UfU Unabhängiges Institut für Umweltfragen

SUMMARY

E-Learning Opportunities regarding Environmental Protection in Vietnam

Key considerations for an E-Learning Platform about the Management of Contaminated Sites

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Summary

E-Learning is a suitable knowledge dissemination tool in times when social distancing is a must. It is also a promising approach to further modernize the education of environmental authorities in Vietnam. It can support the implementation of national environmental policies in the provinces by harmonizing the knowledge of the responsible staff in the provincial environmental authorities (DONREs) in the management of contaminated sites. Online courses can reach people from different provinces, thus reducing the number of long-distance travels for public employees to reach educational institutions.

On behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Independent Institute for Environmental Issues (UfU e.V.) analyzed the demand, prerequisites and existing range of E-Learning platforms for environmental education and the management of contaminated sites in Vietnam in the study "**Structure, format and content of an online-learning platform about contaminated site management in Vietnam**". As part of the DigiViet project, the focus of the study is on E-Learning offers for Vietnamese public authorities entrusted with environmental protection.

The prospects for an E-Learning platform for the (environmental) administration in Vietnam are promising: The government's positive attitude towards the digitalization of education, assistive legislation, and government support for digital learning opportunities in educational institutions provide a promising framework for E-Learning.

E-Learning in Vietnam

With a growth rate of 44,3% in 2017, Vietnam shows the highest increase in the E-Learning sector in Asia. In 2018, the EdTech[1] market in Vietnam received investments of 55 Mio. USD, while 103 EdTech Start-Ups and the first Vietnamese Online-University started their work.[2,3]

Conventional courses about soil, water, or waste management at science and technology universities in Vietnam often use accompanying online platforms to make lecture material accessible (e.g. through online-videos) and to support students the organization of their studies. These approaches of blended learning are currently used by around 30% of Vietnamese students. Most of the existing E-Learning is offered in the fields of schooling (class 1-12), English classes, soft skills, business management, IT, and the preparation for university admission exams.[4]

This positive climate might also support the development of E-Learning platforms for the (advanced) education of public authority staff, especially in topics such as environmental protection and the management of contaminated sites. However, there also exist challenges in the use of online trainings. They require the, sometimes limited, availability of technical equipment and/or internet connections in rural or less developed areas, as well as the need for technical training for persons not familiar with online tools. However, such challenges can be overcome by good organization and support.

Political and juridical framework

The Vietnamese government developed a comprehensive legislation for the development and regulation of E-Learning platforms, thus giving a general public mandate to support and expand information technologies such as E-Learning (see figure 1).

[1] Education Technology
[2] https://tracxn.com/explore/EdTech-Startups-in-Vietnam
[3] https://funix.edu.vn/
[4] https://topica.asia/news/studying-online-elearning-a-hallmark-in-vietnam/

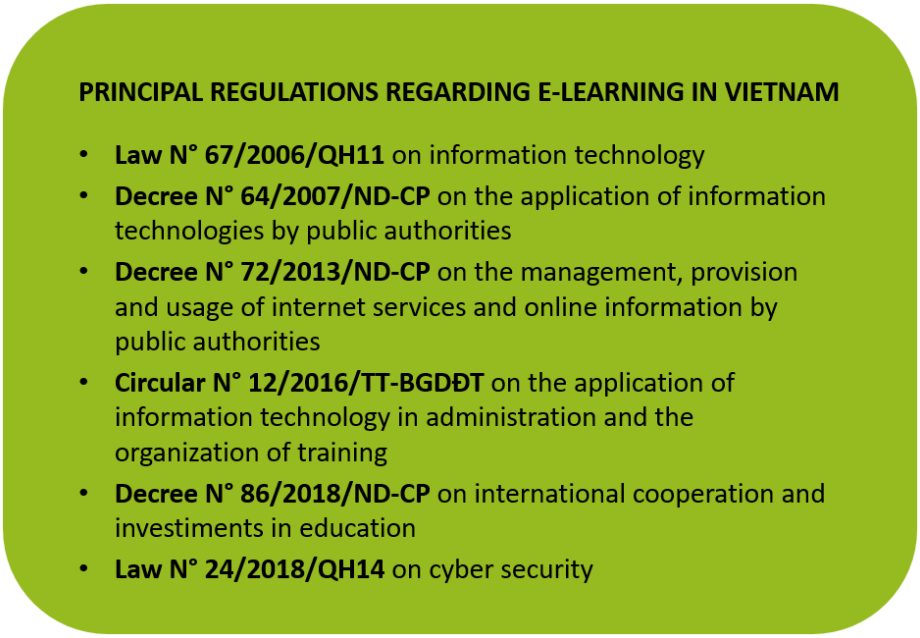

Figure 1: The legal framework of E-Learning in Vietnam: Laws, decrees and circulars in chronological order, with the year the individual regulation became effective indicated in the second part of the N°

