

Sustainability Innovation at the Base of the Pyramid through Multi-Sited Rapid Ethnography

Minna Halme,^{1*} Arno Kourula,^{1,2} Sara Lindeman,¹ Galina Kallio,^{1**} Maria Lima-Toivanen³
and Angelina Korsunova

¹Aalto University School of Business, Helsinki, Finland

²University of Amsterdam Business School, Amsterdam, The Netherlands

³VTT Technical Research Centre of Finland, Espoo, Finland

ABSTRACT

The past decade has seen a proliferation of suggestions for market-based solutions to global poverty. While research emphasises that sustainability innovation aimed at poverty alleviation must be grounded in user needs, few studies demonstrate how to study the poor for purposes of early phase innovation in business enterprises, especially in multiple locations comparatively. This study suggests that the necessary understanding of low-income users and their practices can be gained through *multi-sited rapid ethnography*. We exemplify how the process moves from an understanding of the needs of the poor towards innovation and offer a general framework for evaluating the success of these types of projects. The paper describes the challenges and solutions found in a multi-sited rapid ethnography research in urban base of the pyramid (BOP) contexts in Brazil, India, Russia, and Tanzania. It suggests businesses can learn about the poor with the help of this method and conduct sustainability innovation on the basis of the needs of the poor, rather than start with existing products. Copyright © 2015 John Wiley & Sons, Ltd and ERP Environment.

Received 11 November 2014; revised 11 September 2015; accepted 17 September 2015

Keywords: base of the pyramid; BOP; poverty; sustainable development; CSR; innovation; ethnography; methodology; stakeholder engagement

Introduction

WITH THE GROWING RECOGNITION THAT THE PROBLEM OF GLOBAL POVERTY CANNOT BE RESOLVED BY AID AND other philanthropic efforts alone (Easterly, 2006; Moyo, 2009), business practitioners and scholars have in recent years given increasing focus to low-income markets in emerging economies and developing countries (García-Rodríguez *et al.*, 2013; Hahn & Gold, 2013; Kolk *et al.*, 2014; Kolk & Lenfant, 2012; Kao *et al.*, 2014). The main streams of discussion that have emerged to address alternative approaches to poverty alleviation are the Base of Pyramid (BOP) approach and the inclusive markets view. Initially introduced by business strategists (Hart, 2005; Prahalad, 2005), the BOP approach emphasises the win-win possibilities that are

*Correspondence to: Minna Halme and Galina Kallio, Aalto University School of Business, P.O. Box 21210, 00076 AALTO, Helsinki, Finland.

E-mail: minna.halme@aalto.fi

**E-mail: galina.kallio@aalto.fi

created when international business leverages untapped opportunities in the previously neglected BOP market. The inclusive-markets view (UNDP, 2008) emphasises the development opportunities presented by the integration of the previously excluded poor into the global economy. These approaches are concerned with low-income markets, often called the BOP, where some 4 billion people live on less than €5 a day (in purchasing power parity) (Prahalad, 2005; Hammond *et al.*, 2007; Weidner *et al.*, 2010).

While the of BOP concept describes the profile of the potential target group in the market, the BOP and the inclusive-business approach can be described as a movement and a spectrum of business models seeking to reduce global poverty through business solutions (Hammond *et al.*, 2007). Recently, BOP business models have been more explicitly linked to corporate sustainability and corporate social responsibility (CSR) activity (Dobers & Halme, 2009; Arnold & Valentin, 2013; Singh *et al.* (2014); Kao, *et al.*, 2014). While in the past CSR literature has emphasised the importance of human rights (Welford, 2002) and developing country (Ite, 2004) and transition economy (Mahmood & Humphrey, 2013) contexts, involvement with local people, especially those living at the BOP, has been minimal (Sharmin *et al.*, 2014).

