Chapter 15

Implementation of E-Learning in Forest Workers’ Training for Sustainable Forest Management

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ABSTRACT

Forest workers training is recognized as a necessary precondition for sustainable forest management. As sustainable forest management sets higher levels of standards, the adoption of new information and communication technologies (ICT) in forest workers’ training and extension systems is a necessity in the Information Age, which will help the current and future workforce to better fit in the increasingly digitalized and demanding world of forest work. However, limitations on the use of ICTs do exist and should be seriously taken into consideration. Digital divide is evident both in developed and developing countries, making the implementation of ICT applications difficult, especially in the case of African and Asian countries. Furthermore, the development of e-learning systems for forest professionals must adhere to very specific design standards and educational theories. In this context, research should focus on the needs of the end-users at regional or national level. However, all efforts will be ineffective unless they are incorporated and facilitated by a stable framework of political and financial support. The combination of long-term planning, clear target setting, and cost effectiveness is critical for the successful promotion of sustainable forest management through e-learning.

INTRODUCTION

New information and communication technologies have changed the way we live and work. Recent developments in these technologies find their way with increasing frequency in everyday life and are recognized as important factors for social and economic development. As Keegan stated in 2000, “most of the new business opportunities in the next few decades will either be the creation of digital goods or the application of digital and internet techniques to old economy

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products”. Although such statements may sound very optimistic, or far-fetched, the trend of implementing new technologies is evident not only in the production systems but to practically all aspects of life.

The increase of knowledge puts higher standards in terms of skills and competencies. Good knowledge of ICTs is crucial for today’s workers around the globe (Zarini, Varis, & Mar, 2009). Information Age requires different knowledge and skills and the very nature of employment has changed. The role of technical and vocational education and training (TVET) is of primary importance and complicated because it has to prepare the students of vocational schools for the new working environment. The investment on ICTs is nowadays regarded by TVET systems as a necessity, which will increase efficiency of the educational and training processes.

Forest workers’ training systems (FWTSs) have emerged from the need for a better forestry workforce with certified qualifications, a very important precondition towards sustainable forest management. Since the majority of forest workers work and live in rural mountainous areas, new flexible forms of training should be used. Therefore, the geographical dispersion of the specific target group is an important factor for the implementation of ICTs in specialized vocational training programs with respect to forestry. In this context, a large number of websites and multimedia software has been developed as training tools for forest workers.

Aim of this book chapter is to present the special characteristics and needs that the use of ICTs in forest workers’ training systems and forestry extension services must address. The role of Digital Divide and limitations of e-Learning in vocational training systems are also discussed. Successful case studies from all over the world are presented and finally research priorities are described. Despite the problems described, the implementation of ICTs in vocational training and extension services in forestry should be further encouraged because it is combined with multifold advantages: it can enhance the professional and entrepreneurial capacity of forest workers and forest owners, promote sustainable forest management and actively support rural and regional development.

**THE GROWING ROLE OF ICTS IN TVET**

Technical Vocational Education and Training (TVET) is concerned with the acquisition of knowledge and skills for the world of work (International Centre for Technical and Vocational Education and Training, 2010). Various terms have been used to describe elements of the field that are now conceived as comprising TVET, such as Apprenticeship Training, Vocational Education, Technical Education and Vocational Education and Training (VET) among others. In the Revised Recommendation concerning Technical and Vocational Education, United Nations Educational Scientific and Cultural Organization / International Labour Organization (2002) offer the following definition of TVET:

Technical and vocational education is used as a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. Technical and vocational education is further understood to be:

1. An integral part of general education;
2. A means of preparing for occupational fields and for effective participation in the world of work;