Law N° 67/2006/QH11 on information technology defined basic principles in the use of IT and data, while Decree N° 64/2007/ND-CP specified these principles for public authorities. E-Learning platforms for public authorities need to comply with the requirements of the decree N° 72/2013/ND-CP. With circular 12/2016/TT-BGDĐT, the government has built the juridical frame for the use of information technology and the organization of training in the administration. This E-Learning law defines basic principles for the effective implementation of online-trainings and the necessary components of such an E-Learning system. Law N° 24/2018/QH14 concretizes measures and authorizations for safeguarding cyber security in Vietnam. Finally, decree N° 86/2018/ND-CP supports and manages international cooperation and investments in the education sector.[5,6]

The expansion of information technology ranked fifth within the nine principal targets of the Vietnamese education sector in 2019. The implementation of this target was organized by the Ministry of Education and Training (MOET) through the *Master Plan of ICT in Education Period 2016-2020.* Measures like the expansion of digital learning in educational institutions and an improvement in IT usage and application capacity were supported with around 10 billion US-Dollar, equal to 20% of the country's budget for education.[7]

If an E-Learning platform should be developed in cooperation with an institution already possessing an educational mandate, no further permits are

[5] EdTech Vietnam Report 2019
[6] https://www.vietnam-briefing.com/news/vietnams-education-sector-new-regulations-foreign-cooperation-investments.html/
[7] EdTech Vietnam Report 2019

needed to offer online trainings. This category includes, among others, universities, educational institutes, and education centers from Vietnamese ministries like InNET. Other institutions need to get permission from the ministry they are sub-ordinated to. In some cases, permission from MOET is needed and learning contents need to be approved by a scientific service or council.

Expectations towards E-Learning opportunities

As part of the DigiViet study, experts in education management and ministries, as well as employees from DONREs in different provinces via an online survey about their demand and expectations regarding online courses supporting the implementation of their work.

All experts consulted via the online survey confirmed interest in E-Learning formats about the management of contaminated sites. In addition, experts from the education sector and from MONRE or other public authorities consider an E-Learning platform a useful and effective option to disseminate knowledge and know-how about the management of contaminated sites in Vietnam. Predominantly, they associate online courses with the acquisition of new technologies and technical-scientific exchange. E-Learning formats seem to stand for a positive development towards a more progressive public administration.

Despite the great interest in this topic, there is currently no E-Learning platform for the training of government employees in the management of environmental issues such as contaminated sites.

In response to the knowledge and know-how required for their daily work in the field of contaminated site management, the great majority of employees referred to the acquisition and deepening of basic capacities and knowledge in the identification and the management of contaminated sites. ¾ of the respondents consider know-how in the identification and analysis of contaminated sites as a particularly important capacity for the successful execution of their daily work, followed by knowledge of the juridical framework regulating the management of contaminated land. With around half of the interviewees agreeing, knowledge about the use of new technologies is in third place, followed by aspects linked to the handling of areas classified as contaminated (see figure 2).

Some experts also commented that certain aspects of contaminated site management, such as laboratory analysis, cannot be taught solely by an E-Learning platform. For these contents, it might be useful to combine online courses with additional on-site trainings.

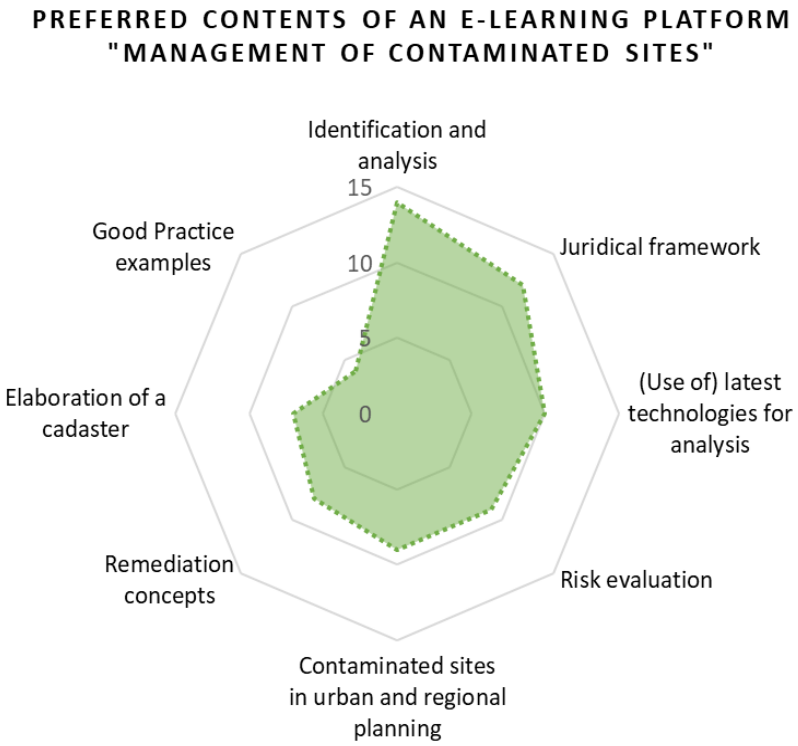

Figure 2: Preferred topics of an online course in the sector of contaminated site management. Presented in number of affirmative answers from participants of the online survey, from 0 to 15 affirmations.

Based on the insights gained from the interview and the online survey, the authors of the study were able to outline the structure and suitable contents of an E-Learning platform about contaminated site management.