The BOP approach suggests that it is possible to design products, services, and business models that can make life easier for poor people and bring more profits for businesses. To this end, the BOP literature says that, businesses should learn about the needs of low-income, often informal target markets, and apply user-oriented design methods (Prahalad, 2005; London & Hart, 2010). Despite this rhetoric, it is not common among businesses to start innovating on the basis of the needs and practices of the poor. According to a study of ten innovation processes reported in the UNDP (2008), innovation for BOP markets tends to involve users at a relatively late stage of product development, and to test products rather than seek in-depth knowledge about user needs and co-create solutions with users (Krämer & Belz, 2008). Descriptive of this trend is that market-oriented ethnography (Arnould & Price, 2006) of the use of existing consumer products (such as the P&G study of razor users in India), are quoted as ‘best practice’ of BOP user study (Corbett, 2008; Byron, 2010). However, if companies want more than just to modify an existing product or brand for a certain BOP market and rather go for sustainability innovation – i.e., seek to innovate *new* products, services, or business models that alleviate poverty problems such as lack of nutrition, water, energy, or shelter (Halme & Laurila, 2009) – they will need a wider understanding of the practices in the potential markets as well as the needs of potential users. In sum it is questionable to what extent BOP innovation is currently based on user needs.

While ethnographic methods are generally appropriate for studying informal low-income contexts, from the perspective of innovation they have not yet been put to their fullest possible use. There is scant knowledge about how businesses can explore opportunities in low-income markets before committing themselves to one product or service, and to one market. Drawing on lessons from consumer anthropology and design ethnography (Blomberg *et al.*, 1993; Salvador *et al.*, 1999; Atkinson & Hammersley, 2007) and extending from studies applying rapid ethnography (Millen, 2000; Handwerker, 2001; Sandhu *et al.*, 2007), this paper suggests a method termed *multi-sited rapid ethnography* at the BOP, and describes an application of this method in a study of practices and user needs at low-income sites in four continents: Latin America, Asia, (Eastern) Europe, and Africa. The locations were large cities in Brazil (Belo Horizonte), India (Kanpur), Russia (Samara), and Tanzania (Dar-es-Salaam). When we study practices, we refer to a practice in its common sense meaning as *a way something is done* (Corradi *et al.*, 2010).

This paper aims to illustrate one possible approach to studying practices and user needs in low-income communities, and how to proceed towards business innovation that is based on knowledge about them. This method is appropriate for business situations where no commitment has as yet been made to any single product, service or market. We discuss the four stages of the approach (preparation, field study, data analysis, and the identification of opportunity spaces), including the challenges and solutions of each stage, which are also exemplified with the help of the above mentioned empirical study. We conclude by summarising our key findings and suggesting avenues for further research.

Research Design and Stages

Interpretative ethnographic research typically requires long-term fieldwork, but this is unrealistic in most applied settings (Sandhu *et al.*, 2007), including those where business firms want to gain a deeper understanding of low-income markets in which they do not currently operate. The method we propose for understanding user needs

and practices of urban BOP in the context of designing new products, services, or business models is *multi-sited rapid ethnography*: a 2–4 week ethnographic study conducted sequentially at multiple sites, consulting independent informants and involving interactive shadowing, observation, and interview data supplemented by secondary data. We do not create this method from scratch, but rather build on earlier applied ethnography. The ‘rapid’ is based on the previous work of several authors and refers to ethnographic research lasting from 1 to 90 days (Beebe, 2001; Handwerker, 2001; Mariampolski, 2006; Sandhu *et al.*, 2007). ‘Multi-sited’, then, refers to ethnographic research conducted at multiple locations or sites for one research task (Falzon, 2009; Minowa *et al.*, 2012). The approach is appropriate for situations where long-term fieldwork is not feasible due to time or budget constraints, and where it is necessary to gain an understanding of user needs from more than one site.

The study sought to understand how the practices of low-income people could be studied with ethnographic methods for the purposes of providing ideas/knowledge for innovation by business enterprises. We devised and tested this approach in the context of a radical market innovations research programme of a set of Nordic forest industry companies. The studied communities were expected to belong to the urban BOP with daily earnings of less than €5 (\$8; Hammond *et al.*, 2007). We explore the challenges and suggest solutions for the four stages of the research project: preparation, field study, data analysis, and the identification of opportunity spaces. Table 1 summarises the challenges and suggested solutions in each stage.

While many of the challenges will be familiar to ethnographic researchers, our contribution to CSR literature lies in: (1) exemplifying how business and business scholars can include BOP communities in innovation processes in an early phase, (2) translating user needs to business innovation by describing all stages of the research process, and (3) adopting a multi-sited approach to sustainability innovation in different BOP contexts.

Preparation for a Multi-Sited Rapid Ethnographic Study in a BOP Context

This section describes the preparations necessary for studying practices at the BOP. Compared to consumer or end-user research in developed-market contexts, there is much less codified knowledge of the BOP. Furthermore, researchers will usually be relatively familiar with the groups of people they are studying in developed-market contexts, while in BOP contexts this is hardly ever the case. Regardless of whether the researchers come from abroad or the same country, they are usually outsiders to the BOP contexts, as even in-country researchers tend to represent different social strata and life-worlds than low-income individuals and communities (Sandhu *et al.*, 2007).

Preparations for an ethnographic study of BOP therefore are often more laborious than those for developed settings (Sandhu *et al.*, 2007; Gau *et al.*, 2012). When the research design is international as in our case, this phase involves desk research about the target countries. It is particularly useful to consult the work of anthropologists and to interview relevant informants in the departure country (immigrants, students) for pre-field information. To get more background information on the practice areas concerned, we also interviewed local specialists such as governmental/municipal organisations, NGOs, business ventures, and researchers.

Available studies and secondary data provide a range of valuable insights into the BOP. First, as is widely documented, poverty is not a lack of money, but a much wider lack of capabilities to participate in society (Sen, 1999; Banerjee & Duflo, 2007). BOP individuals and households operate in an environment of systemic mistrust towards paying official and unofficial fees for education; towards the prices and safety of goods and fake brands; towards packaged food (expiration dates, quality, original source); towards banks, lenders, and business partners; and towards the police and security forces. Oppression and harassment are commonplace, daily challenges. There is great uncertainty about the future, and very few have the luxury of a long-term time perspective (Narayan *et al.*, 2000; 2001). At the same time, infrastructure (e.g. physical infrastructure, basic services, power generation, security, and retail) is severely deficient (Hammond *et al.*, 2007). The BOP is urbanising and moving to slums (favelas, townships, shantytowns) at a rapid pace (UN-DESA, 2011). Society is also permeated by informality and micro-entrepreneurship. We took these insights as a starting point to explore our chosen locations and practices in research teams.

Team compilation is an issue in international multi-sited ethnography (Minowa *et al.*, 2012) but due to the above-listed hardships, it is a pronounced concern in BOP contexts. Researchers need to understand the focal population, but also be able to communicate with users of research findings in the departure country. Our solution was to have

PHASE	PHASE DESCRIPTION	CHALLENGES	SOLUTION TIPS
1. Preparation	<p>Desk studies of target countries.</p> <p>Interviews with experts and informants from focal countries residing in departure country (students, immigrants).</p> <p>Mind-mapping for practice areas.</p> <p>Team compilation.</p> <p>Finding local research assistants and communicating research aims to them.</p> <p>Collecting data with ethnographic methods: Interviewing, observing, photographing, filming.</p>	<p>Multi-sited rapid ethnography at the BOP is pioneering research; thus scant codified knowledge.</p> <p>Finding researchers with cultural understanding of departure and target countries.</p> <p>Finding local assistants with connections to and trust in BOP communities.</p> <p>Negotiating entry to informants.</p>	<p>Involve researchers based in departure country but with roots in the target country (for all target countries).</p> <p>Research pair with combination of departure and target country researcher (for each site).</p> <p>Reaching beyond academic institutions (AI) for local research assistance if AI too distant from BOP. Reach to NGOs with academic expertise.</p>
2. Field study	<p>Constantly checking that the data needed is accumulating within a limited time (Ethnographic) research is not familiar at BOP. Researchers attract attention.</p> <p>Inability to help in difficult living conditions of informants is emotionally stressful.</p> <p>Small dwellings make observation challenging.</p> <p>Access declined to poor schools, restrictions on photography in public spaces, e.g. market places, collection points (Russia only).</p>	<p>Constantly checking that the data needed is accumulating within a limited time (Ethnographic) research is not familiar at BOP. Researchers attract attention.</p> <p>Inability to help in difficult living conditions of informants is emotionally stressful.</p> <p>Small dwellings make observation challenging.</p> <p>Access declined to poor schools, restrictions on photography in public spaces, e.g. market places, collection points (Russia only).</p>	<p>Careful planning combined with flexibility and improvisation.</p> <p>Interactive shadowing.</p> <p>Research pair for support.</p> <p>Interview former teachers of poor neighbourhood schools.</p>
3. Data analysis	<p>Organising and analyzing massive amounts of different types of data.</p> <p>Analyzing data from different countries. (cultures) with a joint framework.</p>	<p>Comparing data from multiple sites is not at the core of the ethnographic method.</p> <p>Ethnographic methods in a multi-researcher team: interpreting the data to team members who have not been in the same country.</p> <p>Language: Making different language data accessible to all.</p>	<p>Constant data organisation from early on: 1-3 hours every evening when in the field. Select and label photos, write memos.</p> <p>Data analysis with the help of NVivo (or other software) which can code text, photos, and film clips simultaneously.</p> <p>Simultaneous transcription and translation of interviews into English by local interpreters.</p> <p>Development of systematic process for opportunity space and idea recognition.</p>
4. Opportunity space recognition	<p>Re-evaluating and recombining data across themes and countries with a view to recognising business opportunity spaces and ideas.</p>	<p>Bridging the gap between academic research and practical implementation.</p> <p>Taking the time and putting in the effort to follow through ideas after research project is over.</p>	<p>Linking observation data to wider social, economic, technological, environmental and political trends.</p> <p>Post-research stage workshops with companies.</p> <p>Potential participation of researchers in company internal innovation process.</p>

Table 1. Challenges and solutions in different phases of multi-sited rapid ethnography.

a team of two for each country, consisting of one departure country researcher (a Finn) and one native person with roots in the focal country and command of the local language, although living in Finland at the time. The latter made it possible for the native researcher to contribute throughout the project rather than in the field phase only. Furthermore, based on our prior field experience, we knew it would be useful to have a partner with whom to reflect upon the often overwhelming experiences in a challenging context. A team of two also gives an added sense of safety and security, as well as allows each member to take different roles and to complement and support the other, which enriches data generation and data analysis (Buford May & Pattillo-McCoy, 2000). Altogether two researchers for four locations meant there were eight members in the core team.

Multi-sited ethnography in BOP settings also needs local research assistants who are trusted and respected in the community (Sandhu *et al.*, 2007). They provide local knowledge and access and help to identify suitable observation locations and informants. A good strategy is to recruit academics with access to and an interest in the informal sector, or to turn to NGOs with academically informed personnel. In India and Russia, our local assistant represented a university, while in Tanzania and Brazil they were from an NGO. The Brazilian assistant held a university degree and the Tanzanian a doctorate from the UK. Given the rapid ethnography context, it was imperative that the assistant had already done the groundwork with the to-be-studied local entities prior to the arrival of the core team researchers, who spent only two weeks in the field and thus had to get started with data generation as quickly as possible.

The creation of interview and observation schedules as well as timetables for multi-sited rapid ethnography is an extensive process, involving desk research, background interviews, and mind-mapping exercises to analyse the chosen practice areas (in our case mass communication, primary education, and packaging) and emerging themes. Since field data collection has to be completed within the space of two or three weeks, effective time planning is obviously paramount, while remaining flexible to adapt to changing situations.

The research focus and boundaries were worked through several times in the format of mind-maps. Based on these mind-mapping exercises, we generated a shared understanding of what our research was really about and what we wanted to learn. We then translated each mind-mapping exercise into observation locations, types of respondent, and interview questions that we believed would generate the relevant data. Homes, schools, market places, shops, packaging provision, and waste handling sites, and a number of other places related to the practice areas were selected as observation locations. In each location our informants included two low-income families with school-aged children, and other low-income people representing different types of 'groups of poor'. The groups of poor could be elderly people, immigrants, single parents, unemployed people, or informal waste collectors (as packaging was one of the studied practice areas). The observation locations differed considerably between countries. Observations of the collection of used packaging materials in Brazil, for instance, were made at a homeless people's waste management cooperative, and in India in a waste picker's home yard where he and his family collected and separated waste. In Brazil, a *favela* radio served as an example of mass communication, while in India information to the poor living in urban slums might more typically be provided by street theatre groups. Hence, each country team identified suitable observation locations and informants based on commonly agreed guidelines and in cooperation with the local research assistant.

Field Study in BOP Contexts

Multi-sited ethnography by definition involves gathering data at more than one site. Our research design included four sites and thereby four trips to collect data. In order to maximise learning within the research team, these trips were scheduled so that the whole team could meet between each trip, reflect upon the empirical study, and learn from co-researchers' experiences.

The data were collected using methods that are typical of ethnographic research: observation, various types of interviews, photography, and video recording (Mariampolski, 2006; Sunderland & Denny, 2007). Observation took place in the various settings related to the focal practice areas — elementary schools, (grocery) stores, market places, people's homes, on the streets, at recycling and waste management sites, and other location-specific places — which were partially decided upon by the whole research team in advance and flexibly agreed upon by the pairs during the field trips. Often, observation and interviewing were intertwined. Most of our interviews could be called contextual

interviews where researchers interviewed respondents while they were engaged in some activity (Blomberg *et al.*, 1993). Table 2 depicts the number of in-depth interviews, local expert interviews, ad hoc interviews, photographs, and observation locations, as well as hours of video recording per location.

Ethnography typically makes use of observation and so-called shadowing in data collection, but for low-income communities in emerging markets and developing countries we suggest a more appropriate term: *interactive shadowing*. This term refers to a reciprocal attitude and behaviour where researchers readily socialise with locals and share small parts of their lives with the people they are studying, instead of simply asking questions and observing. In this way, the interaction becomes closer than what in most places is the social norm. This also makes it easier to gain the trust of the locals, which is essential to the success of the research. This is, strictly speaking, not the same as participant observation, which tends to assume that researchers take part in the activities of the people studied (Dewalt & Dewalt, 2002). In short-term fieldwork in particular, the researchers' involvement in the activities concerned (e.g. waste picking, cooking) would most of the time just disturb the respondents as their activities require tacit skills. Interactive shadowing comes close to what has been called 'hanging-out' (Agar, 1996) and informal interviews and casual conversations (Elliott & Jankel-Elliott, 2003), but neither term really captures the essence of reciprocity.

Some activities with families and at schools allowed participant observation in the form of so-called go-along work (Kusenbach, 2003). In go-along, fieldworkers accompany individual informants in their activities and outings, asking questions and listening at the same time. In multi-sited ethnography in low-income communities, however, this might only be possible for relatively short periods, say from a few hours to half a day. First, it is likely that any non-native members of the research team will attract a lot of attention. In our field sites, such attention ranged from high-level in India, where the non-Indian research team member was interviewed for a newspaper story when studying a street theatre in a slum and was asked to give a talk about his home country at a primary school, to lesser attention in Russia.

Secondly, observing everyday practices at home amounts to an intrusion into the private sphere. While the presence of researchers in one's home would be awkward enough in any context and country, this feeling was aggravated by the small dwellings, in which it was often impossible to 'hang out' and observe without disturbing daily life. Once all meaningful questions have been asked, and once there are no more activities to observe, the atmosphere may well become quite uncomfortable.

During our field trips we had some problems obtaining access to the places we wanted to observe. In Russia, for example, gaining access to public elementary schools (as primary education was one of the practice areas we studied) in poor neighbourhoods turned out to be impossible. Despite our good local contact, the authorities blankly refused to grant us access to any poor neighbourhood school. Instead, we were allowed to visit a rather good school with mainly relatively well-off pupils near the city centre. We were guided through the school by the vice-rector, who also insisted on hand-picking our interviewees. We partially circumvented this problem by interviewing teachers who had formerly worked in poor public schools.

Multi-sited ethnography uses semi-structured interviews to generate sufficiently similar data, but questions have to be flexible: it must be possible to ask questions in various ways and in different orders and contextual settings. In addition, the questions have to be adapted by the country teams to the country context. Our interview data included both planned and ad hoc interviews. Each team's field assistant arranged appointments with the participating families and schools and most semi-structured interviews in advance, but sometimes interview opportunities arose during the field study process. Each country sample included two low-income families with school-aged children per location, people working in poorly paid sectors, and other low-income people representing the previously listed groups of poor in each location (Table 2). The planned interviews lasted approximately one hour and the ad hoc ones between 5 and 30 minutes. Interviews that included observation (family visits) could consist of multiple parts, usually a main interview followed by a number of shorter ones.

