



Contents lists available at ScienceDirect

## Technological Forecasting &amp; Social Change



## Catalysing innovation for social impact: The role of social enterprises in the Indian sanitation sector

Shyama V. Ramani<sup>a,\*</sup>, Shuan SadreGhazi<sup>a</sup>, Suraksha Gupta<sup>b</sup><sup>a</sup> UNU-MERIT, Boschstraat 24, 6211 AX Maastricht, The Netherlands<sup>b</sup> Kent Business School, University of Kent, Canterbury CT2 7NZ, UK

## ARTICLE INFO

## Article history:

Received 6 February 2016

Received in revised form 10 October 2016

Accepted 18 October 2016

Available online xxxx

## Keywords:

Social entrepreneur

Social entrepreneurship

Social enterprise

National system of innovation

India

Sanitation

Base of the Pyramid (BoP)

## ABSTRACT

One of the roles of social entrepreneurship within a national system of innovation (NSI) is to generate and ensure effective adoption of innovations that address underserved needs. However, many such innovations do not achieve the expected social impact. Why? Our paper explores answers to this question by considering access to sanitation as a basic need and 'toilets' as an innovation for those who had no prior access to one. We trace the evolution of the Indian sanitation sector and then delve into the process of sanitation coverage in an Indian village. We show that demand for social entrepreneurship is being increasingly satisfied by third party sponsored social enterprises. However, there is systemic uncertainty about the efforts required to catalyze demand and strategic uncertainty about the social enterprise's capabilities and intentions. Long term impact is jointly determined by the true intention of the social enterprise, its capabilities and the nature of contextual challenges. Therefore, forecasting of social change should integrate the incentives within NSI for social entrepreneurship to make high-quality sustained social impact rather than short-lived ones. This will not only depend on the willingness to adopt, but also the monitoring systems, impact analysis and sustainability audits that social entrepreneurship is subject to.

© 2016 Elsevier Inc. All rights reserved.

## 1. Introduction

As of 2010, only 46.9% of the 246.6 million households in India had their own toilet facilities, 3.2% had access to public toilets, which left the remaining while 49.8% households no option but to defecate in the open (Census of India, 2001). In rural areas, where 68.84% of the population lives, the percentage of households without toilets was 69.3%, while in urban areas it was 18.6% (Census of India, 2001). Clearly such a lack of sanitation signals an underserved need (Ramani, 2008; JMP, 2012) jeopardizing health and human dignity (Ramani et al., 2008; UNHR, 2011; Water Aid, 2012). On the other hand, the census reported that 53.2% of the households had a mobile phone (Census of India, 2001).

These statistics raise a puzzle. Starting from the premise that any product is an *innovation* for a potential user who currently has no access to one, both toilets and mobile phones are akin to innovations for households which never used them before. Moreover, an artefact such as a low cost toilet is associated with a simple technology, whereas a cell phone embodies a much more sophisticated and complex technology. There is an extensive literature on diffusion-adoption (Geroski,

2000; Rogers, 1962), including how firms select and assess technology opportunities (Walsh and Linton, 2011). At a systemic level, the seminal work of Griliches (1957) still provides insight. Griliches (1957) pointed out that technical and commercial 'availability' and consumer 'acceptability' of an innovation are the two main drivers of diffusion. Here, the mobile phone beats toilets at all levels, because being a profitable product, firms have sought to make it available in a variety of quality-price ranges and its utility as a means of communication has led to its near-seamless adoption, making it ubiquitous even among the Base of the Income Pyramid or BoP communities (Anderson and Markides, 2007). By the BoP, we refer to the largest but poorest socio-economic groups in the global income pyramid working in predominantly informal markets and living on a few dollars a day (Pralhad and Hart, 2002). Clearly, it is not enticing to firms to make low-cost toilets, which cost at least 10 times more than a cheap mobile phone, 'available' to the BoP, especially as additional efforts are required to make users 'accept it' and change their behaviour away from open defecation (Ramani and Parihar, 2015). Following Griliches (1957), for social welfare enhancement, one would expect the State to enter as a player in the national system of innovation (NSI). Further, if this was insufficient, we would expect social entrepreneurship to address this needs-gap. This last factor is indeed what our paper seeks to explore, as it is likely to give us insight on the role of social entrepreneurship within an NSI as a carrier of pro-poor innovations, whose social and economic value

\* Corresponding author.

E-mail addresses: ramani@merit.unu.edu (S.V. Ramani), ghazi@merit.unu.edu (S. SadreGhazi), S.Gupta@kent.ac.uk (S. Gupta).

are self-evident, even when the need is not explicitly expressed by underserved communities.

Sanitation coverage has direct consequences on economic growth and regional development via promotion of environmental security and health, and thereby labour productivity and income generation (Ramani and Parihar, 2014). Even in 2015, there were 2.4 billion people worldwide who lacked access to an improved sanitation facility, i.e. a toilet that is connected either to a public sewer, or a septic tank or some pit in such a way that the air, water and soil in and around the pit are not contaminated (JMP, 2015). Furthermore, 90% of those practising open defecation lived in rural areas (JMP, 2015). Thus, governments of developing countries like India are determined to improve sanitation coverage as exemplified by the adoption of the 17 Sustainable Development Goals (SDGs) in September 2015 by the UN General Assembly (<http://sbm.gov.in/sbm/>). To celebrate Mahatma Gandhi's birth anniversary, on October 2, 2014, the Indian Prime Minister Narendra Modi inaugurated the Swachh Bharath Mission (SBM) or Clean India Mission, whose central objective is to eliminate open defecation in India through installation of toilets and triggering of behavioural change by 2019. Similarly, SDG 6 not only aims to ensure availability and sustainable management of water and sanitation for all by 2030, but also to eliminate open defecation. (<https://sustainabledevelopment.un.org/sdg6>).