Ideally, the content of the E-Learning platform should reach beginners through basic courses about contaminated site management and land cadaster use, but also represent demanding topics for the international transfer of know-how, knowledge, and technologies. Only this way, the platform meets the needs of provincial environmental offices, as well as the requests of experts in national institutes.

Good Practice: E-Learning platforms and courses

DigiViet identified E-Learning platforms which can be seen as good practice examples in online knowledge sharing and education for public authorities and E-Learning platforms sharing knowledge related to waste and chemical management and environmental protection. The boxes below show key points of different good practices with links to the related sites.

Renewables Academy Online COBENEFITS Training

Expert course about social and economic benefits of renewable energies for Vietnamese experts working in the public and private sector

Provisioned by **Renewable Energy Academy (RENAC)**

Mercury Platform and MercuryLearn

Online expert course that provides knowledge about the management of mercury and fosters the exchange of experiences and knowledge

Provisioned by **UNITAR and UNEP**

Chemicals and Waste Platform

Educational videos for experts who support the implementation of the Basel, Rotterdam, Stockholm and Minamata conventions on hazardous chemicals and wastes in their countries.

Provisioned by **UNITAR, UNEP and other**

Learning system FiVe Education Export

Online tool of the Vietnamese-German technical college course electrical engineering

Provisioned by **Landesakademie Leipzig (LAK), WMU GmbH Magdeburg, Leipzig Uniersity and SEPT Institute**

UN Climate Change Learning Partnership (CC: Learn)

Platform aimed for the greater public to learn about climate-related topics such as forests, mitigation, adaptation and climate finance

Provisioned by **the Swiss Government and UN partners**

FAO E-Learning Center

Online courses for experts and other interested persons about topics related to food and agriculture

Provisioned by **Food and Agriculture Organization of the United Nations (FAO)**

Figure 3: Good practice examples for E-Learning platforms related to environmental issues and education for public authorities.

Outlook: a prototype online-course for Vietnam's environmental authorities

The positive results and demand identified in the DigiViet study motivated UfU to integrate the development and implementation of an online course for employees of DONREs in the area of contaminated site management into the CapaViet2 project. The course will serve as a **prototype** to gain experiences for the development of further courses and a more comprehensive E-Learning platform on the management of contaminated sites for the mid- to long-term.

Under the name **Registration of Contaminated Sites in Vietnam,** the online course will build upon the existing information material used in the contaminated site registration courses for DONREs in North and Central Vietnam. For beginners in contaminated site management, the course presents a suitable introduction to the topic. For more experienced experts, the course is an opportunity to repeat key knowledge and to complement it with information on the latest developments in the sector.

The Vietnamese version of the course exclusively targets professionals working at Vietnamese environmental administration. It will be open for a defined time only, during which the participants can gain a certificate if they successfully complete the course. The English version will be available for an extended time at UfU's online education portal. The course addresses the interested public. Thus, no certificates will be issued.

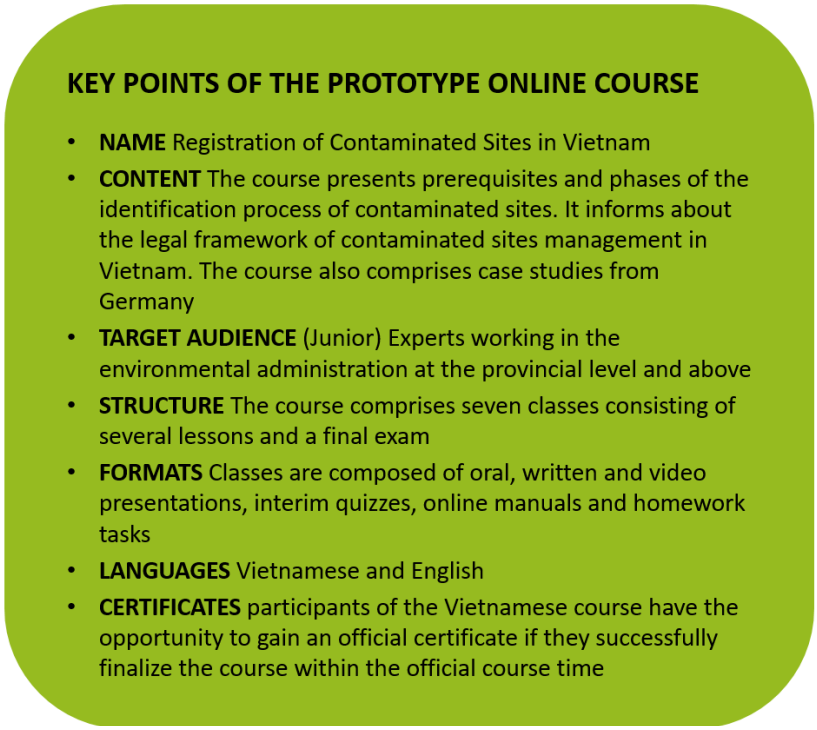

Figure 4: Key characteristics of the prototype online course on contaminated site management to be developed within the project CapaViet2

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