Non-native research team members in multi-sited ethnographic research will need interpretation. It was usually provided by the local research assistant or occasionally a professional interpreter, which allowed the native research team member to concentrate on interviewing and observing rather than on interpreting. In this process the translation takes place on many levels: the researcher translating from academic language to everyday language and then contextualising the questions, and the interpreter translating the questions to the appropriate local language and also translating to another culture and context.

Description	India (Kanpur)	Russia (Samara)	Tanzania (Dar es Salaam)	Brazil (Belo Horizonte)
In-depth BOP interviews	5 (paanwalla [street vendor of tobacco], factory worker, driver, housewife, women leather workers)	13 (university students, low income women, family parents and children, pupils, teachers)	12 (1 waste trader, 2 female & 1 male heads of households, 1 jobseeking youth, 2 school children, 2 teachers, 2 entrepreneurs, 2 community workers)	10 (housewife, school children, community leader, ragpickers, teacher)
Expert interviews	3 (Business Today, Stora Enso, Infra. Leading and Financial Syst.)	9 (paper company representative, packaging expert, poverty sociologist, poverty journalist, landfill director, trash pick-up driver, pre-school teacher, teacher, vice-rector)	4 (1 workshop with entrepreneur women; 1 roundtable with local authorities; poverty expert of a local NGO, development researcher)	12 (anthropologist, 2 journalists, favela sociologist, communication sociologist, radio manager, micro credit manager (NGO), ecodesigner, city waste manager, packaging Industry representative, paper company manager, grocery store owner)
Ad hoc interviews	11 (raddiwalla [trash collector and vendor], household, NGO, Shramik Bharti, 2 school principals, teacher, sellers at markets)	13 (taxi driver, workers at bottle recycling points, pensioners in flea markets, elderly women at grocery stores and outdoor markets, newspaper kiosks, post office clerk)	App. 40 (ad hoc interviews at marketplaces, schools and homes, visits, local authorities)	10 (ragpickers, radio journalist, workers at community association, teacher, librarian, school principal)
Photographs (total/analyzed)	5000+ / 203 analyzed	900+ / 130 analyzed	3 500+ / 140 analyzed	1000+ / 139 analyzed
Video material	App. 3 hours	App. 2 hours	App. 4 hours	App. 6 hours
Observation locations	15 (1 household, 2 schools, 5 local markets, high end market, mall & food bazaar, temple, slum area (including inside houses), women leather workers' "factory", street life (pharmacies, shops, raddiwalla's home & yard, etc.)	17 (1 school, 1 low cost clothes market, 1 local market, 3 outdoor food markets, clothes market, 2 flea markets, 3 newspaper kiosks, 1 post office, 2 lowcost grocery stores & huts, 1 student dormitory, 1 landfill site, 2 households, 1 railway station)	8 (2 schools, 2 households, 2 markets, 1 waste dump, 1 small industry area)	8 (2 households with primary school aged children, 4 Associations: a nursery and community developer, a play club, a capoeira club and a recycling center, 2 schools - public and private)

Table 2. Description of research project data.

The combination of a local and a foreign background researcher proved fruitful as the two would observe and pay attention to different issues, enriching the data and later the analysis, but there are some unanticipated issues worth a mention. While knowledge of the local language is obviously useful in many ways, there were also some local cultural barriers that were harder for the local person to overcome. For instance in India, some of the local informants' were prejudiced towards the Indian researcher who was an unmarried career woman, which in turn was emotionally challenging for the researcher. Interestingly, in all locations it was easier for some informants to express criticisms about their life situation to a foreign researcher than to the native researcher.

Photography and video recording were another important part of data gathering. In general we experienced fewer problems with photographing and filming than anticipated. This was primarily thanks to careful local assistance whereby we were able to explain the purpose of the study to the locals and to get their consent. As to photographing and filming public physical settings, the most difficult country turned out to be Russia. There, non-tourist photography in public places such as in front of grocery stores, in market places, on public transportation, and in streets frequently caused intervention by the local police or informal guards.

Data Analysis with a Focus on Special Features of the BOP Context

The data analysis took place both in the field and after returning to Finland. In multi-sited rapid ethnography, fieldwork is a very intensive period. In addition to taking field notes from observations and interviews, we drafted preliminary data analysis memos to describe interesting and relevant topics. Each memo focused on a specific topic and was updated as information came in. They included facts as well as researchers' thoughts and assumptions, and provided a lead for the identification of some preliminary themes. Although the country research teams had slightly different techniques of data reflection in the field, the two researchers generally spent one to three hours in the evening to review the data generated during that day. At the same time, the next day's interview questions or observation issues were discussed and modified according to need.

During the intensive fieldwork period data accumulates very quickly; this is particularly true of photos. It is therefore essential to carefully plan in advance how to organise interview files and especially photos, which may run into their thousands. The volume of interview transcripts, memos, and other data sets is more manageable (Table 1). We found that the tactic of pre-selecting photographs during the field period, rather than bringing back home all the photos taken, was more conducive to a smooth start-up of analysis. This included deleting blurry shots and duplicates as well as descriptively naming the most significant photographs.

Whereas the early question with regard to the photographs is the selection of the most relevant ones from the perspective of the practices studied, the issue with regard to interviews is transcribing and translating. In our case the interviews were conducted in local languages, often with the help of an interpreter so that the non-native researcher could also participate in the discussion. It turned out that having the interviews simultaneously transcribed and translated into English by a local interpreter was the most workable and cost-effective option. The drawback is that in this process, nuances may be lost. During data analysis it was occasionally necessary for the native language researcher to listen to a part of the interview from the tape in order to track the original expression. However, since the aim was not a discourse analysis proper, we considered this compromise acceptable.

It is warranted to stress the importance of photographs in the analysis of BOP. Photographs tell different things about the realities of low-income people than interviews. It turned out that some categories and codes were more 'photo-prone' and others more 'interview-prone'. Photographs were a good source of information about concrete issues such as infrastructure or packaging practices. Interviews in turn were more important sources on less concrete questions such as household financial management, or aspirations and dreams. No such difference was seen with education and mass communication practices: both interviews and photographs seemed equally important sources of information. In a similar vein, during data analysis we found that some practice areas, such as packaging, lend themselves better to observation and ad hoc interviewing, while primary education called for interactive shadowing and in-depth interviews. The mass communication practice area appeared to lie at the intersection of these two.

Given the vast amount of data collected and the large number of team members engaged in the analysis, the decision was made at the outset to use qualitative data analysis software. We expected that this would help us organise the

data and add reliability to data analysis (Tesch, 1990). We opted for NVivo because this software supports simultaneous photo and text analysis. It is noteworthy that in a multi-sited ethnography involving multiple analysts, individual researchers will not be familiar with all of the data, as each researcher participated in one field trip only. Yet for reasons of comparability and complementarity, which are the key strengths of multi-sited ethnography, it was necessary to use a joint framework of analysis that allows the generation of new insights based on the comparison. This involves constant negotiation between one's own thinking and those of other team members in order to build a joint, sufficiently shared framework. This was a particularly challenging process as it is not at the core of the ethnographic method and thus not supported by the previous literature.

We now depart from the immediate field research and analysis, and move on to the next phase of the research process, which is concerned with identifying opportunity spaces for sustainability innovation, i.e., for products, services or business models that solve selected problems caused by poverty.

Identifying Opportunity Spaces: From Individual Practices to Sustainability Innovation at the BOP

In order to innovate products and services benefiting the BOP, business people need to have knowledge about local needs and life practices (Viswanathan & Rosa, 2010), but methods for developing such knowledge are gravely needed. Relevant data of the (often informal) BOP is extremely scarce (Hammond *et al.*, 2007) and there are no institutions to support traditional market research at the BOP. Ethnographic methods provide one option for gaining deep knowledge of life practices at the BOP (Gau *et al.*, 2012), but for reasons of affordability and time constraints, it is usually impossible for businesses to rely on single-location long-term ethnography. Given these constraints, multi-sited rapid ethnography is a viable option to gaining information about life practices and needs at the BOP in an affordable and time-saving fashion and so to provide a solid foundation for responsible innovation.

