INTRODUCTION

The role of new technologies, particularly information and communications technology (ICTs) in the global society is central to both contemporary social theory and understanding transformations that are characteristics of the information society and post modernity. The emphasis on technological determinism is useful in tracing social and economic changes at large, but the economic and social shaping of technology is often illustrative of wider social relations, with local considerations. Recently, studies have demonstrated how technology is socially-contextualised, with gender differential barriers to access and use of ICTs by men and women (Hafkin & Taggart, 2001). This article argues that ICTs as a form of new technology are socially deterministic, albeit context dependent, need to take into account the role of social actors and interactions, which is often ignored in the blind pursuit of market forces.

The article is structured as follows: the Background section examines some of the debates relating to gender and ICTs; then the Main Thrust section proceeds to examine the ICT context in southern India through a case study of the Kudumbashree project and some conclusions are provided in the last section.

BACKGROUND

Gender and ICTs in a Global Society

There have been a number of perspectives in understanding the social role of technology. The social construction of the technology is useful in analysing users as agents of technology and change, where a social (and logical) perspective is applied to scientific knowledge (Kline & Pinch, 1999). Often social groups, which are dynamic in nature, play a crucial role in the development of technological artefacts. The theoretical perspective on Actor Network theory developed by Strum and Latour (1999) reveals the mutual constitution of technology and society showing how these are not fixed social structures but are continuously and actively negotiating and renegotiating relative roles. The role of the social actors both at the macro and micro-level is important as well the social link in relations between various social actors. These social actors in an ethno-methodological fashion according to Garfinkel’s social interactionism, are transformed from “cultural dopes” to active social actors (Mackenzie & Wajcman, 1999).

There has been a burgeoning body of literature in relation to the role of gender relations in technological change, demonstrating the masculine nature of technology and capitalist domination. Research in industrialised countries has noted that technical fields and IS systems are highly gendered (Wajcman, 2004; Webster, 2005) highlighting the social shaping, or constructivist, theory of technology. In looking at the socio-cultural influences on the professional development and working lives of women IT professionals, Trauth (2002), rejects the essentialist view of women and their relationship to IT that has been put forth in the information systems literature arguing, instead, the primacy of societal and structural influences.

Relatively little has been researched or written about the specifics of gender relations in the ICT
sector in developing countries, although there are emerging studies in relation to call centres or the Software Industry (e.g., Arun & Arun, 2001) and it is this knowledge gap that this article partly addresses. It has been shown here that to analyse the deeper issues affecting women’s engagement with ICTs we need to take a wider scope, such as the “gender & technology as socially defined” and “experience of daily life” approaches. It is clear from this overview that a gender perspective may take several forms varying from those focussing primarily on the individual as the means to bringing about change, to those taking a wider scope and attempting to transform the society and culture in which women are living. The Association for Progressive Communications (APC) brings the importance of women’s involvement in the “definition, design, and development of new technologies” (APC-WNSP, 2002). The gender evaluation methodology (GEM) is grounded in the view that any gender analysis should (APC-WNSP, 2002) focuses on both self and social change: addressing the relationship between the ICT initiative and the way the “self” (individual, organisation, and/or community involved) operates and also the relationship between the ICT initiative and the broader context (social, political, economic, and cultural).

The experiences in one South Indian state—Kerala1—that can be seen as a microcosm of the ICT experience in India with a booming software sector as well as a number of innovative state interventions in ICTs, including Kudumbashree, a women-led poverty reduction programme that has made use of ICTs to enable the development of ICT-based enterprises run by cooperatives of poor women. In order to do this, a qualitative and case study based approach was undertaken in July-December 2004, with empirical research based on women as workers, women as entrepreneurs, women as social and economic agents in households and communities and discussion with key informants.

**MAIN THRUST OF THE ARTICLE**

**Gender Shaping of ICTs in South India**

The software and services component of the ICT sector has emerged as one of the fastest growing industrial segments, increasing from U.S. $170-million worth of output in 1991-92 to U.S. $8.8 billion in 2003-04 (Arun, Heeks, & Morgan, 2004). The state of Kerala in South India has formulated ICT policies, through increasing human capital, creating infrastructure and innovative strategies to use ICTs as panacea for poverty alleviation.

The Kudumbashree initiative is a state interventionist poverty eradication strategy, which strongly gender-focused. Kudumbashree—which means “prosperity of the family”—is an initiative of the Kerala State Poverty Eradication Mission (SPEM) was launched in 1999 as a women-oriented, participatory, and integrated approach to fight poverty (Government of Kerala, 2003). Thus, use of ICTs could help gain economic empowerment of poor women and households to tap into the broader range of relations between ICTs and enhanced social and economic development. Neighbourhood Help Groups (NHG) or ayalkootams—a type of cooperative of ten women from poor families (based on non-monetary indicators) are formed as the basis for each Kudumbashree unit. These micro-enterprise units include a range of activities from food processing, cleaning, handicrafts, but its most innovative aspects has been its use of ICTs to form the basis for some of its enterprises.

In all, 1,206 Kudumbashree units are now operational in a range of sectors (Kudumbashree, 2004) owned, managed and operated by women from poor families. Out of these, there are three types of ICT-based enterprise comprising of 45 IT training units which provide IT training to schools; 56 data entry and digitisation units which mainly create local digital content for public (and to a lesser extent private) sector organisations; and 5 hardware assembly/maintenance units.

A profile of these ICT enterprises is provided in Table 1, which illustrates that the main ICT activities relate to data entry, hardware assembly and servicing as well as IT training. The selected units are located in different region, from the main state capital of Thiruvanathapuram, in the southern region of the state, to both urban and per-urban areas in the northern region of the state. In all, there has been a sizeable employment impact, with the ICT units creating jobs for nearly 2,000 women; with nearly U.S. $50 is being earned by each member (Arun et al., 2004). The average number of members within
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