Weather
Given its location within a tropical monsoon climate with high humidity and temperatures and heavy rain in the subclimate of the North Delta, Ninh Binh Province is strongly affected by the northeast and southeast monsoons, with average rainfall of 137 mm, an average temperature of 22.8 to 23.9 degrees Celsius and an average humidity of 82 to 85 percent.

1 Reference No 10 and No 11
1.2. KHANH PHU IZ

1.2.1. Overview

The Khanh Phu IZ construction investment project is one of the projects in the economic industrialization and modernization programme of Ninh Binh Province. After the IZ became operational, a number of new products (electronics, mechanical assembly, fertilizer etc.) became available to the local community, thereby facilitating the economic development of the whole province and region.

Khanh Phu IZ was established under Decision no. 1687/QD-UB dated 20 July 2004 of the People’s Committee of Ninh Binh Province, with a total planning area of 351 ha. Of this area, 231.5 ha were for leasing for industrial activities, while the occupancy rate is currently 100 percent.

Geographical location
The IZ is located on the territory of the communes of Khanh Phu (Yen Khanh District) and Ninh Phuc (Ninh Binh city), next to Highway no. 10, around 7 km from the centre of Ninh Binh city. The IZ has three sides adjacent to the Day River. On the other side of the river lies Y Yen District in Nam Dinh Province.

Infrastructure
The Infrastructure Development Company of Ninh Binh IZ is the investor. The electricity and water supply, as well as the communications service, are invested and managed by Ninh Binh Power One Member Co. Ltd., Ninh Binh Clean Water Trading Co. Ltd. and Ninh Binh Telecommunication Company.

At present, the investor of Khanh Phu IZ has completed the construction of the main road system, the rainwater drainage system, the wastewater treatment system and the road system outside the IZ. Other categories such as sidewalks, lighting and tree-planting are continuously implemented and completed.

Investment attraction
A total of 39 projects were granted investment certificates, including a number of major projects. These included the Ninh Binh Nitrogenous Fertilizer Plant, with a capacity of 1 760 tonnes per day, Nien Hsing Garment Co. Ltd, with a capacity of 24 million products per year, and Trang An Float Glass Factory, with a capacity of 300 tonnes per day. There are nine foreign direct investments (FDIs), with total investment of VND 5 756.5 billion, equivalent to USD 295 million.

Population around Khanh Phu IZ
The IZ is bordered by eight villages of Khanh Phu commune, numbering a total of 6 283 people. Phu Hao village is separated from other residential areas and is located between the IZ and the Day River towards the northwest. The proportion of female residents in Khanh Phu commune is 48.6 percent.
1.2.2. Classification of enterprises and the safe distance from enterprises to residential areas in Khanh Phu IZ

QCVN:01/2008/BXD², “Vietnam Building Code on Regional and Urban Planning and Rural Residential Planning”, determines that the location of enterprises and warehouses in relation to residential areas must comply with the TCVN/4449/1987, “Urban construction planning – Design standards”. According to the classification of enterprises and warehouses according to levels of hazard and the hygienically safe distance specified in Appendix 3 of TCVN/4449/1987, the safe distance from enterprises and warehouses to residential areas is as follows:

- Level I of hazard of enterprises and warehouses: at least 1,000 m.
- Level II of hazard of enterprises and warehouses: at least 500 m.
- Level III of hazard of enterprises and warehouses: at least 300 m.
- Level IV of hazard of enterprises and warehouses: at least 100 m.
- Level V of hazard of enterprises and warehouses: at least 50 m³.

This is also the basis for the classification of enterprises⁴ according to levels of hazard and determination of safe distance/isolation band from enterprises and warehouses to residential areas implemented in this report.

According to the data provided and the classification of enterprises in Khanh Phu IZ – as shown in Chart 1 below – most enterprises in Khanh Phu IZ are in the field of mechanical engineering, shipbuilding and assembly (accounting for around 25.6 percent), with Chang Xin Vietnam Co. Ltd., which produces metal and metal ingots, classified as Level II.

The second largest industry group is trade service, with a rate of 20.5 percent, followed by petroleum and gas (accounting for 17.9 percent), including Ninh Binh Nitrogenous Fertilizer One Member Co. Ltd. – classified as Level I and requiring a safe distance of 1,000 m – and Binh Dien fertilizers JSC – classified as Level II and requiring a safe distance of 500 m or more. The garment and construction materials sector accounts for 12.8 percent, including Nien Hsing Garment Co. Ltd. – classified as Level II – and Trang An Glass Company, which has an emission capacity of up to 15,000 cubic metres per hour and a chimney height of 64 m.

Figure 1: Chimney of Trang An Glass Company

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² Reference No 14
³ Except for wastewater treatment plants, depending on design capacity and treatment technology, the safe distance can be 200, 300, 400, 500 or 1,000 m.
⁴ Reference No 13
In addition, through the classification of enterprises and levels of hazard and safe distances (ignoring the effects of flow, wind direction, wind speed etc.), combined with surveys and the identification of safe buffer zones in certain high-risk enterprises of Khanh Phu IZ, it is possible to identify the proportion of the population at greatest risk of impact, as shown in Map 1 below. By delineating only certain enterprises, the entire residential area (greened) falls entirely within the red circles, which represent the minimum buffer zones for ensuring safety according to the levels of hazard of the relevant enterprises.

**Map 1: Safe distance from enterprises to residential areas in Khanh Phu IZ**

**Chart 1: The classification of enterprises in Khanh Phu IZ**

- Electronics and energy
- Petroleum, Gas
- Mechanical engineering - Ship building - Assembly
- Building Materials
- Garment
- Trade service
- Plastic&rubber manufacturing
- Aquatic product processing
All eight villages (Phu Son, Phu Cuong, Phu Binh, Phu Long, Phu An, Phu Tan, Phu Hai and Phu Hao in Khanh Phu commune) are at high risk if EA&ND occur. According to the latest data from the Central Steering Committee for Rural, Agricultural and Fishery Census, the total number of people in these villages is 6,283, with 100 percent of them in a high-risk area if EA&ND should occur.

1.3. GIAN KHAU IZ

1.3.1. Overview

Gian Khau IZ was established under Decision no. 1262/QD-UB, dated 23 October 2009 of the Ninh Binh Provincial People’s Committee, with a total planning area of 162.1 ha. The area of industrial land that can be leased is 129.6 ha and the occupancy rate is 100 percent.

Geographical location
The IZ is located in the territory of three communes, Gia Tan, Gia Xuan and Gia Tran (in Gia Vien district), next to Highway no. 1, around 10 km from the centre of Ninh Binh city.

Infrastructure
The technical infrastructure has been built and operates effectively. Main roads, water supply and drainage systems, electricity, communication and green trees have been completed, while a centralized wastewater treatment plant has been in operation since September 2018.

Investment attraction
There are currently 27 valid investments, with major examples including the Vissai cement plant, which has a capacity of 2.7 million tonnes per year, the Thanh Cong automobile factory, with a capacity of 13,000 vehicles per year, Taiwan Garment Factory, Tai Wood Factory Brother and six other FDIs. Total investment is VND 4,169,305 billion, equivalent to USD 216,043 million USD.

Residential area around the IZ
Although located in three communes, only the residential areas of Muou Giap 1, 2 and 3, in Gia Xuan commune, (with a population of 4,614 people, of whom 49.3 percent are women), Vu Dai and Thien Hoi villages, Gia Tan commune, and a number of households on Road 447 are close to the Gian Khau IZ.

1.3.2. Classification of enterprises and the safe distance from enterprises to residential areas in Gian Khau IZ

As shown in Chart 2 below, the most represented industry is mechanical engineering and assembly, with a total of seven enterprises and 27 businesses (25.9 percent of the total), of which the largest is Hyundai Thanh Cong Vietnam Auto JSC, both in terms of the number of employees and capacity (13,000 employees).
vehicles per year), ahead of the Nam Thanh mechanical factory, with a capacity of 4,000 tonnes per year. A further 18.5 percent of enterprises operate in the trade service sector. The electronics sector accounts for 14.8 percent, with two major companies – YG Vina Co. Ltd. and Sil Rang Electronics Vietnam Co. Ltd. – that mainly process components and accessories for mobile phones and tablets. Food processing and the production of plastic synthetic packaging account for another 11.1 percent, notably Pacific Co. Ltd., which is specialized in producing instant noodles and has a capacity of 15 tonnes of noodles and 12 tonnes of carton packaging per day. The building materials industry accounts for only 7.4 percent, with two Vissai Ninh Binh JSC factories. The total production of clinker for both factories is 7,500 tonnes per day. These companies are classified as Level I and carry a high potential impact risk for the community if EA&ND occur. The percentages of garment enterprises and manufacture of wood products are 7.4 and 3.7 percent, respectively.

The buffer zone is determined by a radius of 1,000 m from the centre of the factory of Vissai Ninh Binh JSC and 100 m from the fence of the IZ applied for enterprises of Level IV and Level V, which are concentrated in the southwest of the IZ. Map 2 below demonstrates the factors outlined hereafter.

The whole residential area of Muou Giap village, Gia Xuan commune, located immediately next to the IZ fence, close to the industrial wastewater treatment plant of the IZ, is likely to be the most affected when EA&ND occur. The survey also shows that the households located next to the first wastewater settling tank of the treatment plant are immediately adjacent to the IZ fence. Residents of this area also have reflections on air pollution issues. As a result, the three villages of Muou Giap 1, 2 and 3, with a total of 603 households numbering 2,007 people (42.4 percent of the total households and 43.5 percent of the total population of Gia Xuan commune) could be affected when EA&ND occur.

In addition, the residential area of Thien Hoi village (305 households with 754 people, accounting for around 10.4 percent of the total households in Gia Tan commune), could also be entirely within the affected area.

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7 Reference No 4
Residential areas along Highway no. 1A in Vu Dai village, Gia Xuan commune (191 households and 574 people) and residential areas along Road 447 could potentially be affected if EA&ND occur.

The total number of households potentially affected by EA&ND is therefore around 794 (55.8 percent of the total) in Gia Xuan commune and around 305 households (around 10.4 percent of the total) in Gia Tan commune.

*Map 2: Safe distance from enterprises to residential areas in Gian Khau IZ*
1.4. AWARENESS AND CAPACITY-BUILDING NEEDS ASSESSMENT OF COMMUNITY AND OTHER STAKEHOLDERS IN NINH BINH

1.4.1. Awareness associated with EA&ND of community and stakeholders

The total number of respondents in the six target groups in Khanh Phu and Gian Khau IZs was 128, of whom 49 were women (38.3 percent of the total).

Community
A total of 37 out of 54 respondents (68.5 percent) responded that they were aware of the legal responsibilities for owners of production, business and service facilities with a view to protecting the community and preventing risks that might cause EA&ND. Of these responsibilities, 57.4 percent of people – the highest proportion – cited timely notification to local authorities or relevant professional agencies immediately after the occurrence of EA&ND among the main legal responsibilities that need to be taken by the parties involved (IZMB, investors and enterprises).

In addition, other legal responsibilities were selected by more than 50 percent of respondents. These included building the on-site EA&ND response team and providing training, applying all safety measures in accordance with legal provisions, immediately notifying the local authority or relevant organizations when EA&ND occurred, installing and operating EA&ND response equipment, tools etc. The response “Do measures to eliminate the causes of environmental accidents”, selected by 38.9 percent of respondents, had the lowest rate. Meanwhile, the response “Do emergency measures to protect people and property when EA&ND occurs” was selected by 46.3 percent of respondents.

Chart 3: Community awareness in Ninh Binh on the legal responsibilities of IZ managers/service providers/enterprises

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8 See Annex A1, A2, A3, A4, A5 and A6
Local authorities and mass organizations
In the survey questionnaires, 48 percent of officials representing local authorities in Ninh Bình (24 out of 50 participants) answered that they had strategies, plans and measures in place to prevent and respond to EA&ND, with 38 percent answering “no” and 14 percent “uncertain”. Another element to emerge from the results of the in-depth interviews was that all localities have only annual plans to prevent and respond to natural disasters, within which the contents of environmental incidents are integrated.

More than 50 percent of local authorities and mass organizations said that they had not “adopted policies on exemption and reduction of enterprise income tax on contributions for the prevention of EA&ND and overcoming their consequences (projects, works, investments)” and, similarly, were yet to “prepare preparedness and response plans to EA&ND”, “organize mock drills with EA&ND”, or produce “statistics and assessments of damage caused by EA&ND”. Between 4 and 18 percent of respondents considered the above activities to have been implemented.

Local environmental management agencies
Local environmental management agencies only coordinate when there are requests to inspect and supervise the environmental situation at enterprises within the IZs. They have plans in place to be ready to respond to EA&ND or preventive rehearsals (mainly activities related to disaster prevention and response and fire prevention in the area).

Industrial Zone Management Board
According to the IZMB, enterprises, IZs and infrastructure development providers have not implemented plans to identify, prevent and respond to EA&ND and have only fire prevention plans. This means that other activities related to the identification, prevention and response to EA&ND have not been clearly implemented, but mainly integrated into chemical accident prevention, preparedness and response and fire prevention and fighting.

IZ Infrastructure Developers and Service Providers (IIDSPs)
Three representatives of IIDSPs said that their company had installed equipment, tools and means to be ready to respond (firefighting equipment and storms), had conducted training and education within the companies and had participated in rehearsals for prevention and response for local forces to respond to environmental incidents (in particular, general and private training within enterprises on fire prevention and fighting).

Enterprises inside Khanh Phu and Gian Khau IZs
The results below concern the awareness of legal documents and regulations related to EA&ND (19 enterprises in both Khanh Phu and Gian Khau IZs).

The survey results showed that 57.9 percent of respondents representing enterprises answered that they were aware of legal documents related to EA&ND, specifically the Environmental Protection Law (2014), Law on Chemicals (21 November 2017), Circular 31/2016/TTBTNMT, Law on Natural Disaster Prevention (2013), Flood and Storm Prevention Ordinance (2014), Law on Occupational Safety and Health (article 78) and Decree 30/2017/ND-CP regulating organizations and activities related to incidents, natural disasters and rescues. However, 36.8 percent of enterprises answered that they were not aware of these.
Regarding solutions to prevent and mitigate damages and disruption to the production and business of enterprises as a result of EA&ND:

- 100 percent of enterprises answered that they strictly comply with regulations on environmental protection, labour safety and regular inspection.

- 94.7 percent of enterprises install and provide the equipment, tools and means to cope with environmental incidents.

- 89.5 percent of enterprises improve technological processes to reduce the risk of environmental incidents, as well as education, training and the building of an on-site emergency response team to EA&ND.