In order to study how inclusive development goals such as the above may be attained, scholars are turning to NSI as a framework of analysis in different parts of the developing world (Srinivas, 2014; Hart et al., 2014; Cassiolato et al., 2014). Indeed, the need to forecast optimal pathways for achieving the SDGs leads us to study the functioning of the NSI in novel ways (Ramani and Szirmai, 2014). For the most part, as a conceptual framework, the NSI has been used to trace how innovation generation occurs as a country specific phenomenon, leading to the accumulation of industrial capabilities, and thereby economic growth. However, when the focus is shifted from 'innovation for economic growth' to 'innovation for inclusive development' towards goals such as SDG 6, wherein innovations like toilets have to be diffused and adopted, three central questions are opened up on the NSI.

First, how is the *diffusion* of pro-poor innovations to be incentivized via social entrepreneurship? By pro-poor innovations we refer to product and services that cater to the essential needs such as healthcare, housing, food, water and sanitation or enhance productivity and income-generation capacity (Mendoza and Thelen, 2008).

Second, how is the *adoption* of pro-poor innovations to be incentivized via social entrepreneurship? Inclusive development calls for positive social impact on the poor. This means that it is not the market transactions or non-market transfers of the innovation that alone matters – but also the effective adoption of the pro-poor innovation.

Third, given the above mentioned problems on the supply and demand sides respectively, should new actors be found to assure production and especially impact creation of innovations like sanitation? What about social entrepreneurship as an NSI pathway? At present, while policy makers and scholars recognize that within the NSI, social entrepreneurship has a crucial role to play as an innovation carrier, they are much less clear about how an NSI ought to catalyze this process for optimal social impact.

The answers to the above questions developed in the present paper constitute its contribution to the literature on NSI and social entrepreneurship. A set of theoretical constructs are proposed from a survey of the existing literature to distinguish the role of social entrepreneurship within the NSI as effectuated by social enterprises. Then, these are confronted with the Indian sanitation case study to understand how social entrepreneurship diffuses pro-poor innovations within a system and promotes adoption among target beneficiaries. The pursuit of improving sanitation coverage forms a useful backdrop to answer the research queries, because the last two decades have indeed witnessed a perceptible shift in public policies to promote coverage through multi-stakeholder platforms (Iles, 1996). By focussing on the

functioning of social entrepreneurship as a diffuser of toilets, the elements to be integrated for the forecasting of social change through new technology diffusion in the context of deep poverty are identified.

The remainder of our paper is organized as follows. Section 2 presents the literature survey on social entrepreneurship and the theoretical constructs on the role of social entrepreneurs within an NSI. Section 3 presents the case study methodology for its validation. Section 4 contains the Indian sanitation case study. The dynamics of the sectoral evolution of sanitation is examined first, followed by a reconstruction of the history of sanitation coverage in a village called Kameswaram. Section 5 discusses the results and Section 6 concludes.

## 2. From technology to social impact

In this section, we briefly analyse the NSI literature and that on social entrepreneurship to infer a set of theoretical constructs on how social entrepreneurship acts as a conduit for inclusive development via social enterprises.

### 2.1. Innovation, NSI and social impact

To tackle global challenges in healthcare, water, energy, environment and food, a variety of creative enterprises are generating and diffusing innovations using both emerging and disruptive technologies (Groen and Walsh, 2013). Viewed from the user perspective, whenever a commodity or service that has never been used by the target beneficiary is proposed to him or her, then that commodity or service is akin to an innovation vis-à-vis the beneficiary. Furthermore, if adoption and/or use of the innovation improves the quality of life and/or the livelihood possibilities of the intended BoP beneficiary significantly, then it is a pro-poor innovation as well. Sanitation is a typical example of a pro-poor innovation. One of the goals of social entrepreneurship is to create, diffuse and sustain innovations i.e. make new offerings to the community that generate social and/or environmental value. Armed with these assumptions, the framework of the NSI can be applied to study the institutional ecosystem surrounding pro-poor innovations carried by social entrepreneurship.

According to the NSI framework, the creation, commercialization and adoption of innovations are collective processes embedded within a system specific to the country concerned (Lundvall, 1992; Nelson, 1993; Freeman, 1995). The innovation diffusion trajectories are path-dependent and traced as a function of the existing networks between the state and a variety of organizations such as firms, consumers, public laboratories, universities, financial institutions and civic associations. The NSI framework has also been adapted to study sectoral dynamics (Malerba, 2002).

The main objective of the NSI studies has been to seek and identify firm strategies and government policies to build capabilities for boosting industrial and/or economic growth. Pro-poor innovations have received scant attention. For new technology led growth, financial-institution capabilities to bear the costs of risky investment (Gerschenkron, 1962) and an educated work force with social capabilities (Abramovitz, 1986) are deemed very important. Innovation creation is boosted when public labs with scientific capabilities and firms with technological capabilities (Lall, 1992) as well as intrapreneurial capabilities (Athreye et al., 2009) interact with support from the state (Etzkowitz and Leydesdorff, 2000). In addition, intangible assets such as organisational and network capital are crucial, contributing to the innovativeness of firms in regional innovation systems (Kramer et al., 2011).

There is also an extensive literature on how governments can facilitate new technology creation and business entrepreneurship in mainstream sectors, though scholars note that government policy does not sufficiently recognize the contribution of small organizations to employment or innovation creation (Birch, 1987; Kirchoff, 1994; Kirchoff et al., 2013). They point out that more than size, the quality

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات