

# Chapter VII

## Evaluating the Potential of Free and Open Source Software in the Developing World

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### ABSTRACT

*Development organizations and international nongovernmental organizations (NGOs) have been emphasizing the high potential of free and open source software (FOSS) for the less developed countries (LDCs). Cost reduction, less vendor dependency, and increased potential for local capacity development have been their main arguments. In spite of its advantages, FOSS is not widely adopted on the African continent. In this chapter the experiences of one of the largest FOSS migrations in Africa is evaluated. The purpose of the evaluation is to make an on-the-ground assessment of the claims about the development potential of FOSS and draw up a research agenda for a FOSS community concerned with the LDCs.*

### INTRODUCTION

Over the past years the issue of free and open source software (FOSS)<sup>1</sup> for development in LDCs is receiving more and more attention. Where in the beginning the benefits of FOSS for less developed countries (LDCs) was only stressed by small groups of idealists like Richard Stallman (Williams, 2002), now it is moving into the hands of the large international organizations like the World Bank (Dravis, 2003) and the United

Nations. In the *E-Commerce and Development Report* that was released at the end of 2003, it was stated that FOSS is expected to dramatically affect the evolving information and communication technology (ICT) landscape for LDCs. UNCTAD believes that FOSS is here to stay and LDCs should benefit from this trend and start to recognize the importance of FOSS for their ICT policies (UNCTAD, 2003).

Leading organizations in the software and ICT consulting industry have embraced FOSS at

a rapid speed. IBM is now the major champion of FOSS, and in 2002 IBM announced the receipt of approximately US\$1 billion in revenue from the sale of Linux-based software, hardware, and services. Other technology leaders, including Hewlett-Packard, Motorola, Dell, Oracle, Intel, and Sun Microsystems, have also made major commitments to FOSS (UNCTAD, 2003). The major player objecting the FOSS paradigm at the moment is Microsoft Corporation.

For a brief understanding of what FOSS means, we shall adopt David Wheeler's definition stated in the FOSS primer (Wong & Sayo, 2003) as:

*FOSS programs are programs whose licenses give users the freedom to run the program for any purpose, to study and modify the program, and to redistribute copies of either the original or modified program (without having to pay royalties to previous developers).*

The terms "free" and "open," in this definition, are representative of the two major philosophies in the FOSS world. Free implies a user should have certain freedoms to do as they please with a piece of software. It should be noted that free does not necessarily imply freedom of cost, even though most software available as FOSS is usually accessible without one having to directly pay software or license fees. Open implies that software source code should be available to whoever is interested in viewing, modifying, and redistributing a particular piece of software.

The advantages of FOSS are diverse, but the most often quoted benefit in relation to LDCs is the reduction of purchase and license costs of the software. Software and licenses are paid for in hard currency and put an extra burden on the, often dismal, financial situation of LDCs. Other advantages are; reduction of vendor lock-in, adherence to open standards, increased transparency, minimizing security risks, increasing technical selfreliance, and provision of a good starting point for local capacity development (Dravis, 2003).

The last advantage is probably the most important benefit of FOSS. Local capacity is needed to understand the technical foundation of the digital divide and start initiatives to bridge it.

Despite the obvious advantages mentioned, the adoption of FOSS, in LDCs, has been low (Brugink, 2003; Van Reijswoud, 2003; Van Reijswoud & Topi, 2004). In Africa, no country other than South Africa, has explicitly mentioned FOSS in their ICT policy. On the contrary, governments of several of the richer countries on the continent are considering large deals with proprietary software vendors (see: [www.fossfa.net](http://www.fossfa.net)). At present it seems that FOSS is on the agenda of the donor organizations and international NGOs but not on the agenda of the decision makers in LDCs. Although there are a growing number of initiatives to promote FOSS for LDCs in general and Africa in particular like Free and Open Source Software Foundation for Africa ([www.fossfa.net](http://www.fossfa.net)) and the East African Center for Open Source Software ([www.eacoss.org](http://www.eacoss.org)), there are very few organizations that consider and actually implement FOSS.

In this chapter we evaluate the experiences of an organization in Uganda, East Africa, that has decided to migrate its ICT infrastructure to FOSS. The purpose of the evaluation is to make an on-the-ground assessment of the claims about the development potential of FOSS. We, therefore, start the chapter with an overview of FOSS and the role it can play in the development of LDCs. Against this background we describe the case study, the progress the organization has made and the problems that were encountered. Finally, we will draw some conclusions on the experiences in the case study and set out an agenda for a successful rollout of FOSS in LDCs, especially in Africa.

## **FOSS FOR DEVELOPMENT: AN OVERVIEW**

When we consider the role of FOSS for development, we have to distinguish multiple levels in

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