- 63.2 percent of enterprises participate in information, communication and education programmes on prevention and response to EA&ND, training and mock disaster drills on prevention and emergency response to EA&ND according to the plans of ministries, ministerial-level agencies, governmental and local agencies.

- 84.2 percent of enterprises prepare prevention, preparedness and response plans to EA&ND.

1.4.2. Capacity-building needs assessment for community and related target

The total number of respondents in the six target groups in Khanh Phu and Gian Khau IZs was 128, of whom 49 were women (38.3 percent of the total).

Community

Based on interviews with 54 people living in the areas around Khanh Phu and Gian Khau IZs, 90.7 percent of respondents had a need to improve their capacities in prevention and response to EA&ND. Of these elements, the most requested capacity strengthening element concerned the impact of EA&ND on community life, with a rate of 81.5 percent, followed by “Prevention and preparedness activities” (74.1 percent), “Risk identification and assessment” (70.4 percent), “Training and test practice” (63 percent) and “Legal policies” (64.8 percent).

The element with the lowest rate of response was “The experiences and practices in Viet Nam”, which accounted for 46.3 percent, and “How to maintain communication” (55.6 percent). The most popular form of propaganda was “Organizing community meetings” (83.3 percent), “Organizing rehearsals and training” (57.4 percent), “Handing out leaflets, instruction manuals to each household” (50 percent) and “Applying posters, local hoardings” (18.5 percent). Other forms amounted to 1.9 percent of options, with any form specified.
Local authorities and mass organizations

Some 16 percent of representatives of local government agencies responded that they had participated in training sessions related to risk identification and response to EA&ND, while 78 percent of respondents replied “no”. The following question revealed that up to 96 percent of respondents were willing to participate in training sessions, workshops and communication programmes in order to strengthen their own capacities in future. Specific contents are listed in Chart 6 below:

Chart 4: Capacity-building needs of community in Ninh Binh

Chart 5: Propaganda methods selected by community in Ninh Binh

Other
Experiences and practices in VN
Training and rehearsal exercises
Maintain communication
Some prevention activities, preparedness
How to identify and assess the risks
Policy and legislation related to EA&ND
Impact on community life
Basic knowledge

Other
Organize community rehearsals on emergency
Organize community meetings to disseminate information, guidelines
Using posters and newsletters
Hand out leaflets and handbooks to each household.

Chart 6: Capacity-building needs of local authorities in Ninh Binh
The chart shows that 82 percent of respondents wished to learn about “the impacts of EA&ND”, 64 percent were in favour of “advising and supporting the development of EA&ND prevention plans”; 58 percent interested in “advising and supporting the development of hazard identification plans” and “related policy and legal issues”. The answer relating to “training and mock drills”, accounted for 52 percent, “basic concepts” for 44 percent, “Practical experience in Viet Nam” 22 percent and other content 4 percent, though this was unspecified.

Local government and mass organizations proposed a number of activities to encourage businesses and related organizations to participate actively in activities that are effective in identifying, preventing and responding to EA&ND. These included the following:

- Enterprises and industrial zones need to support environmental fees to affected communes.
- Specify the damage caused by EA&ND to businesses so that they can understand and take the necessary precautions.
- Study methods to handle dust and smoke more effectively, limiting emissions to the environment and affecting residential areas and people’s lives.
- Investment and support for environmental monitoring devices to promptly detect EA&ND.
- Proposals for industrial zones to cooperate with localities to propagate and strictly supervise local environmental issues.
- Establishment of specialized agencies and officials in this field, with the necessary taken from natural disaster prevention funds and others supported by the state.
- Development of plans for prevention and response to EA&ND and prevention, communication and training for related people.

IZMB and IIDSps
100 percent of interviewees from the IZMB and IIDSPs are willing to participate in training sessions, workshops and communication programmes to enhance their own capacity for all eight contents suggested in the questionnaire.

Enterprises
Chart 7 below shows that 94.7 percent of enterprises surveyed had a need to enhance their own capacity, with 78.9 percent most concerned over prevention and response activities when EA&ND occurred. This was followed by rehearsal training and practical experiences in Viet Nam (73.7 percent), basic concepts and the ways to identify and assess risks (63.2 percent), impacts on community life (57.9 percent) and relevant policies and laws (52.6 percent).
**Remarks**

Around 50 percent of people in communes around Khanh Phu and Gian Khau IZs are aware of issues related to the legal responsibilities of parties surrounding the risk of EA&ND. Local authorities, local environmental management agencies, the IZMB, IIDSPs and enterprises have only plans related to flood and storm prevention, fire prevention and fighting and chemical prevention and response.

Most of the interviewees were willing to participate in training sessions, strengthening their own capacity related to EA&ND, with most respondents interested in the impact of EA&ND upon the community (81.5 percent for the community; 82 percent for local governments and 57.9 percent for enterprises). This was followed by issues related to the prevention and response to EA&ND, while communities are interested in means of identification, training, rehearsals and legal policies. Local authorities and mass organizations, enterprises, IIDSPs and IZMB are more interested in consulting, developing plans and activities to prevent and respond to EA&ND.
2. ASSESSMENT OF STATUS OF COMMUNITIES LIVING CLOSE TO HOA KHANH IZ – DA NANG CITY

2.1. OVERVIEW OF INDUSTRIAL ACTIVITIES IN DA NANG CITY

At present, Da Nang city has six concentrated IZs – Hoa Khanh, Da Nang, Lien Chieu, expanded Hoa Khanh, Hoa Cam and Da Nang Seafood Services. The total planning area is 1,066.52 ha, of which the surface of commercial land is 810.77 ha. As of 31 December 2017, the leased industrial land area was 681.1 ha, accounting for 84.01 percent. Three IZs have been filled, with an area free for leasing of 129.67 ha. The remaining vacant lots are quite small.

Projects in the IZs in Da Nang are currently concentrated in three main sectors: (i) manufacturing and processing of goods, (ii) warehousing and (iii) logistics services. Along with the increase in the number of projects, industrial output also increased. A number of projects have competitive products in the domestic and export markets. As of 31 December 2017, there were 465 projects under investment in the IZs in Da Nang. Of these, 118 were FDI projects with total investment of USD 1,103.7 million, while the remaining 347 were domestic projects with registered capital of VND 15,653 billion.

As of 31 December 2017, the total number of employees working in enterprises in the IZs in Da Nang city was 74,314, of whom 43,253 were working in FDI projects. The enterprises with a large number of employees are mainly those operating in the field of garment manufacturing and seafood processing.

Table 1: Number of employees working in enterprises in IZs in Da Nang city as of 31 December 2017

<table>
<thead>
<tr>
<th>Industrial Zone</th>
<th>Number of workers in domestic investment projects</th>
<th>Number of workers in FDI projects</th>
<th>Total</th>
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<td>Hoa Khanh</td>
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<td>Seafood Services</td>
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<td>Lien Chieu</td>
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<td>Da Nang</td>
<td>6,073</td>
<td>3,152</td>
<td>9,225</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31,061</strong></td>
<td><strong>43,253</strong></td>
<td><strong>74,314</strong></td>
</tr>
</tbody>
</table>

9 Reference No 3 and No 8
2.2. HOA KHANH IZ

2.2.1. Overview

Hoa Khanh IZ was established in 1997 and is situated in an ideal location close to the centre of Da Nang city and 10 km from Da Nang International Airport and the station. The IZ has modern infrastructure systems, including power systems, wastewater treatment, transportation, factories, warehouses for rent and abundant labour resources. It is also one of the six largest IZs in Da Nang.

- Total planning area: 393,995 ha.
- Leased land area: 300,592 ha.
- Area of Bau Tram Lake: around 45 ha.
- Green area: 40 ha.
- Occupancy: 100 percent.

Geographical location
The IZ lies 10 km south of Da Nang city centre.

Labour force
There are around 40,300 employees in Hoa Khanh Industrial Park.

Main types of production and business establishments
The main business sectors are garment production, textile dyeing, manufacture and processing of food and drinking water, production of electrical and electronic products, production of iron and steel, mechanical processing, production of packaging and paper of all kinds, production of building materials and manufacture of chemicals and cosmetics.

Residential area around the IZ
Hoa Khanh IZ is located in Hoa Khanh Bac ward. Three quarters of the IZ are adjacent to residential areas in the ward, where there is a total population of 48,412, of whom 47.7 percent are women. In Hoa Hiep Nam ward, in the northeast of the area, there are two residential areas – no. 1 and no. 2 – with a total population of 23,367, of whom 50.8 percent are women.

Reference No 6
2.2.2. Classification of enterprises and the safe distance from enterprises to residential areas in Hoa Khanh IZ

Classification of enterprises

The classification chart below shows that the group consisting of mechanical engineering, and assembly and construction of steel accounts for the largest proportion (38.5 percent). These enterprises are located in the centre, north and northeast of the IZ and include some of the enterprises located nearest to residential areas, including Kim Thanh Loi Co. Ltd., Chau Thach Steel Facility and Hoa Hiep Iron and Steel Cooperative. After these, the most common are plastic and rubber manufacturing enterprises (accounting for 16.58 percent of the total number of enterprises), which are scattered throughout the IZ. The group of trade services accounts for 9.63 percent of the total enterprises, with garment-leather shoe enterprises making up 9.09 percent. A number of building material enterprises are classified as Level II in terms of hazard, which means that a safe distance of at least 500 m is necessary between residential areas and enterprises such as Comex Cement JSC. Among chemical, petroleum, gas and printing enterprises, some are classified in groups with a high level of hazard and therefore require a large isolation band. These make up 4.81 percent of the total enterprises and include Da Nang industrial gas and chemicals JSC, which is located next to Hoa Khanh petroleum branch and residential area no. 24.

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11 Reference No 13
Safe distance from enterprises to residential areas

Based on the list of 187 enterprises in Hoa Khanh IZ, along with their position on the IZ map, it is apparent that the majority of enterprises located at the southern and western edges of the IZ are classified as Levels IV and V for hazard. As a result, the consultant team determined a safe distance in this area as being 100 m from the wall of the IZ. In the north and northeast, a series of mechanical and heavy metal enterprises are classified as Level II, which requires a safe distance of 500 m from factories. Ignoring the effects of flow, wind direction, wind velocity etc., combined with the field survey, it is possible to determine residential groups exposed to high risks, as follows:

- The residential groups that could be most affected if EA&ND occurred, according to the urban construction planning – design standard (TCVN/4449/1987\(^{12}\)) are all six residential groups (groups 24, 25, 39, 40, 41 and 42), as well as a part of the population close to the factories of groups 21, 23, 43, 60, 61, 62, 68 and 78, which total around 623 households (9.8 percent of households in Hoa Khanh Bac ward) and 2,540 people (10.36 percent of the population of Hoa Khanh Bac ward).

- All new resettlement areas located next to road no. 5 of the IZ could be affected if EA&ND occurred.

- Residential groups no. 81 Hong Phuoc in Hoa Khanh Bac ward, which has 61 households and 239 people, is separated from other residential areas and not in the unsafe isolation band. However, the field survey showed that all wastewater from the treatment plant for enterprises and other wastewater sources in the IZ are discharged into the canal located next to the residential groups no. 81, after flowing into the Cu De River. The wastewater here was observed as being red, opaque and with a strong smell. Moreover, this area has very low ground topography, in turn meaning that when storms or floods occur, the whole area might be the first to be affected first and would be submerged. As a result, all 61 households and 239 people from group no. 81 group are in a danger zone if EA&ND occurred.

- In Hoa Hiep Nam ward, close to the IZ from the north and located along road no. 5, there are two residential groups – no. 1 and no. 2 in Thach Son, in the Hoa Hiep 4 area. These groups comprise around 113 households (accounting for 2.2 percent of the total households in Hoa Hiep Nam ward) and 434 people (1.86 percent of the total number of people) who are within the unsafe distance circle and who could be affected if EA&ND occurred.

\(^{12}\) Reference No 14
Chart 10: Safe distance from enterprises to residential areas in Hoa Khanh IZ

Remark
As explained above, the total number of households that may be affected by EA&ND caused by the activities of Hoa Khanh IZ is around 862, which accounts for 13.6 percent of the total households in Hoa Khanh Bac ward, and around 113 households in Hoa Hiep Nam ward (2.2 percent of the total).
2.3. AWARENESS AND CAPACITY-BUILDING NEEDS ASSESSMENT OF COMMUNITY AND OTHER STAKEHOLDERS IN DA NANG\textsuperscript{13}

2.3.1. Awareness associated with EA\&ND of community and stakeholders

The total number of respondents in the six target groups in Da Nang was 41, of whom 19 were female (46.3 percent).

**Community**

According to the survey results and direct interviews with the local community around Hoa Khanh IZ, only 23.07 percent of respondents answered that they are aware of the legal responsibilities faced by owners of production, enterprises and service facilities in protecting the community and preventing risks that might cause EA\&ND. Of these responsibilities, 23.07 percent cited timely notification to local authorities or relevant professional agencies immediately after the occurrence of EA\&ND among the main legal responsibilities that need to be taken by the parties involved. Only 7.7 percent of these chose the responsibilities for prevention and response planning, implementation of regular inspection and supervision to control environmental incidents and adequate application of safety measures, as prescribed by law.

100 percent of interviewees answered that they had no awareness of plans or programmes to prevent and respond to EA\&ND of IZs and enterprises in their localities.

**Local authorities and mass organizations**

Local authorities and mass organizations do not currently have strategies and plans, preventive and preparedness measures in place to respond to EA\&ND, but have mainly integrated these into the annual plan to respond to natural disasters in the locality. Local authorities and mass organizations have encouraged the submission of funds to prevent and respond to EA\&ND. Some 67 percent of respondents did not know clearly if the local authorities had a policy of income tax exemption for contributions to EA\&ND prevention and overcoming the consequences of natural disasters, 6.7 percent thought local authorities did not have such a policy, while 6.7 percent thought that such a policy was indeed in place. A total of 46.7 percent of respondents have conducted exercises to prevent EA\&ND, participated in EA\&ND response in accordance with the competent authorities conducted assessment and statistics of damage caused by EA\&ND.

**Local environmental management agencies**

The Environmental Management Agency of Lien Chieu District should coordinate when there are requests to inspect and supervise the environmental situation at enterprises in the IZs. It has a plan to be ready to respond to EA\&ND or preventive rehearsals (mainly activities related to disaster prevention and response and fire prevention in the area).

\textsuperscript{13} See Annex A1, A2, A3, A4, A5 and A6
IZMB
According to the IZMB in Da Nang, legal documents and regulations relating to EA&ND are mainly on environmental protection law.

IZMB in Da Nang said that all six IZs in Da Nang city and four IIDDS had identified prevention methods and response planning, installed and operated EA&ND response equipment and tools; implemented education, training and construction of an on-site EA&ND emergency response team, complied with regulations on occupational safety and regular inspection and taken responsibility for implementing, participating in or proposing competent agencies to take prompt measures to eliminate the causes of incidents when detecting signs of environmental incidents.

The IZMB has an agreement to define responsibilities and tasks with other local stakeholders where EA&ND occur, namely the coordinated implementation rule. It has organized rehearsals for responding to EA&ND with other units in the city area and has a team to respond quickly to emergencies if EA&ND should occur.

IIDSPs
Representatives of IIDSPs in the IZ said that they have installed and operated EA&ND response equipment and tools, conducted training and mock drills within the factories and implemented education, training, and construction of an on-site emergency EA&ND response team.

Enterprises
The analysis below regards awareness of legal documents and regulations related to EA&ND. The survey results showed that 70 percent of respondents representing enterprises answered that they were aware of legal documents related to EA&ND, specifically the Environmental Protection Law (2014) and Decree 30/2017/ND-CP regulating response to natural disasters, related to response activities and drills. Around 12.5 percent of respondents answered that they did not know of such documents, while a further 12.5 percent did not answer the question. The figures below, meanwhile, illustrate the results of interviews on solutions preventing and mitigating damage and disruption to production and the business of enterprises as a result of EA&ND.

- 87.5 percent of enterprises participating in the survey strictly complied with regulations on environmental protection, labour safety and regular inspection. A further 75 percent participated fully in programmes, information, communication, education on prevention and response to EA&ND, training and rehearsals for prevention and response to EA&ND according to the plans of ministries, ministerial level agencies, government agencies and localities, installed response equipment, tools and means. Enterprises, meanwhile, improved technology and technical processes.
- 90 percent of enterprises conducted education and training and have established forces to response to EA&ND.
- Only 62.5 percent of enterprises responded that they had prepared prevention and response plans as well as preventive production and business plans, while the remaining 37.5 percent were unsure.
2.3.2. Capacity-building needs assessment for community and related target groups

Residential community around IZ

92.3 percent of representatives of residential communities around Hoa Khanh IZ answered that they were willing to participate in capacity-building programmes on issues related to the prevention and response to EA&ND. Some 46.2 percent wanted to join activities to prevent and respond to EA&ND, while 61.5 percent were interested in training and rehearsals, as well as in maintaining communication in the event of EA&ND. 38.5 percent were interested in related policies and laws, while 53.8 percent were interested in how to identify and assess risks. The content of experiences and practices in Viet Nam interested only 7.7 percent of respondents, while no other content was recommended.

In terms of communication methods, the community considered the organization of community meetings to disseminate information and guidance as the most effective form of communication (61.5 percent of respondents), ahead of the distribution of leaflets and guidelines to each household (53.8 percent) and the organization of emergency response exercises to EA&ND (38.5 percent). Use of posters and local hoardings received the lowest backing (23.1 percent), while no other solutions were proposed.

Chart 11: Capacity-building needs of community in Da Nang

Chart 12: Propaganda methods selected by community in Da Nang
Local authorities and mass organizations

56.3 percent of officials of local authorities and mass organizations participated in training or activities related to identifying and responding to environmental incidents (namely fire protection drills, climate change training organized by the Provincial Department of Science and Technology and training related to response to EA&ND).

63.2 percent of officials of local authorities and mass organizations agreed to participate in training sessions, workshops and communication programmes to improve their capacity. This is outlined further in Chart 13 below.

The chart shows that 57.9 percent of respondents wished to learn about the impact of EA&ND on community life, ahead of training and rehearsal exercises (52.6 percent), advising and supporting the development of EA&ND prevention plan, as well as risk identification and assessment plans (42.1 percent), related policies and laws (36.8 percent), experiences and practices in Viet Nam 26.3 percent), basic concepts (21.1 percent), maintaining communications (15.8 percent) and other content (5.3 percent), while a proposal was made to test dust pollution of the steel factory and the Cosesco Cement Company.

IZMB and IIDSPs

100 percent of IZMB and IIDSP members were willing to participate in all of the proposed content for training sessions, workshops and communication programmes, in order to enhance their capacity. 100 percent of members wanted to learn about the seven contents proposed in the questionnaire, with the exception of the content on maintaining communication in EA&ND situations, which was chosen by only 30 percent of respondents.
100 percent of the enterprises surveyed had a need to strengthen their capacities, with 90 percent most concerned over prevention and response activities when EA&ND occurred, as shown in Chart 14 below. 87.5 percent of respondents were interested in how to identify and assess risks, around 75 percent in experiences and practices in Viet Nam, 70 percent in rehearsal training, maintaining communication and related policies and law and 50 percent in impacts on life and community, while only 37.5 percent chose basic concepts.

Remarks
Very few people representing Hoa Khanh Bac and Hoa Hiep Nam wards of Da Nang were aware of the legal responsibilities of the parties in relation to the risk of EA&ND (the highest issue with the highest level of positive response accounted for only 23 percent of respondents). 100 percent of interview participants did not know about the prevention and response plans to EA&ND. Local authorities, local environmental management agencies, the IZMB, IIDSPs and some enterprises have already integrated prevention and response plans to EA&ND into plans for flood and storm prevention, fire protection and chemical incident emergency response.

Most of the respondents were willing to participate in training sessions in order to strengthen their own capacities on issues related to EA&ND. In particular, the residential community was most concerned about training activities and response rehearsals, risk identification and assessment. For local authorities and mass organizations, the most interesting content was the impact upon the community and response rehearsals. All members of the IZMB and IIDSPs were interested in all contents. Enterprises were most interested in activities geared towards prevention of and response to EA&ND (90 percent), followed by contents of risk identification and assessment, experiences and practices in Viet Nam, etc.
3. ASSESSMENT OF STATUS OF COMMUNITIES LIVING CLOSE TO TRA NOC INDUSTRIAL ZONE – CAN THO CITY

3.1. OVERVIEW OF INDUSTRIAL ACTIVITIES IN CAN THO

As of October 2018, 231 valid projects in the IZs and export processing areas of Can Tho were ongoing. Of these, 207 were domestic investment projects, 23 were FDI projects and one was an Official development assistance (ODA) project. Can Tho now has six concentrated IZs (Tra Noc 1, Tra Noc 2, Hung Phu I, Hung Phu II.A, Hung Phu II.B and Thot Not) planned for construction in favourable locations and convenient for waterway and road traffic. They are also located in the centre of agricultural, aquatic and seafood material sources and therefore have the potential to attract more investment capital.

Table 2: Operation status of IZs (Can Tho City, 2018)

<table>
<thead>
<tr>
<th>IZ name</th>
<th>Surface (ha)</th>
<th>Registered investment capital (million USD)</th>
<th>Performing investment capital (million USD)</th>
<th>Number of active projects</th>
<th>Land rental rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tra Noc 1</td>
<td>135</td>
<td>411.529</td>
<td>128</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Tra Noc 2</td>
<td>157</td>
<td>607.435</td>
<td>62</td>
<td>96.5</td>
<td></td>
</tr>
<tr>
<td>Hung Phu I</td>
<td>200.2</td>
<td>156.528</td>
<td>11</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>Hung Phu II.A</td>
<td>134.34</td>
<td>136.37</td>
<td>3</td>
<td>28.6</td>
<td></td>
</tr>
<tr>
<td>Hung Phu II.B</td>
<td>67</td>
<td>171.48</td>
<td>2</td>
<td>92.8</td>
<td></td>
</tr>
<tr>
<td>Thot Not</td>
<td>104.3</td>
<td>196.66</td>
<td>21</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>797.84</td>
<td>1 680</td>
<td>227</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In addition to the six IZs listed above, Can Tho city planning to build two further IZs – the O Mon IZ, with an area of 600 ha, and the Bac O Mon IZ, with an area of 400 ha, both of which are located in O Mon District, around 20 km from Can Tho city centre.

14 Reference No 1, No 12 and No 15
3.2. TRA NOC 1 AND 2 IZS

3.2.1. Geographical location and residential layout around the IZs

The Tra Noc IZs were established at the earliest in Can Tho city in the 1990s. Tra Noc 1 IZ officially began to operate in 1995 and Tra Noc 2 IZ in 1998. The two zones have a total planned area of 300 ha. The development orientation of Tra Noc IZs is to encourage food processing, mechanical, electrical and electronic industries, manufacture of machinery parts etc.

The Tra Noc IZs are surrounded by interlacing canals and rivers, as well as the residential areas of Phuoc Thoi and Tra Noc wards. The adjacent location of Tra Noc IZs is as follows:

- The north and east are bordered by the Hau River and are partially adjacent to the residential area of Phuoc Thoi ward, separated by canals and roads. A 10 ha resettlement site is located close to the 7th road of the IZ. The distance between the nearest households and the wastewater treatment plant of the IZ is around 80 m.

- The south is bordered by National Highway no. 91A to An Giang and Kien Giang provinces, which are the most contiguous with three residential areas (numbers 2, 4 and 6 of Tra Noc ward) comprising a total of 2 918 households, 11 959 people and around 197.44 ha.

- The west is bordered by Cai Chom canal.

*Map 3: Tra Noc 1 and Tra Noc 2, Can Tho city*
Terrain
The study area is located on the alluvial plain with relatively flat terrain, slightly tilted to the southwest. Popular ground elevations range from 0.8 m to 1.0 m. Due to the low terrain, it is often flooded in the flood season.

Meteorological regime
The study area is affected by a tropical monsoon climate, followed by a hot and humid climate. There are two distinct seasons, namely the rainy season (from May to November) and the dry season (from December to April). The annual average temperature is around 28 degrees Celsius, the average annual sunshine is around 2,249.2 hours, while average rainfall is 1,600 mm per year. The average annual humidity ranges from 82 to 87 percent.

Hydrological regime
The section of the Hau River flows through the area, with abundant fresh water and an average flow of 2,000 cubic metres per second in the dry season and 40,000 cubic metres per second in the flood season, which is convenient for water supply and water transportation. In addition, there are a number of other small and large canals in the area. Sang Trang, Cai Chom and Chum Hoi canals, in particular, have fresh water all year round. The water level fluctuates according to an irregular semi-diurnal regime.

The surrounding residential area
Tra Noc 2 IZ currently has two residential clusters in area no. 4 of Tra Noc ward, which is located almost inside the IZ and bordered by residential areas 2, 4 and 6 of Tra Noc ward. Its total population is 15,630, with female residents comprising 50.1 percent. Tra Noc 1 IZ, meanwhile, is bordered by the resettlement area of Phuoc Thoi ward. It has a total population of 24,317 and the female population also stands at 50.1 percent.

3.2.2. Classification of enterprises and the safe distance from enterprises to residential areas in Tra Noc 1 & 2 IZ

Classification of enterprises
Production in Tra Noc 1 and 2 IZs includes mainly seafood processing (accounting for 18.75 percent of enterprises), food and drinks processing (12.5 percent), mechanics, engineering, assembly, construction and steel production (10.94 percent), trade services (14.84 percent), chemical, petroleum and gas-printing (14.06 percent) and veterinary medicine and microbiological enterprises (10.16 percent). The remainder comprise aquatic food production, processing by-products, garments (leather shoes) and plastic and rubber manufacturing (see Chart 15 below).

*Reference No 13*
Safe distance from enterprises to residential areas

Based on the classification of enterprises according to the hazard level of enterprises in Tra Noc 1 and 2 IZs, it emerges that the proportion of chemical and petroleum enterprises (accounting for 14.06 percent) is quite high, with many enterprises classified as Level I for hazard and therefore requiring an isolation band of at least 1,000 m.

Seafood processing enterprises account for 18.75 percent of the total, with many of them placed in Level II for hazard classification and therefore requiring an isolation band of at least 500 m. The enterprises record the two highest toxic levels, according to the Urban construction planning – Design standard (TCVN/4449/198716). In addition, a number of mechanical and construction steel processing enterprises are also classified in the highly hazardous risk groups.

These enterprises are scattered throughout the IZs, with some mechanical, steel processing and seafood processing enterprises located close to the southern border of Tra Noc 1 IZ, quite close to the residential area. As a result, the consultant team has selected an isolation band from the fence of the IZ to the surrounding areas with a radius of 1,000 m. Based on the map overlapping technique (IZ map and residential area map) and zoning a radius of 1,000 m (the area within the red dashed line), the following results can be noted in Map 4 below:

- Residential clusters no. 1 and no. 2 in the area no. 4 of Tra Noc ward comprise 275 households and are located almost inside the IZ. These households (accounting for 7.2 percent of the total population of Tra Noc area) would certainly be the first and most severely affected in the event of EA&ND occurrence.

- Residential areas no. 2, 4 and part of area no. 1 are located within an insecure isolation distance from the IZ fence. Based on the population data, around 3,402 households (89.19 percent of the households in Tra Noc area) with about 13,794 people (88.25 percent of the population in) could be exposed to risk.

- A new residential resettlement area located close to Road no. 7 and the IZ’s wastewater treatment plant, in Phuoc Thoi ward, could be located in an area within an insecure distance of the wastewater plant. The survey also shows that this area is hardly affected by the strong smell emanating from the wastewater treatment plant. The area has only around 100 resettled households, while there are no detailed statistics on the number of people. In addition, the area containing houses for workers is also within an isolation band of 1,000 m from the IZ fence and within a radius of 1,000 m from the Can Tho Fertilizer Chemical Company.

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16 Reference No 14
Map 4: The safe distance from enterprises to residential areas in Tra Noc 1 and 2 IZ

Remark
As a result, the consultant team identified around 3402 households (89.19 percent of the households in Tra Noc area) with around 13794 people (88.25 percent of the number of people in Tra Noc area) potentially at risk of being affected in the event of an EA&ND occurrence. Some 7.2 percent of the total population of Tra Noc area is located almost within the IZ. A further 100 households in the residential resettlement area in Phuoc Thoi ward and in the housing area for workers could also be affected.
3.3. AWARENESS AND CAPACITY BUILDING NEED ASSESSMENT OF COMMUNITIES AND OTHER STAKEHOLDERS IN CAN THO

3.3.1. Awareness associated with EA&ND of community and stakeholders

The total number of respondents in the six target groups in Tra Noc 1 and 2 IZs was 128, of whom 49 were women (38.3 percent).

Community

Around 68.05 percent of respondents answered that they were aware of the legal responsibilities faced by owners of production, enterprises and service facilities in protecting the community and preventing risks in the event of EA&ND. Of these responsibilities, 73.9 percent – the highest proportion – cited timely notification to local authorities or relevant professional agencies immediately after the occurrence of EA&ND among the main legal responsibilities that need to be taken by the parties involved (IZMB, investors and enterprises). In addition, more than 50 percent of respondents said that most other contents, such as “Fully apply safety measures in accordance with the law or make plans to prevent and respond to EA&ND” and “Implementing emergency measures to ensure safety for people and assets when EA&ND occurred” were the legal responsibility of the stakeholders mentioned above. The content “Involved stakeholders need to have measures to eliminate the causes of incidents” was selected by 39.1 percent of respondents, the lowest rate.

Local authorities and mass organizations

Local authorities and mass organizations do not currently have strategies and plans, preventive and preparedness measures in place to respond to EA&ND, but have mainly integrated these into the annual plan to respond to natural disasters in the locality. Local authorities and mass organizations have encouraged the submission of funds to prevent and respond to EA&ND. Some respondents believed that there was a policy of income tax exemption for contributions to EA&ND prevention and overcoming the consequences of natural disasters, or that activities were in place, in coordination with the competent authorities, to inspect environmental work in enterprises and prevent and control landslides. Other respondents, however, stated that they were not sure of the existence of these measures.

Local environmental management agencies

Local environmental management agencies coordinate only when there are requests to inspect and supervise the environmental situation at enterprises in the IZs. They have a plan to be ready to respond to EA&ND or preventive rehearsals (mainly activities related to disaster prevention and response and fire prevention in the area).

17 See Annex A1, A2, A3, A4, A5 and A6
IZMB
Can Tho IZMB reported that enterprises and IZ developers/investors in the province had developed plans to identify risks, prevent and respond to EA&ND, installed equipment, tools and means to respond to environmental incidents, provided training and coaching, building local forces to respond to environmental incidents, complied with regulations on labour safety, implemented regular inspection (each within two years) and taken responsibility for implementing, participating in or requesting the competent authorities to take prompt measures to eliminate the cause of incidents when detecting signs of environmental incidents.

The IZMB also has an agreement to identify responsibilities and duties to other local stakeholders when EA&ND occur, namely the coordination regulations for implementation. However, the IZMB has not developed a plan to be publicized in order to prevent and prepare to respond to EA&ND as this has been done by the Provincial Department of Natural Resources and Environment. Currently, the IPMB is only coordinating the organization of rehearsals for responding to EA&ND (specifically, fire drills only) with other agencies in the city.

Tra Noc IZ and IIDSP
Two representatives of the IZ development company said that their company had installed equipment, tools and means to be ready to respond, (fire fighting equipment and storm and flood prevention equipment), conducted education and training within the company and participated in rehearsals for EA&ND prevention and response for staff in the local force to respond to environmental incidents.

Enterprises inside Tra Noc IZ
The following figures emerged on awareness of legal documents and regulations related to EA&ND.

The survey results showed that 40 percent of the representatives of enterprises answered that they were aware of the legal documents related to EA&ND, namely Decree 30/2017/ND-CP regulating the response to natural disasters abd related to activities of response and response drill, the Laws on Environmental Protection Laws from 2005 and 2014, Law on Natural Disaster Prevention and Control (2013) and the Law on Chemicals (2007). Around 40 percent of respondents did not answer this question.
In terms of solutions to prevent and mitigate damage and disruption to production and the business of enterprises as a result of EA&ND, the interview results outlined below are also demonstrated in Chart 17.

- 100 percent of the enterprises participating in the survey strictly complied with regulations on environmental protection, labour safety and regular inspection, fully participated in programmes, information, communication and education on prevention and response to EA&ND and carried out training and rehearsals for prevention and response to EA&ND according to the plans of ministries, ministerial-level agencies, government agencies and localities. Meanwhile, 70 percent of enterprises installed response equipment, tools and means and 60 percent improved technology and technical processes.

- 90 percent of enterprises conducted education and training and put forces in place to respond to EA&ND.

- Only 50 percent of enterprises responded that they had prepared prevention and response plans as well as preventive production and business plans. Some 10 percent did not develop prevention and response plans, a further 10 percent were unsure, while 30 percent did not answer.

**Chart 17: Solutions to prevent and respond to EA&ND of enterprises in Tra Noc IZs**

- Prepare prevention, preparedness and response plan to EA&ND
- Install and provide the equipment, tools and means to cope with environmental incidents
- Improve technological processes to reduce the risk of EA&ND
- Education, training, building on-site emergency response team to EA&ND
- Strictly comply the regulations on environmental protection, labor safety and regular inspection
- Take responsibility for implementing, participating in, or proposing competent agencies to promptly take measures to eliminate causes of incidents when detecting signs of environmental incidents
- Set up backup production and business plans
- Construct prevention works to limit impacts from EA&ND
- Participate in information, communication and education programs on prevention and response to EA&ND; training and mock disaster drill on prevention and emergency response to EA&ND according to plans of ministries, ministerial-level agencies, governmental and local agencies

Yes | No | YesUncertain
--- | --- | ---
50% | 20% | 10%
60% | 10% | 10%
90% | 10% | 0%
60% | 10% | 10%
80% | 10% | 0%
50% | 20% | 10%
50% | 20% | 10%
50% | 20% | 10%
60% | 10% | 10%
3.3.2. Capacity building need assessment for community and related target groups

Residential community around IZ

100 percent of representatives of the residential community around Tra Noc IZs responded that they were willing to participate in capacity-building programs on issues related to the prevention of and response to EA&ND. Some 82.6 percent wanted to join in activities to prevent and respond to EA&ND, 65.2 percent stated an interest in training and rehearsals, as well as maintaining communication in the event of EA&ND, 60.9 percent were interested in related policies and laws and 52.5 percent were interested in how to identify and assess risks. The content of experiences and practices in Viet Nam interested only 34.8 percent of respondents, while no other contents were recommended.

In addition to the contents to be explored, 82.6 percent of respondents considered the distribution of leaflets and handbooks to each household as an effective form of training and propaganda with, while the organization of community meetings to disseminate information and guidance was favoured by 69.6 percent, with 39.1 percent favourable to the method of organizing rehearsals for emergency response to environmental incidents.

**Chart 18: Capacity-building needs of community in Can Tho**

- How to identify and assess the risks: 65.2%
- Policy and legislation related to EA&ND: 65.2%
- Impact on community life: 52.2%
- Basic knowledge: 47.8%
- Some prevention activities, preparedness: 34.8%

**Chart 19: Propaganda methods selected by community in Can Tho**

- Organize community rehearsals on emergency: 69.6%
- Organize community meetings to disseminate information, guidelines: 39.1%
- Using posters and newsletters: 48%
- Hand out leaflets and handbooks to each household: 82.6%
- Other: 0%
Local authorities and mass organizations
Only 25 percent of officials of local authorities and mass organizations participated in training or activities related to identifying and responding to environmental incidents (namely fire protection drills, climate change training organized by the Provincial Department of Science and Technology and training related to response to EA&ND organized by the Can Tho City Women’s Union), while 75 percent had never participated in related activities.

91.7 percent of officials of local authorities and mass organizations agreed to participate in training sessions, workshops and communication programmes to improve their capacity. The contents of greatest interest were advising and supporting the development of a plan to prevent and respond to EA&ND (58.3 percent), advising and supporting the development of risk identification and assessment plans (50 percent), the impacts of EA&ND (50 percent) and related policies and laws (50 percent). All remaining contents were selected but accounted for less than 50 percent. The content with the lowest response (25 percent) was that of experiences and practices in Viet Nam.

IZMB of Can Tho
100 percent of IZMB members were willing to participate in all of the proposed content for training sessions, workshops and communication programmes, in order to enhance their capacities. The three areas of highest interest, accounting for 60 percent of respondents, were policies and laws, training and mock drills and experiences and practices in Viet Nam. In addition, the impacts of EA&ND, advising and assisting development of an identification and evaluation plan, development of a prevention and response plan and the basic concept and method of maintaining information in the event of EA&ND were all selected by 40 percent of respondents.

Tra Noc IIDSPs
Two companies participating in the survey, with both representatives having never participated in training sessions or activities related to identifying and responding to EA&ND. One representative answered that he was willing to participate in training sessions, workshops and communication programmes in order to strengthen his skills and that he was keen to learn all contents, with the exception of the impact of EA&ND upon residential community life. The other representative, meanwhile, did not answer this question.

100 percent of the enterprises surveyed had a need to strengthen their own capacities, with 90 percent most concerned with prevention and response activities in the event of EA&ND occurrence. This was followed by interest in rehearsal training, maintaining communication, identification and assessment of risks and related policies and law (70 percent of respondents), interest in experiences and practices in Viet Nam and basic concepts (around 60 percent of respondents) and the impact upon life in the community (50 percent). Only 10 percent of respondents chose other contents, though these were not specified.
Remark
The survey results on the awareness of the relevant parties of EA&ND showed that most of the residents in the communes neighbouring Tra Noc 1 and 2 IZ were aware of the legal responsibilities of the interested parties in relation to the risk of EA&ND, with issues raised from 56 percent to 73.9 percent. Similarly to Ninh Binh Province, local authorities, local environmental management agencies, IZMB, IIDSPs and certain enterprises responded that they had integrated prevention and response plans to EA&ND into plans on flood and storm prevention, fire protection and chemical incident emergency response.

Most of the respondents were willing to participate in training sessions to strengthen their own capacity in issues related to EA&ND.

The residential community was most concerned with training activities and response rehearsals, risk identification and assessment. For the local authorities and mass organizations, the most interesting content was the advice on developing a plan to prevent and respond to EA&ND, as well as the legal policies and the impact upon the community. The IZMB was most interested in policy and law, training and mock drills, experiences and practices in Viet Nam, while the main subject of interest for enterprises was the activities to prevent and respond to EA&ND (favoured by 90 percent of respondents), followed by risk identification and assessment, training and mock drills, policies and laws, etc.
CONCLUSIONS

The survey results show that all four IZs – Gian Khau and Khanh Phu (Ninh Binh), Hoa Khanh (Da Nang) and Tra Noc 1 and 2 (Can Tho) – have an environmental impact upon surrounding residential areas in terms of wastewater, air emissions, odours and noise, directly affecting the lives of people living nearby.

By identifying safety buffer zones in IZs situated close to population groups vulnerable to potential EA&ND, the project was able to reach the following conclusions:

- In Ninh Binh Province, Khanh Phu IZ threatens around 6,283 people, accounting for 100 percent of the population of eight villages in the Khanh Phu commune located around the IZ. Gian Khau IZ has the potential to affect around 794 households, (55.8 percent of the total households in Gia Xuan commune) and around 305 households (10.4 percent of the total in Gia Tan commune).

- In Da Nang, Hoa Khanh IZ can affect around 862 households, (13.6 percent of the total in Hoa Khanh Bac ward) and around 113 households, (2.2 percent of the total households in Hoa Hiep Nam).

- In Can Tho, the study identified around 3,402 affected households (89.2 percent of the households in Tra Noc ward) with around 13,794 people (88.2 percent of the number of people in Tra Noc ward). Some 7.2 percent of the population lives almost within the IZ. In addition, around 100 households in the resettlement area of Phuoc Thoi ward and the housing resettlement area for workers could potentially be affected.

The sociological survey made use of questionnaires tailored to six target groups, with a total of 223 people, of whom 87 were female (39 percent). These groups represented:

- Local authorities and mass organizations.
- IZMBs.
- Local environmental management agencies.
- IIDSPs.
- Enterprises and the surrounding community.

The survey results show that most of the respondents were aware that EA&ND had the potential to occur in IZs in their locality. However, the implementation of incident prevention and response plans was limited to the annual local disaster preparedness and response plans, fire protection plans and chemical incident response plans within the enterprises.

The awareness-raising carried out by the project was greatly appreciated by the large number of respondents, with the local community and local authorities paying great attention to the presentations and discussions on hazard identification, response to EA&ND, the impact of EA&ND upon lives, as well as prevention and response mock drills. Meanwhile, other target groups are interested in consultancies or support to develop prevention and response plans, risk identification and assessment and training in rehearsal and related legal policies.

18 See Annex B
REFERENCES

1. Can Tho City Authority for Industrial Zone and Exporting Production Zone Management, 2018 – General report on environmental management of IZs in Can Tho City 2017

2. Da Nang City Department of Natural Resources and Environment, 2018 – Report on the performance of environmental protection activities in Da Nang city for 2017


5. Gia Xuan Communal People’ Committee, 2014 – Map of land use status of 2014 in Gia Xuan community

6. Hoa Khanh Bac ward People’ Committee, 2017 – Report on social-economic development and security in Hoa Khanh Bac ward

7. Khanh Phu Communal People’ Committee, 2016 – Administrative map of Khanh Phu Commune

8. Lien Chieu district People’ Committee, 2018 - Report on environmental monitoring in Lien Chieu District, Phase 1, 2018


11. Ninh Binh Provincial Authority of Industrial Zone Management, 2018 – Annual report on environment state for 2017


13. Project Management Unit, 2018 - List of enterprises in Khanh Phu, Gian Khau, Hoa Khanh and Tra Noc IZs


15. Tra Noc Commune People’s Committees, 2017 – Maps and population data


17. Yên Khánh District Division of Natural Resources & Environment, Ninh Bình province, 2018 – Report on the performance of activities in natural resources and environment for 2017
# ANNEX A: QUESTIONNAIRES

## A1. QUESTIONNAIRE

### LOCAL COMMUNITY

The purpose of this questionnaire is to assess the awareness and capacity of the communities living in the vicinity of selected Industrial Zones (IZs) to respond to environmental accidents or disasters caused by the activities of IZs.

<table>
<thead>
<tr>
<th>A. General information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full name: ___________________________________________ Phone number: ____________________________</td>
</tr>
<tr>
<td>(It is at the discretion of the respondent whether or not to provide this information)</td>
</tr>
</tbody>
</table>
| 2. Gender:  
| ❑ Male  
| ❑ Female |
| 3. Age:  
| ❑ 30 yrs  
| ❑ 31-45 yrs  
| ❑ 46-60 yrs  
| ❑ 60 yrs+ |
| 4. Occupation:  
| ❑ Agriculture  
| ❑ Fisheries  
| ❑ Artisan  
| ❑ Small business  
| ❑ Public employee/Civil servant  
| ❑ Officer  
| ❑ Housewife  
| ❑ Retired  
| ❑ Other: ………………………………………………… |
| 5. Address: Ward: ………………………………………………… District: ………………………………………………… Province/City: ………………………………………………… |

<table>
<thead>
<tr>
<th>B. Capacity to identify and assess the risks associated with Environmental Accidents and Natural Disasters (EA&amp;ND)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Have you encountered or become aware of the following types of EA&amp;ND in your locality in the last five years (from 2013 until now)?</td>
</tr>
</tbody>
</table>
| **Environmental accidents:**  
| ❑ Explosion  
| ❑ Leakage/spill of waste, chemical, hazardous or radioactive materials  
| ❑ Water pollution caused by industrial accident  
| ❑ Air pollution caused by industrial accident  
| ❑ Other (please specify) …………………………………………………………………………………………………………………………………………… |
| **Natural disasters:**  
| ❑ Earthquake  
| ❑ Landslide  
| ❑ Storm  
| ❑ Flooding  
| ❑ Tornado  
| ❑ Tsunami  
| ❑ Drought  
| ❑ Other (please specify) …………………………………………………………………………………………………………………………………………… |
| 7. Do you know that IZ managers/service providers/enterprises are obliged to fulfil their legal responsibilities in preventing and responding to EA&ND?  
| ❑ Yes  
| ❑ No |

If yes, please indicate which of the following legal responsibilities IZ managers/service providers/enterprises are obliged to fulfil:

- Plan EA&ND prevention and response.
- Install and operate EA&ND response equipment and tools.
- Build and train the on-site EA&ND response team.
- Regularly conduct inspection and supervision in order to control EA&ND.
- Apply all safety measures in accordance with legal provisions.
- Carry out measures to eliminate the causes of EA.
- Carry out emergency measures to protect people and property when EA&ND occur.
- Notify immediately the local authority or relevant organizations when EA&ND occur.

Please specify documents:

..........................................................................................................................
..........................................................................................................................

8. Do you know about a plan or agency response to environmental accidents or disasters caused by the activities of IZs?

- Yes
- No

If yes, please indicate from which of the following resources information about an EA&ND plan or agency can be obtained:

- Leaflets from IZ managers/service providers/enterprises.
- Community meeting from IZ managers/service providers/enterprises.
- Leaflets from the local authority.
- Community meeting of the local authority.
- The media (television, newspapers, radio)
- The Internet (Web site, social networks)
- Other (please specify) .................................................................

If no, do you wish to strengthen your capacity on these issues?

- If yes, please indicate why:
  ..........................................................................................................................
  ..........................................................................................................................

- If no, please indicate why:
  ..........................................................................................................................
  ..........................................................................................................................

9. Do you know that local authorities are obliged to fulfil their legal responsibilities in preventing and responding to EA&ND?

- Yes
- No

If yes, please indicate which of the following legal responsibilities local authorities are obliged to fulfil:

- Monitoring and supervision of the implementation of responsibilities for prevention and response to EA&ND.
- Building up EA&ND emergency response forces and means.
- Building EA&ND alarm systems and equipment.
- Provide information and training to the community on how to identify and control EA&ND risk.
- Timely information on EA&ND to protect the community and minimize damage when EA&ND occurs.
- Organize emergency response activities, provide guidance, organize evacuation and protect the community when EA&ND occur.
- Evaluate and determine the damage caused by EA&ND and compensation plans.
- Other .........................................................................................................................
10. When EA&ND occur, how will your family be affected, by what and for how long?

<table>
<thead>
<tr>
<th>Type of impact</th>
<th>Time of impact and resilience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When EA&amp;ND occur</td>
</tr>
<tr>
<td>Household income is affected by the interruption of production activities</td>
<td>☐</td>
</tr>
<tr>
<td>Property damage</td>
<td>☐</td>
</tr>
<tr>
<td>Daily activities are affected by the lack of clean water, food and other support services</td>
<td>☐</td>
</tr>
<tr>
<td>Threat to life</td>
<td>☐</td>
</tr>
<tr>
<td>Long-term health effects caused by pollution associated with EA&amp;ND</td>
<td>☐</td>
</tr>
<tr>
<td>Other</td>
<td>☐</td>
</tr>
</tbody>
</table>

11. Do you buy any insurance for your property for injuries associated with the EA&ND risk?

- ☐ Yes
- ☐ No
- ☐ Yes, but I do not know where to sell

*If yes, please indicate which type of insurance and how much you have paid.*

C. Prevention, preparedness and emergency response to EA&ND

12. Have you ever encountered or become aware of EA&ND occurring locally due to the activities of an IZ?

- ☐ Yes
- ☐ No

*If yes, please indicate what impact this had upon your family, what was done to limit the impact of EA&ND in local areas and how support was received from the authorities, mass organizations and local businesses (brief description).*

13. Do you know the plan or evacuation scheme for the residents, animals and property of the resident when the disaster occurs in the area where you live?

- ☐ Yes
- ☐ No
- ☐ I do not think there is a plan/evacuation scheme for residents

14. Do you know who to contact when EA&ND occurs?

- ☐ Yes
- ☐ No
- ☐ I do not think there is a contact

*If yes, please indicate the method of contact.*
### Contact

<table>
<thead>
<tr>
<th>Contact</th>
<th>Fast</th>
<th>Convenient</th>
<th>Effective</th>
<th>Difficult to approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Email</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Web site</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Social network</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Loud Speaker</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Television</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Other .........................................................................................................................................................

15. **Do you know who to contact for support or compensation when EA&ND occur?**
   - ☐ Yes
   - ☐ No
   - ☐ I do not think there is a contact

16. **After the EA or ND occurred in your area of residence (if any), which of the following activities were undertaken?**

<table>
<thead>
<tr>
<th></th>
<th>Clearing roads, hazardous chemicals, hazardous materials and drainage systems</th>
<th>☐ Yes</th>
<th>☐ No</th>
<th>☐ Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Repair and maintenance of buildings</td>
<td>☐ Yes</td>
<td>☐ No</td>
<td>☐ Uncertain</td>
</tr>
<tr>
<td>3</td>
<td>Damage assessment</td>
<td>☐ Yes</td>
<td>☐ No</td>
<td>☐ Uncertain</td>
</tr>
<tr>
<td>4</td>
<td>Support and compensation for individuals, families of workers and affected communities</td>
<td>☐ Yes</td>
<td>☐ No</td>
<td>☐ Uncertain</td>
</tr>
<tr>
<td>5</td>
<td>Communication to raise awareness on the prevention of diseases related to EA&amp;ND</td>
<td>☐ Yes</td>
<td>☐ No</td>
<td>☐ Uncertain</td>
</tr>
<tr>
<td>6</td>
<td>Propaganda to prevent recurrence</td>
<td>☐ Yes</td>
<td>☐ No</td>
<td>☐ Uncertain</td>
</tr>
</tbody>
</table>

### D. Recommendations and proposals

17. **Are you willing to participate in training sessions, workshop, and communication programmes to strengthen your capacity to identify, prevent and respond to EA&ND in the near future?**
   - ☐ Yes
   - ☐ No

If yes, the content to be explored in these activities is:
- ☐ Basic knowledge of EA&ND due to industrial activities.
- ☐ Impact of EA&ND on community life.
- ☐ Policy and legislation related to EA&ND.
- ☐ How to identify and assess the risks associated with EA&ND.
- ☐ Prevention activities and preparedness for EA&ND.
- ☐ Maintaining communication in EA&ND situations.
- ☐ Training and rehearsal exercises when EA&ND occur.
- ☐ Experiences and practices in Viet Nam.
- ☐ Other (please specify):
   ..........................................................................................................................................................................
   .............................................................................................................................................................................
18. In your opinion, what kind of training and propaganda would be effective?

- Distribute leaflets and handbooks to each household.
- Use posters and newsletters.
- Organize community meetings to disseminate information and guidelines.
- Organize community rehearsals on emergency response to EA&ND.
- Other (please specify):

Please provide other comments and suggestions (if any)

Thank you for completing this survey!
A2. QUESTIONNAIRE

LOCAL AUTHORITIES AT COMMUNE LEVEL AND MASS ORGANIZATION

The purpose of this questionnaire is to assess the awareness and capacity of communities living in the vicinity of selected Industrial Zones (IZs) to respond to environmental accidents or disasters caused by the activities of IZs.

### A. General information

<table>
<thead>
<tr>
<th>Information about the interviewee</th>
<th>Information about the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full name: …………………………………………………………………………</td>
<td>Name of organization: ………………………………………………………………</td>
</tr>
<tr>
<td>2. Age: [ ] 30 yrs [ ] 31-45 yrs [ ] 46-60 yrs [ ] 60 yrs+</td>
<td>Name of organization: ………………………………………………………………</td>
</tr>
<tr>
<td>3. Position: …………………………………………………………………………</td>
<td>Address: …………………………………………………………………………</td>
</tr>
<tr>
<td>4. Address: …………………………………………………………………………</td>
<td>Address: …………………………………………………………………………</td>
</tr>
<tr>
<td>5. Mobile telephone number: ………………………………………………………</td>
<td>Name of organization: ………………………………………………………………</td>
</tr>
</tbody>
</table>

### B. Identify the risks associated with Environmental Accidents and Natural Disasters (EA&ND)

6. **In your opinion, which of the following EA&ND and their associated causes are possible due to local industrial activities?**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expansion</td>
<td>[ ] Short circuit</td>
</tr>
<tr>
<td></td>
<td>[ ] Gas explosion</td>
</tr>
<tr>
<td></td>
<td>[ ] Employees have not been fully trained in fire prevention and fighting</td>
</tr>
<tr>
<td></td>
<td>[ ] Other</td>
</tr>
<tr>
<td>Chemical accident and spill</td>
<td>[ ] Employees break chemical safety procedures and measures</td>
</tr>
<tr>
<td></td>
<td>[ ] Unsafe equipment and conditions</td>
</tr>
<tr>
<td></td>
<td>[ ] Employees have not been fully trained in chemical safety</td>
</tr>
<tr>
<td></td>
<td>[ ] Chemical storage areas have an errors cap or lid that is not fitted</td>
</tr>
<tr>
<td></td>
<td>[ ] Careless transportation can result in broken chemical containers and spillage</td>
</tr>
<tr>
<td></td>
<td>[ ] Personal protective equipment is not available/not used</td>
</tr>
<tr>
<td>Wastewater system treatment</td>
<td>[ ] The amount of wastewater exceeds the design capacity of the treatment system or the facilities operate inefficiently</td>
</tr>
<tr>
<td></td>
<td>[ ] A broken wastewater pipe</td>
</tr>
<tr>
<td></td>
<td>[ ] Wastewater pumps are damaged</td>
</tr>
<tr>
<td></td>
<td>[ ] The tank of the wastewater system treatment is cracked/broken</td>
</tr>
<tr>
<td>Waste gas and dust systems treatment</td>
<td>[ ] The operational system is not satisfactory</td>
</tr>
<tr>
<td></td>
<td>[ ] Baghouses are ruined or pumps and fans damaged due to the lack of regular maintenance</td>
</tr>
<tr>
<td></td>
<td>[ ] The air waste pipe system is open</td>
</tr>
<tr>
<td>Industrial waste accident and spill</td>
<td>[ ] Careless transportation</td>
</tr>
<tr>
<td></td>
<td>[ ] The industrial waste system treatment tank is cracked/broken</td>
</tr>
<tr>
<td></td>
<td>[ ] The operation system is not satisfactory</td>
</tr>
<tr>
<td></td>
<td>[ ] Overflow through overload or flooding</td>
</tr>
<tr>
<td></td>
<td>[ ] Broken pump system</td>
</tr>
<tr>
<td></td>
<td>[ ] Lack of regular checks</td>
</tr>
<tr>
<td>Natural disaster</td>
<td>[ ] Storms/flooding caused overflowed wastewater tank to channel drainage and rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>[ ] Cyclones cause collapse, rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>[ ] Landslide to the industrial zones or the storage/treatment of waste, causing the building collapse, fire or rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>[ ] Other</td>
</tr>
</tbody>
</table>
7. What are the impacts on local socio-economic development when EA&ND occur? (Please specify the impacts on production, business and the community).

.......................................................................................................................... ...
.......................................................................................................................... ...
.......................................................................................................................... ...
.......................................................................................................................... ...

C. Prevention, preparedness and emergency response to EA&ND

8. Does your organization have strategies, plans and measures in place to prevent and respond to EA&ND?

☐ Yes  ☐ No  ☐ Uncertain

*If yes, please provide copies of these documents*

9. Which of the following activities did your organization carry out to prevent and respond to EA&ND?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Implemented</th>
<th>Not implemented</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopted policies on exemption and reduction of enterprise income tax on contributions to preventing EA&amp;ND and overcoming their consequences (projects, works, investments)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouraged contributions to the fund of prevention and response to EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepared an EA&amp;ND preparedness and response plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organized preventive exercises on EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participated in response to EA&amp;ND under coordination of the competent authority</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics and assessment of damage caused by EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Other activities that your agency/organization did not mention above (please list below).*

.......................................................................................................................... ...
.......................................................................................................................... ...
.......................................................................................................................... ...
.......................................................................................................................... ...

10. Does your organization carry out (or participate in) the inspection and supervision of prevention and preparedness to respond to the SCMTs of the relevant units/organizations?

☐ Yes  ☐ No  ☐ Uncertain

*If yes, who is responsible for this?* ...........................................................................................................................................

11. Have you ever encountered or been aware of EA&ND occurring in your area?

☐ Yes  ☐ No

*If yes, please fill in the following form and fill in the form below:*
<table>
<thead>
<tr>
<th>Time</th>
<th>Cause</th>
<th>Description of EA&amp;ND and environmental changes</th>
<th>Description of the EA&amp;ND response process</th>
<th>Describe the damage to the community and to your family</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. In your opinion, in which of the following groups have EA&ND occurred (if any)?
   - Group 1: Incidents that have a large, sustained, extensive or serious impact on air, land, water, people, property, ecology and habitat.
   - Group 2: Incidents that have a significant impact on the environment, people and property.
   - Group 3: Incidents that have a small impact on the environment.
   - Group 4: Incidents that have a negligible impact.

13. In the case of environmental incidents occurring, how do you deal with the surrounding local environmental management agencies, communities and IZ management and enterprises?
   - Local environmental management agencies (before, during and after the incidents):
   - Communities (before, during and after the incidents):
   - IZs management board and enterprises (before, during and after the incidents):

D. Recommendations and proposals

14. Have you participated in any training or activities relating to identification, prevention and response to EA&ND?
   - Yes
   - No
   - Uncertain
   If yes, what were the activities and their content?
   ..........................................................................................................................
   ..........................................................................................................................

15. Are you willing to participate in training sessions, workshops, and communication programmes to strengthen your capacity to identify, prevent and respond to EA&ND in the near future?
   - Yes
   - No
If yes, the content to be explored in these activities is:

- Basic knowledge of EA&ND due to industrial activities.
- Impact of EA&ND on community life.
- Policy and legislation related to EA&ND.
- How to identify and assess the risks associated with EA&ND.
- Prevention activities and preparedness for EA&ND.
- Maintaining communication in EA&ND situations.
- Training and rehearsal exercises when EA&ND occur.
- Experiences and practices in Viet Nam.
- Other (please specify): ..........................................................................................................................

16. How do you encourage businesses and relevant organizations to participate actively and work effectively in identifying, preventing and responding to EA&ND? Please specify the implementation and funding sources.

..........................................................................................................................................................
..........................................................................................................................................................
..........................................................................................................................................................
..........................................................................................................................................................
..........................................................................................................................................................

Thank you for completing this survey!
A3. QUESTIONNAIRE

LOCAL ENVIRONMENTAL MANAGEMENT AGENCIES

The purpose of this questionnaire is to understand the capacity to identify the risks associated with environmental accidents and natural disasters (EA&ND) and to coordinate stakeholders in preventing and responding to EA&ND that may occur or have occurred due to local industrial activities, as well as to understand the impact on people’s lives and health and the remedies that have been applied.

<table>
<thead>
<tr>
<th>Information about the interviewee</th>
<th>Information about the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full name: ……………………………………………………………….........................………</td>
<td>Name of organization: ……………………………………………………………………</td>
</tr>
<tr>
<td>2. Age: Male</td>
<td>Female</td>
</tr>
<tr>
<td>3. Position: …………………………………………………………………………………...</td>
<td>Address: …………………………………………………………………………………………………</td>
</tr>
<tr>
<td>4. Address: …………………………………………………………………………………...</td>
<td>…………………………………………………………………………………………………</td>
</tr>
<tr>
<td>5. Mobile telephone number: …………………………………………………………………</td>
<td>…………………………………………………………………………………………………</td>
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</tbody>
</table>

B. Identify the risks associated with environmental accidents and natural disasters (EA&ND)

6. In your opinion, which of the following EA&ND and their associated causes are possible due to local industrial activities?

<table>
<thead>
<tr>
<th>Risk</th>
<th>Causes</th>
</tr>
</thead>
</table>
| Explosion | ❑ Short circuit  
❑ Gas explosion  
❑ Employees have not been fully trained in fire prevention and fighting  
❑ Other ……………………………………………………………………………………………………………………… |
| Chemical accident and spill | ❑ Employees break chemical safety procedures and measures  
❑ Unsafe equipment and conditions  
❑ Employees have not been fully trained in chemical safety  
❑ Chemical storage areas have an errors cap or lid that is not fitted  
❑ Careless transportation can result in broken chemical containers and spillage  
❑ Personal protective equipment is not available/not used |
| Wastewater system treatment | ❑ The amount of wastewater exceeds the design capacity of the treatment system or the facilities operate inefficiently  
❑ A broken wastewater pipe  
❑ Wastewater pumps are damaged  
❑ The tank of the wastewater system treatment is cracked/broken |
| Waste gas and dust systems treatment | ❑ The operational system is not satisfactory  
❑ Baghouses are ruined or pumps and fans damaged due to the lack of regular maintenance  
❑ The air waste pipe system is open |
| Industrial waste accident and spill | ❑ Careless transportation  
❑ The industrial waste system treatment tank is cracked/broken  
❑ The operation system is not satisfactory  
❑ Overflow through overload or flooding  
❑ Broken pump system  
❑ Lack of regular checks |
Risk Causes

- Natural disaster
  - Storms/flooding caused overflowed wastewater tank to channel drainage and rolling raw materials or waste to residential areas
  - Cyclones cause collapse, rolling raw materials or waste to residential areas
  - Landslide to the industrial zones or the storage/treatment of waste, causing the building collapse, fire or rolling raw materials or waste to residential areas.
  - Other

7. Do your organization often inspect and supervise the environmental situation at the enterprise in the IZs to identify the risk associated with EA&ND?
   - Yes
   - No
   - Uncertain

Participants in inspection and supervision:

Frequency of supervision:

8. According to inspection and supervision results, which of the following prevention and response activities did IZ management, service providers and enterprises undertake?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Groups</th>
<th>Implemented</th>
<th>Not implemented</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make plan to identify, prevent and respond to environmental incidents</td>
<td>Number of enterprises</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of IZs</td>
<td></td>
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<tr>
<td></td>
<td>Number of service providers</td>
<td></td>
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<tr>
<td>Install and operate EA&amp;ND response equipment and tools</td>
<td>Number of enterprises</td>
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<td></td>
<td>Number of IZs</td>
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<td></td>
<td>Number of service providers</td>
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<tr>
<td>Education, training and building of on-site emergency EA&amp;ND response team</td>
<td>Number of enterprises</td>
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<td></td>
<td>Number of IZs</td>
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<td></td>
<td>Number of service providers</td>
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<tr>
<td>Comply with regulations on occupational safety and regular inspection</td>
<td>Number of enterprises</td>
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<td></td>
<td>Number of IZs</td>
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<tr>
<td></td>
<td>Number of service providers</td>
<td></td>
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</tr>
<tr>
<td>Take responsibility for implementing, participating in or proposing that competent agencies take prompt measures to eliminate causes of incidents when detecting signs of environmental incidents.</td>
<td>Number of enterprises</td>
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<td></td>
<td>Number of IZs</td>
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<tr>
<td></td>
<td>Number of service providers</td>
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</tbody>
</table>
9. Have you ever encountered or been aware of EA&ND occurring in your area?
   ❑ Yes    ❑ No

   If yes, please fill in the following form and fill in the form below:

<table>
<thead>
<tr>
<th>Time</th>
<th>Cause</th>
<th>Description of EA&amp;ND and environmental changes</th>
<th>Description of the EA&amp;ND response process</th>
<th>Describe the damage to the community and to your family</th>
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</thead>
<tbody>
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</tbody>
</table>

10. In your opinion, in which of the following groups have EA&ND occurred (if any)?
   ❑ Group 1: Incidents that have a large, sustained, extensive or serious impact on air, land, water, people, property, ecology and habitat.
   ❑ Group 2: Incidents that have a significant impact on the environment, people and property.
   ❑ Group 3: Incidents that have a small impact on the environment.
   ❑ Group 4: Incidents that have a negligible impact.

11. In the case of environmental incidents occurring, how do you deal with the surrounding local environmental management agencies, communities and IZ management and enterprises?

   …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
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   …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

C. Prevention, preparedness and emergency response to EA&ND

12. Does your organization agree to share responsibilities and tasks with other local stakeholders (local authorities, mass organizations, IZ management boards, enterprises) when there are EA or ND occurring from the IZs?
   ❑ Yes    ❑ No    ❑ Uncertain

   Please provide specific details:

   …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
   …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
   …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
   …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

13. Does your organization have a publicly available plan for prevention and preparedness for local EA&ND?
   ❑ Yes    ❑ No    ❑ Uncertain

   If not, please indicate why.

   …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
   …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
14. Does your organization have an Emergency Response Plan with specific tasks and responsibilities for different subjects when an EA or ND occurs?
   - Yes
   - No
   - Uncertain

15. Does your organization have a rapid response team in emergency situations when an EA or ND occurs?
   - Yes
   - No
   - Uncertain

16. Is the rapid response team informed and trained on the content and activities that they need to undertake when an EA or ND occurs?
   - Yes
   - No
   - Uncertain

17. Which of the following activities did your organization carry out to prevent and respond to EA&ND?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Implemented</th>
<th>Not implemented</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopted policies on exemption and reduction of enterprise income tax on contributions to preventing EA&amp;ND and overcoming their consequences (projects, works, investments)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouraged contributions to the fund of prevention and response to EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepared an EA&amp;ND preparedness and response plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organized preventive exercises on EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participated in response to EA&amp;ND under coordination of the competent authority</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics and assessment of damage caused by EA&amp;ND</td>
<td></td>
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</tr>
</tbody>
</table>

Other activities that your agency/organization did not mention above (write down below):

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..........................................................................................................................

18. Can you self-assess your organization’s preparedness when an EA or ND occurs in your area?

<table>
<thead>
<tr>
<th></th>
<th>Human resource capabilities</th>
<th>Good</th>
<th>Fair</th>
<th>Average</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Institutional and organizational capabilities</td>
<td>Good</td>
<td>Fair</td>
<td>Average</td>
<td>Poor</td>
</tr>
<tr>
<td>3</td>
<td>Infrastructure and material capabilities</td>
<td>Good</td>
<td>Fair</td>
<td>Average</td>
<td>Poor</td>
</tr>
<tr>
<td>4</td>
<td>Ability of partners and networks to support when an EA or ND occurs</td>
<td>Good</td>
<td>Fair</td>
<td>Average</td>
<td>Poor</td>
</tr>
</tbody>
</table>
19. In your opinion, which of the following activities can be carried out by the surrounding communities, enterprises, IZ management boards, mass organizations in preventing, identifying and responding to EA&ND?
- Organization of contests, seminars and fora related to identification, prevention and preparedness for EA&ND.
- Organization of environmental accident mock drills at different scales (industrial clusters, industrial parks or businesses and neighbouring communities).
- Support for the dissemination of legislation related to identification, prevention and preparedness for EA&ND.
- Providing incentives and encouragement for business trading risk insurance by EA&ND.
- Providing security equipment for communities and enterprises.
- Guidelines for identification, prevention and preparedness for EA&ND.
- Providing incentives and encouragement for enterprises and IZs to participate in projects related to EA&ND.
- Participation in overcoming the consequences of natural disasters.

Other (please specify):

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

D. Recommendations and proposals

20. Activities to prevent, forecast or respond to EA&ND that your organization finds difficult to implement and for which it might need support from state agencies, local authorities and higher level environmental management agencies:

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

21. What suggestions do you have for coordinating with local authorities in identifying/preventing and dealing with EA&ND?

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

22. How do you encourage communities, local authorities, mass organizations, IZ management boards and enterprises to actively participate in activities related to the prevention of EA&ND? Please specify the implementation, funding sources, etc.

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

Other opinions

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

Thank you for completing this survey!
A4. QUESTIONNAIRE

INDUSTRIAL ZONE MANAGEMENT

The purpose of this questionnaire is to understand the capacity to identify the risks associated with environmental accidents and natural disasters (EA&ND) and coordination of stakeholders in preventing and responding to EA&ND that may occur or have occurred due to local industrial activities, as well as their impact upon people’s lives and health and the remedies that have been applied.

A. General information

<table>
<thead>
<tr>
<th>Information about the interviewee</th>
<th>Information about the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full name: ......................</td>
<td>Male</td>
</tr>
<tr>
<td>2. Age:  □ 30 yrs  □ 31-45 yrs  □ 46-60 yrs</td>
<td></td>
</tr>
<tr>
<td>3. Position: ..................................................</td>
<td></td>
</tr>
<tr>
<td>4. Address: ..................................................</td>
<td></td>
</tr>
<tr>
<td>5. Mobile telephone number: ..........</td>
<td></td>
</tr>
</tbody>
</table>

**Other general information about Industrial Zones (IZs) managed by your organization**

6. Information on local IZs:
   - Number of IZs/Export processing zones: .................................................................
   - Number of industrial clusters: ....................................................................................
   - Number of industrial enterprises located outside the IZs/clusters: ..............................
   - Total area of the industrial zones: ................................................................................
   - Geographical location of IZs on local maps: .................................................................

7. Main production types in local IZs:
   - Chemical
   - Paint
   - Building materials
   - Mechanical and metal fabrication
   - Mining and mineral processing
   - Manufacture of wood products
   - Fertilizer
   - Battery
   - Aquatic product processing
   - Textiles
   - Plastic and rubber manufacturing
   - Electronics and energy
   - Plant protection products
   - Cosmetic products
   - Footwear
   - Food processing
   - Petroleum, gas
   - Electronics and energy
   - Other

8. Number of employees working in IZs: ............................................................................
   - Number of local employees: .......................................................................................  
   - Number of employees outside the province: .................................................................
   - Number of residential houses for employees in IZs: ....................................................

9. Number of industrial parks with concentrated wastewater treatment facilities: ...........

10. Number of enterprises, industrial zones discharged directly to the river: .................
11. *Do waste burial sites in the localities contain waste from industrial activities?*
   - Yes
   - No
   - Other

12. *Are all IZs constructed in accordance with the IPs of the Vietnam Construction Regulation QCKDVN 01:2008/BXD?*
   - Yes
   - No
   - Uncertain

### B. Identify the risks associated with environmental accidents and natural disasters (EA&ND)

13. *Do you know any legal documents or regulations related to EA&ND?*
   - Yes
   - No
   *If yes, please specify legal documents:*
   ..........................................................................................................................
   ..........................................................................................................................

14. *In your opinion, which of the following EA&ND and their associated causes are possible due to local industrial activities?*

<table>
<thead>
<tr>
<th>Risk</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosion</td>
<td>- Short circuit&lt;br&gt;- Gas explosion&lt;br&gt;- Employees have not been fully trained in fire prevention and fighting&lt;br&gt;- Other</td>
</tr>
<tr>
<td>Chemical accident and spill</td>
<td>- Employees break chemical safety procedures and measures&lt;br&gt;- Unsafe equipment and conditions&lt;br&gt;- Employees have not been fully trained in chemical safety&lt;br&gt;- Chemical storage areas have an errors cap or lid that is not fitted&lt;br&gt;- Careless transportation can result in broken chemical containers and spillage&lt;br&gt;- Personal protective equipment is not available/not used</td>
</tr>
<tr>
<td>Wastewater system treatment</td>
<td>- The amount of wastewater exceeds the design capacity of the treatment system or the facilities operate inefficiently&lt;br&gt;- A broken wastewater pipe&lt;br&gt;- Wastewater pumps are damaged&lt;br&gt;- The tank of the wastewater system treatment is cracked/broken</td>
</tr>
<tr>
<td>Waste gas and dust systems treatment</td>
<td>- The operational system is not satisfactory&lt;br&gt;- Baghouses are ruined or pumps and fans damaged due to the lack of regular maintenance&lt;br&gt;- The air waste pipe system is open</td>
</tr>
<tr>
<td>Industrial waste accident and spill</td>
<td>- Careless transportation&lt;br&gt;- The industrial waste system treatment tank is cracked/broken&lt;br&gt;- The operation system is not satisfactory&lt;br&gt;- Overflow through overload or flooding&lt;br&gt;- Broken pump system&lt;br&gt;- Lack of regular checks</td>
</tr>
<tr>
<td>Natural disaster</td>
<td>- Storms/flooding caused overflowed wastewater tank to channel drainage and rolling raw materials or waste to residential areas&lt;br&gt;- Cyclones cause collapse, rolling raw materials or waste to residential areas&lt;br&gt;- Landslide to the industrial zones or the storage/treatment of waste, causing the building collapse, fire or rolling raw materials or waste to residential areas&lt;br&gt;- Other</td>
</tr>
</tbody>
</table>
15. **Do your organization often inspect and supervise the environmental situation at the enterprise in the IZs to identify the risk associated with EA&ND?**

- Yes
- No
- Uncertain

Participants in inspection and supervision:

Frequency of supervision:

16. **According to inspection and supervision results, which of the following prevention and response activities did IZ management, service providers and enterprises undertake?**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Groups</th>
<th>Implemented</th>
<th>Not implemented</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make plan to identify, prevent and respond to environmental incidents</td>
<td>Number of enterprises</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of IZs</td>
<td></td>
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<tr>
<td></td>
<td>Number of service providers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install and operate EA&amp;ND response equipment and tools</td>
<td>Number of enterprises</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Number of IZs</td>
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<td>Number of service providers</td>
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<td>Education, training and building of on-site emergency EA&amp;ND response team</td>
<td>Number of enterprises</td>
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<td>Number of IZs</td>
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<td>Number of service providers</td>
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<tr>
<td>Comply with regulations on occupational safety and regular inspection</td>
<td>Number of enterprises</td>
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<td>Number of service providers</td>
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<tr>
<td>Take responsibility for implementing, participating in or proposing that</td>
<td>Number of enterprises</td>
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<tr>
<td>competent agencies take prompt measures to eliminate causes of incidents</td>
<td>Number of IZs</td>
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<tr>
<td>when detecting signs of environmental incidents.</td>
<td>Number of service providers</td>
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</tr>
</tbody>
</table>
17. Have you ever encountered or been aware of EA&ND occurring in your area?

- Yes
- No

*If yes, please fill in the following form and fill in the form below:*

<table>
<thead>
<tr>
<th>Time</th>
<th>Cause</th>
<th>Description of EA&amp;ND and environmental changes</th>
<th>Description of the EA&amp;ND response process</th>
<th>Describe the damage to the community and to your family</th>
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</tbody>
</table>

18. In your opinion, in which of the following groups have EA&ND occurred (if any)?

- Group 1: Incidents that have a large, sustained, extensive or serious impact on air, land, water, people, property, ecology and habitat.
- Group 2: Incidents that have a significant impact on the environment, people and property.
- Group 3: Incidents that have a small impact on the environment.
- Group 4: Incidents that have a negligible impact.

19. In the case of environmental incidents occurring, how do you deal with the surrounding local environmental management agencies, communities and IZ management and enterprises?

.......................................................................................................................... ...
.......................................................................................................................... ...
.......................................................................................................................... ...

C. Prevention, preparedness and emergency response to environmental accidents and natural disasters (EA&ND)

20. Does your organization agree to prioritize responsibilities and tasks with other local stakeholders (government, mass organizations, IZ management boards, enterprises) when there are EA or ND occurring from the IZs?

- Yes
- No
- Uncertain

*Please specify:*

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

21. Does your organization have a publicly available plan for prevention and preparedness for local EA&ND?

- Yes
- No
- Uncertain

*If not, please indicate why. Does the IZMB organize mock disaster drills within the scope of IZs, industrial clusters and communities?*

- Yes
- No
- Uncertain

*If yes, please specify:*

..........................................................................................................................
..........................................................................................................................
22. Does the IZMB provide training and education on identification, prevention and preparedness for EA&ND within the scope of IZs, industrial clusters and communities?
   - Yes
   - No
   - Uncertain

23. Does the IZMB have a rapid response team in emergency situations when an EA or ND occurs?
   - Yes
   - No
   - Uncertain

24. Is the rapid response team informed and trained on the content and activities that they need to undertake when an EA or ND occurs?
   - Yes
   - No
   - Uncertain

25. Does the IZMB have the means to inform all relevant parties of the emergency situation when the EA or ND occurs?
   - Yes
   - No
   - Uncertain

   If yes, please specify:

   ..........................................................................................................................
   ..........................................................................................................................

26. In your opinion, which of the following activities can be carried out by the surrounding communities, enterprises, IZMBs and mass organizations in preventing, identifying and responding to EA&ND?
   - Organization of contests, seminars and fora related to identification, prevention and preparedness for EA&ND.
   - Organization of environmental accident mock drills at different scales (industrial clusters, industrial parks or businesses and neighbouring communities).
   - Support for the dissemination of legislation related to identification, prevention and preparedness for EA&ND.
   - Providing incentives and encouragement for business trading risk insurance by EA&ND.
   - Providing security equipment for communities and enterprises.
   - Guidelines for identification, prevention and preparedness for EA&ND.
   - Providing incentives and encouragement for enterprises and IZs to participate in projects related to EA&ND.
   - Participation in overcoming the consequences of natural disasters.
   - Other (please specify):

   ..........................................................................................................................
   ..........................................................................................................................

D. Recommendations and proposals

27. Have you participated in any training or activities relating to identification, prevention and response to EA&ND?
   - Yes
   - No
   - Uncertain

   If yes, what were the activities and their content?

   ..........................................................................................................................
   ..........................................................................................................................

   ..........................................................................................................................
   ..........................................................................................................................
28. **Are you willing to participate in training sessions, workshops, and communication programmes to strengthen your capacity to identify, prevent and respond to EA&ND in the near future?**

- Yes
- No

If yes, the content to be explored in these activities is:

- Basic knowledge of EA&ND due to industrial activities.
- Impact of EA&ND on community life.
- Policy and legislation related to EA&ND.
- How to identify and assess the risks associated with EA&ND.
- Prevention activities and preparedness for EA&ND.
- Maintaining communication in EA&ND situations.
- Training and rehearsal exercises when EA&ND occur.
- Experiences and practices in Viet Nam.
- Other (please specify):

  .......................................................................................................................... ... ..........................................................................................................................
  .......................................................................................................................... ... ..........................................................................................................................

29. **How do you encourage communities, local authorities, mass organizations, IZMBs and enterprises to actively participate in activities related to the prevention of EA&ND? Please specify the implementation, funding sources, etc.**

  ..........................................................................................................................
  ..........................................................................................................................
  ..........................................................................................................................

*Thank you for completing this survey!*
A5. QUESTIONNAIRE

Industrial Infrastructure Service Providers

The purpose of this questionnaire is to assess the awareness and capacity of the Industrial Infrastructure Service Providers in Industrial Zones (IZs) to respond to environmental accidents or disasters caused by the activities of IZs and to coordinate stakeholders.

### A. General information

<table>
<thead>
<tr>
<th>Information about the interviewee</th>
<th>Information about the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full name:</td>
<td>Name of organization:</td>
</tr>
<tr>
<td>Male ☐ Female ☐</td>
<td></td>
</tr>
<tr>
<td>2. Age: ☐ 30 yrs ☐ 31-45 yrs ☐ 46-60 yrs</td>
<td></td>
</tr>
<tr>
<td>3. Position:</td>
<td>Address:</td>
</tr>
<tr>
<td>4. Address:</td>
<td></td>
</tr>
<tr>
<td>5. Mobile telephone number:</td>
<td></td>
</tr>
</tbody>
</table>

#### Other information about the organization

6. **Main production types in local IZs**
   - ☐ Chemical
   - ☐ Paint
   - ☐ Building materials
   - ☐ Mechanical and metal fabrication
   - ☐ Mining and mineral processing
   - ☐ Manufacture of wood products
   - ☐ Fertilizer
   - ☐ Battery
   - ☐ Aquatic product processing
   - ☐ Textiles
   - ☐ Plastic and rubber manufacturing
   - ☐ Electronics and energy
   - ☐ Plant protection products
   - ☐ Cosmetic products
   - ☐ Footwear
   - ☐ Food processing
   - ☐ Petroleum, gas
   - ☐ Other

7. **Number of employees working in IZs:**
   - Number of local employees: 
   - Number of employees outside the province: 
   - Number of residential houses for employees in IZs: 

8. **Type of service provided by your organization:**

9. **Number of enterprises to which your organization provides services:**

10. **Does your organization have the required operational licences?**
    - ☐ Yes ☐ No

    **Specify operational licences:**

11. **Capacity of your organization’s waste water treatment:**
### 12. Capacity for transport and/or treatment of ordinary waste/hazardous waste:


### 13. Is the waste collection and treatment area built in accordance with the law?

- [ ] Yes
- [ ] No

### 14. Are your organization’s forecast of sources and emissions of hazardous wastes in local IZs?

- [ ] Yes
- [ ] No

*If yes, please specify:*


### B. Identify the risks associated with Environmental Accidents and Natural Disasters (EA&ND)

### 15. Do you know any legal documents or regulations related to EA&ND?

- [ ] Yes
- [ ] No

*If yes, please specify legal documents:*


### 16. In your opinion, which of the following EA&ND and their associated causes are possible due to local industrial activities?

<table>
<thead>
<tr>
<th>Risk</th>
<th>Causes</th>
</tr>
</thead>
</table>
| Explosion                        | - Short circuit
- Gas explosion
- Employees have not been fully trained in fire prevention and fighting
- Other                                                                               |
| Chemical accident and spill       | - Employees break chemical safety procedures and measures
- Unsafe equipment and conditions
- Employees have not been fully trained in chemical safety
- Chemical storage areas have an errors cap or lid that is not fitted
- Careless transportation can result in broken chemical containers and spillage
- Personal protective equipment is not available/not used |
| Wastewater system treatment       | - The amount of wastewater exceeds the design capacity of the treatment system or the facilities operate inefficiently
- A broken wastewater pipe
- Wastewater pumps are damaged
- The tank of the wastewater system treatment is cracked/broken |
| Waste gas and dust systems treatment | - The operational system is not satisfactory
- Baghouses are ruined or pumps and fans damaged due to the lack of regular maintenance
- The air waste pipe system is open |
| Industrial waste accident and spill | - Careless transportation
- The industrial waste system treatment tank is cracked/broken
- The operation system is not satisfactory
- Overflow through overload or flooding
- Broken pump system
- Lack of regular checks |
<table>
<thead>
<tr>
<th>Risk</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural disaster</td>
<td>q Storms/flooding caused overflowed wastewater tank to channel drainage and rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>q Cyclones cause collapse, rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>q Landslide to the industrial zones or the storage/treatment of waste, causing the building collapse, fire or rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>q Other</td>
</tr>
</tbody>
</table>

17. Is it necessary to mobilize the participation of your organization in the identification, prevention and preparedness of EA&ND activities?

- [ ] Yes
- [ ] No

If no, please explain why.

If yes, in your opinion, can your organization participate in any of the following activities?

- [ ] Taking the initiative to build the EA&ND identification and prevention plan.
- [ ] Taking the initiative to build the EA&ND preparedness plan.
- [ ] Supporting communities to prevent and respond to EA&ND.
- [ ] Participating in the implementation of EA&ND prevention and preparedness projects.
- [ ] Other

18. Have you ever encountered or become aware of an EA&ND occurring in your area?

- [ ] Yes
- [ ] No

If yes, please fill in the table below:

<table>
<thead>
<tr>
<th>Time</th>
<th>Cause</th>
<th>Description of EA&amp;ND and environmental changes</th>
<th>Description of the EA&amp;ND response process</th>
<th>Describe the damage to the community and to your family</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

19. In the case of environmental incidents occurring, how do you deal with the surrounding communities, local environmental management agencies, local authorities and mass organization, IZ management and enterprises?

Community (before, during and after the incidents):

Local environmental management agencies (before, during and after the incidents):
Local authorities and mass organization (before, during and after the incidents):

IZ management (before, during and after the incidents):

Enterprises (before, during and after the incidents):

C. Prevention, preparedness and emergency response to EA&ND

20. Does your organization agree to prioritize responsibilities and tasks with other local stakeholders (local authorities, mass organizations, IZMB, enterprises) when EA or ND occur from the industrial zones?

☐ Yes  ☐ No  ☐ Uncertain

Please specify:

21. Which of the following prevention and response activities did you undertake?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Implemented</th>
<th>Not implemented</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make plan to identify, prevent and respond to environmental incidents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install and provide the equipment, tools and means to cope with environmental incidents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education, training and building of the on-site emergency response team for environmental incidents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comply with regulations on occupational safety, regular inspection regime</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take responsibility for implementing, participating in or proposing competent agencies to take prompt measures to eliminate the causes when detecting signs of environmental accidents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribute funds for the prevention and response to EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribute risk insurance related to EA&amp;ND for your organizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare a preparedness and emergency response plan for EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participate in mock disaster drills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics and assessment of damage caused by EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
22. Please enumerate and detail the activities for prevention, forecast or response to EA&ND that your organization finds difficult to implement and for which it needs support from state agencies, local authorities and higher-level environmental management agencies.


D. Recommendations and proposals

23. Have you participated in any training or activities related to identification, prevention and response to EA&ND?

- Yes
- No
- Uncertain

If yes, what were the activities and their content?


24. Are you willing to participate in training sessions, workshops, and communication programmes to strengthen your capacity to identify, prevent and respond to EA&ND in the near future?

- Yes
- No

If yes, the content to be explored in these activities is:

- Basic knowledge of EA&ND due to industrial activities.
- Impact of EA&ND on community life.
- Policy and legislation related to EA&ND.
- How to identify and assess the risks associated with EA&ND.
- Prevention activities and preparedness for EA&ND.
- Maintaining communication in EA&ND situations.
- Training and rehearsal exercises when EA&ND occur.
- Experiences and practices in Viet Nam.
- Other (please specify):


Do you have any other suggestions?


Thank you for completing this survey!
A6. QUESTIONNAIRE

ENTERPRISES

The purpose of this questionnaire is to assess the ability to identify, prevent and respond to Environmental Accidents and Natural Disasters (EA&ND) that may occur in enterprises (businesses), as well as the implementation of social responsibility by enterprises.

<table>
<thead>
<tr>
<th>Information about the interviewee</th>
<th>Information about the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full name: ………………………………………………………………..........................………</td>
<td>Name of organization: ………………………………………………………………………………</td>
</tr>
<tr>
<td>2. Age: □ 30 yrs □ 31-45 yrs □ 46-60 yrs</td>
<td>Name of organization: ………………………………………………………………………………</td>
</tr>
<tr>
<td>3. Position: …………………………………………………………………………………………………………………………</td>
<td>Business registration: ……………………………………………………………………………………………………</td>
</tr>
<tr>
<td>4. Address: …………………………………………………………………………………………………………………………</td>
<td>Address: …………………………………………………………………………………………………………………………</td>
</tr>
<tr>
<td>5. Mobile telephone number: ……………………………………………………………………………………………………………</td>
<td>Address: …………………………………………………………………………………………………………………………</td>
</tr>
</tbody>
</table>

Other information

Number of employees: ………………………………………………………………………………………………………………

At which level is your company classified according to the classification of hazardous substances in “TCVN 4449-1987: Classification of factories, warehouses by toxic level and sanitary isolation distance”?

□ Level I □ Level II □ Level III □ Level IV □ Level V

Distance from the factory to the nearest residential area:

……………………………………………………………………………………………………………………………………………………………………

Geographical location of enterprises compared with the surrounding residential areas?

……………………………………………………………………………………………………………………………………………………………………

Is there any sanitary isolation distance between your company, IZ and residential areas?

□ Yes □ No □ Not know

If yes, please specify (including both natural and built-in isolation)

……………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………………………………………………
B. Identify the risks associated with EA&ND

6. Do you know any legal documents or regulations related to EA&ND?
   - Yes
   - No
   - Uncertain
   
   If yes, please specify the legal documents.
   ...
   ...

7. In your opinion, which of the following EA&ND and their associated causes are possible due to local industrial activities?

<table>
<thead>
<tr>
<th>Risk</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosion</td>
<td>- Short circuit</td>
</tr>
<tr>
<td></td>
<td>- Gas explosion</td>
</tr>
<tr>
<td></td>
<td>- Employees have not been fully trained in fire prevention and fighting</td>
</tr>
<tr>
<td></td>
<td>- Other</td>
</tr>
<tr>
<td>Chemical accident and spill</td>
<td>- Employees break chemical safety procedures and measures</td>
</tr>
<tr>
<td></td>
<td>- Unsafe equipment and conditions</td>
</tr>
<tr>
<td></td>
<td>- Employees have not been fully trained in chemical safety</td>
</tr>
<tr>
<td></td>
<td>- Chemical storage areas have an errors cap or lid that is not fitted</td>
</tr>
<tr>
<td></td>
<td>- Careless transportation can result in broken chemical containers and spillage</td>
</tr>
<tr>
<td></td>
<td>- Personal protective equipment is not available/not used</td>
</tr>
<tr>
<td>Wastewater system treatment</td>
<td>- The amount of wastewater exceeds the design capacity of the treatment system or the facilities operate inefficiently</td>
</tr>
<tr>
<td></td>
<td>- A broken wastewater pipe</td>
</tr>
<tr>
<td></td>
<td>- Wastewater pumps are damaged</td>
</tr>
<tr>
<td></td>
<td>- The tank of the wastewater system treatment is cracked/broken</td>
</tr>
<tr>
<td>Waste gas and dust systems treatment</td>
<td>- The operational system is not satisfactory</td>
</tr>
<tr>
<td></td>
<td>- Baghouses are ruined or pumps damaged due to the lack of regular maintenance</td>
</tr>
<tr>
<td>Industrial waste accident and spill</td>
<td>- The industrial waste system treatment tank is cracked/broken</td>
</tr>
<tr>
<td></td>
<td>- The operation system is not satisfactory</td>
</tr>
<tr>
<td></td>
<td>- Overflow through overload or flooding</td>
</tr>
<tr>
<td></td>
<td>- Broken pump system</td>
</tr>
<tr>
<td></td>
<td>- Lack of regular checks</td>
</tr>
<tr>
<td>Natural disaster</td>
<td>- Storms/flooding caused overflowed wastewater tank to channel drainage and rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>- Cyclones cause collapse, rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>- Landslide to the industrial zones or the storage/treatment of waste, causing the building collapse, fire or rolling raw materials or waste to residential areas</td>
</tr>
<tr>
<td></td>
<td>- Other</td>
</tr>
</tbody>
</table>

8. Does the waste storage and disposal area have a barrier/shield?
   - Yes
   - No
   - Uncertain

9. Have your company’s hazards been contracted for waste transportation and disposal service providers as a permitted hazardous waste management facility?
   - Yes
   - No
   - Uncertain
   
   If yes, please specify any company:
   ...
   ...

### C. Prevention, preparedness and emergency response to EA&ND

12. Does your enterprise have any of the following measures in place to prevent and minimize hazards and disruption to production and business activities of enterprises by the EA&ND?

<table>
<thead>
<tr>
<th>No.</th>
<th>Measure</th>
<th>Yes</th>
<th>No</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prepare prevention, preparedness and response plan to EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Install and provide the equipment, tools and means to cope with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>environmental accidents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Improve technological processes to reduce the risk of EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Education, training and building of on-site emergency response team to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Strictly comply with the regulations on environmental protection,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>labour safety and regular inspection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Take responsibility for implementing, participating in, or proposing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>competent agencies to take prompt measures to eliminate the causes of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>incidents when detecting signs of environmental accidents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Set up back-up production and business plans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Construct prevention works to limit impacts from EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Participate in information, communication and education programmes on</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>prevention and response to EA&amp;ND, training and mock disaster drill on</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>prevention and emergency response to EA&amp;ND according to plans of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ministries, ministerial-level agencies, governmental and local agencies</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

13. Did your enterprise implement the following prevention measures to ensure that businesses and affected communities might take concrete, quick, timely and effective actions when EA&ND occur?

<table>
<thead>
<tr>
<th>No.</th>
<th>Measure</th>
<th>Yes</th>
<th>No</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Together with other enterprises, in collaboration with local authorities,</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>IZMB develops an early warning system or exploits the available early</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>warning system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Preparing options for preparedness and response to EA&amp;ND:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Plan for employees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Plan to move and protect property</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Maintain contact information</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>- Options for customers and suppliers</td>
<td></td>
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<tr>
<td></td>
<td>- Logistics option</td>
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<td></td>
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</tr>
<tr>
<td>3</td>
<td>Set-up of emergency response teams and organization of mock disaster</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>drills</td>
<td></td>
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<tr>
<td>4</td>
<td>An evacuation map located in an easy-to-see location</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Adjustment of production and business plans to avoid risks caused by</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EA&amp;ND</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. Agreement to share responsibilities and tasks with other local stakeholders (local authorities, mass organizations, IZMBs and developers) when there are EA or ND occurring from the IZs. If yes, please specify:

8. Reference to the insurance agency to identify and pay basic insurance for the enterprise to help businesses resume normal operation following EA&ND

14. If your enterprise is at risk from chemicals, has the enterprise developed measures/plans to prevent and respond to chemical incidents?

- Yes
- No
- Not known

If not, please explain why.

15. Have any EA&ND occurred in your enterprise?

- Yes
- No

If yes, please fill in the table below:

<table>
<thead>
<tr>
<th>Time</th>
<th>Cause</th>
<th>Description of EA&amp;ND and environmental changes</th>
<th>Description of the EA&amp;ND response process</th>
<th>Describe the damage to the community and to your family</th>
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<tbody>
<tr>
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</tbody>
</table>

16. In which of the groups listed below can this EA&ND occurrence be classified?

- Group 1: Incidents that have a large, sustained, extensive or serious impact on air, land, water, people, property, ecology and habitat.
- Group 2: Incidents that have a significant impact on the environment, people and property.
- Group 3: Incidents that have a small impact on the environment.
- Group 4: Incidents that have a negligible impact.

17. In the case of environmental incidents occurring, how does your enterprise deal with the surrounding communities, local environmental management agencies, local authorities and mass organization, IZ management and enterprises?

Community (before, during and after the incidents):

Local environmental management agencies (before, during and after the incidents):
Local authorities and mass organization (before, during and after the incidents):

IZ management (before, during and after the incidents):

Enterprises (before, during and after the incidents):

18. After disasters occurred in the IZ area (or enterprise), which of the following activities, if any, were undertaken?

<table>
<thead>
<tr>
<th></th>
<th>Clearing roads, hazardous chemicals, hazardous materials and drainage systems</th>
<th>Yes</th>
<th>No</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Repair and maintenance of buildings</td>
<td>Yes</td>
<td>No</td>
<td>Uncertain</td>
</tr>
<tr>
<td>3</td>
<td>Planning for production and business after the disaster</td>
<td>Yes</td>
<td>No</td>
<td>Uncertain</td>
</tr>
<tr>
<td>4</td>
<td>Damage assessment</td>
<td>Yes</td>
<td>No</td>
<td>Uncertain</td>
</tr>
<tr>
<td>5</td>
<td>Support, compensation for individuals and families of workers and affected communities</td>
<td>Yes</td>
<td>No</td>
<td>Uncertain</td>
</tr>
<tr>
<td>6</td>
<td>Communication to raise awareness on the prevention of diseases related to EA&amp;ND</td>
<td>Yes</td>
<td>No</td>
<td>Uncertain</td>
</tr>
<tr>
<td>7</td>
<td>Preparation of reports to prevent the recurrence of risks</td>
<td>Yes</td>
<td>No</td>
<td>Uncertain</td>
</tr>
</tbody>
</table>

D. Recommendations and proposals

19. Have you participated in any training or activities related to identification, prevention or response to EA&ND?

   Yes   No   Uncertain

If yes, please indicate the activities and their content.

20. Are you willing to participate in training sessions, workshops, and communication programmes to strengthen your capacity to identify, prevent and respond to EA&ND in the near future?

   Yes   No
If yes, the content to be explored in these activities is:

- Basic knowledge of EA&ND due to industrial activities.
- Impact of EA&ND on community life.
- Policy and legislation related to EA&ND.
- How to identify and assess the risks associated with EA&ND.
- Prevention activities and preparedness for EA&ND.
- Maintaining communication in EA&ND situations.
- Training and rehearsal exercises when EA&ND occur.
- Experiences and practices in Viet Nam.
- Other (please specify):

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15. Do you have any other suggestions for identifying, preventing and responding to EA&ND?

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Thank you for completing this survey!
ANNEX B: LIST OF CSA STAKEHOLDERS

B1: Khanh Phu IZ and Gian Khau IZ (Ninh Binh Province)

1. IZMB and IIDSP
   • IZ Management Board.
   • Infrastructure Development Company Ltd.
   • Thanh Nam construction and commercial company.

2. Enterprises under two IZ: 17 participants from the following enterprises/companies attended the discussion (eight enterprises/companies under Gian Khau IZ and nine enterprises/companies under Khanh Phu IZ)
   • Binh Dien Fertilizer Joint Stock Company – Gian Khau IZ.
   • Chong Xin Vietnam Co. Ltd. – Gian Khau IZ.
   • Trang An Glass Company – Gian Khau IZ.
   • My Hanh Co. Ltd. – Gian Khau IZ.
   • Toan Thang Casting Mechanical Co. Ltd. – Gian Khau IZ.
   • Long Son Co. Ltd. – Gian Khau IZ.
   • Xuan Lam Investment and Production Co. Ltd. – Gian Khau IZ.
   • Phuc Loc Joint Stock Company – Gian Khau IZ.
   • Nien Hsing Garment (Viet Nam) Co. Ltd. – Khanh Phu IZ.
   • Has Fashion Co. Ltd. – Khanh Phu IZ.
   • Ninh Binh Vissai Cement Joint Stock Company – Khanh Phu IZ.
   • Vietnam K’s International Plybag JSC – Khanh Phu IZ.
   • Tai Anh Import Export Co. Ltd. – Khanh Phu IZ.
   • Hyundai Thanh Cong Vietnam Auto JSC – Khanh Phu IZ.
   • Great Global International JSC – Khanh Phu IZ.
   • Pacipic Cp. Ltd. – Khanh Phu IZ.
   • Bach’chambard Co. Ltd. – Khanh Phu IZ.

3. Line department
   • Natural Resources and Environment Department of Khanh Phu commune.
   • Natural Resources and Environment Department of Yen Khanh commune.

4. Local authorities and mass organizations
   50 participants (Commune People Committee, Fatherland Front, Women Union, Veteran Union, Old Union, hamlet public security, hamlet leader in Gia Tan, Gia Xuan, Gia Chan and Khanh Phu communes of Ninh Binh Province).

5. Communities:
   54 participants living in Gia Tan, Gia Xuan, Gia Chan and Khanh Phu communes of Ninh Binh Province.
B2: Hoa Khanh IZ (Da Nang city)

1. IZ management board and Industrial Infrastructure Service Providers
   Danang Hi-Tech Park Management Board.
   • Ha Noi URENCO, Central Branch: Providing wastewater treatment service in Hoa Khanh IZ.
   • Danang Infrastructure Development Company.

2. Enterprises under Hoa Khanh IZ – eight participants from the following enterprises/companies attended the discussion
   • Danapha Pharmaceutical Joint Stock Company.
   • Viet My Steel Manufacturing Company.
   • COCERCO company.
   • Song Long Company Limited – Da Nang Branch.
   • Da Nang Chemical Industries Joint Stock Company.
   • Da Nang Cement Joint Stock Company.
   • Tuan Viet General Trading Co. Ltd.
   • A Chau Architect and Commercial Company.

3. Line departments
   Natural Resources and Environment Department of Lien Chieu District.

4. Local authorities and mass organizations
   12 participants (Commune People Committee, Fatherland Front, Women Union, Veteran Union, Old Union, hamlet public security, hamlet leader in Hoa Hiep North ward and Hoa Khanh South ward, Lien Chieu District, Da Nang city).

5. Communities
   13 participants living in two wards – Hoa Hiep North ward and Hoa Khanh South ward, Lien Chieu District, Da Nang city.
B3. Tra Noc 1 and 2 IZs (Can Tho city)

1. IZ management board and Industrial Infrastructure Service Providers
   • Can Tho Management Board of Industrial and Export Processing Zones.
   • Can Tho Construction and Investment Joint Stock Company.
   • Can Tho Industrial Parks Infrastructure Construction Joint Stock Company.

2. Enterprises in Tra Noc 1 and 2 IZ – ten participants from the following enterprises/companies attended the discussion
   • Hung Phat Packaging Paper Trading.
   • Southwest Oil and Gas Company.
   • Sai Gon Beer Western Joint Stock Company.
   • Phuong Nam Land Joint Stock Company.
   • Map Pacific Vietnam Co. Ltd.
   • Labiofam Vietnam Co. Ltd.
   • Can Tho Fertilizer and Chemical Joint Stock Company.
   • Nam Hung Phat Packaging Company.
   • Tay Do steel Co. Ltd.
   • Sai Gon Beer Western Joint Stock Company.

3. Line department
   Natural Resources and Environment Department of Phuoc Thoi ward.

4. Local authorities and mass organizations
   12 participants (Commune People Committee, Fatherland Front, Women Union, Veteran Union, Old Union, hamlet public security, hamlet leader in Phuoc Thoi ward and Tra Noc ward, Can Tho city)

5. Communities
   23 participants living in two wards – Tra Noc and Phuoc Thoi.