Multi-sited rapid ethnography allowed us to produce rich and extensive data in a relatively short amount of time. However, this is only the first step in the innovation process. The second step is the insightful interpretation of these data and stories, leading to the identification of opportunity spaces. Opportunity spaces are what make the data actionable. A final third step is the actual conceptualisation, idea, and strategy work that is necessary to provide sustainability innovation by business. In the spirit of engaged scholarship (Van de Ven, 2007), academic researchers such as ourselves can offer to business these first two steps towards sustainability innovation: multi-sited rapid ethnography and opportunity recognition. The conceptualisation and ideation remains to be done by business firms in collaboration with scholars.

Based on the practices identified in the data we proceeded towards opportunity space recognition together with the forest companies' innovators. To highlight just a few these were: lack of space, RE practices (i.e., repairing, reusing, recycling, refurbishing), overcoming fakes, a 're-Ikea' for the BOP, educational materials, school sanitation, and various ways of giving a voice to the poor. For space considerations, we shall briefly describe a few examples of these opportunity spaces and how they can be linked to specific product or service ideas.

First, lack of space was a severe constraint in all locations. This observation gave start to the identification of a number of practices aimed at *overcoming a lack of space*. For instance, items such as clothes, hygiene products or food were often stored in plastic bags hanging on the walls of small apartments (Figure 1).

Or handicrafts were done or food prepared (chopped and cooked) outdoors on the ground in cramped conditions liable to cause chronic back pain and other ailments (Figure 2). While it is a common assumption in the West that in developing or emerging countries people want to squat or sit on the ground, some of our informants in Tanzania who lived without tables or chairs complained about the pain caused by the cramped conditions in which they had to do their household chores.

For business innovators, these and other *overcoming lack of space* practices point at an opportunity space for innovation, such as affordable shelving and storage furniture and foldable tables for improved ergonomics. What would an 'Ikea for the BOP' look like? Using local sustainable production, this could potentially be a business opportunity.

Overcoming lack of space combined with the finding we termed *RE-practices* (sets of practices relating to repairing, reusing, recycling and refurbishing), gave business innovators further ideas about affordable furniture



Figure 1. At favela home in Belo Horizonte, Brazil. Items such as clothes, hygiene products or food were often stored in plastic bags hanging on the walls of small apartments (Source: Brazil, Mia Halme)



Figure 2. The practice of preparing food outdoors, Dar-es-Salaam, Tanzania (Source: Tanzania, Sara Lindeman)

for BOP markets. In Brazil, India, and Tanzania, most of the recycling and reuse takes place in the informal sector (Figure 3).

Nonetheless it is organised as a business operation that can be more or less profitable. But even if these operations are profitable, a social stigma is attached to waste management, reuse, and recycling – often called rag picking – in all the countries studied. In Russia, even bringing bottles to a collection point carries such a stigma: it is considered an activity only poor elderly people, janitors, or alcoholics would do (Figure 4).



Figure 3. Raddiwallah's family and yard in Kanpur, India. In Brazil, India, and Tanzania, most of the recycling and reuse takes place in the informal sector (Source: India, Arno Kourula)



Figure 4. Informal bottle collection in a street corner in Samara, Russia (Source: Russia: Galina Kallio)

In one of the observation locations (Belo Horizonte, Brazil), homeless waste pickers were organised into a waste-recycling cooperative called Asmare, which collects and sorts recyclable refuse from homes and off the streets (Figure 5). It provides structure to odd jobs of many previously homeless waste pickers and defends their rights. Asmare collects nearly 90% of all recyclable waste in the city, provides recyclable materials to handicraft and furniture workshops, but transports most of the sorted waste to São Paulo, since there are no local facilities for recycling such waste.

From a business perspective, the RE-practice finding shows that there is an abundance of sorted and recycled fibre available, which could be used to make so-called Reboard. Reboard is a strong, recycled fibre-based water- and flame-retardant board of one of the Finnish paper companies. It is currently used for making fair stands for heavy objects like cars. It could be used to manufacture affordable furniture from locally collected recycled fibre. There are various opportunities to develop new building materials. For purposes of setting up inclusive business models, the challenge is how to organise the collaboration with the informal sector.

Secondly, our extensive observations in schools revealed many opportunity spaces for education and learning. For example, the Barefoot College concept has an interesting approach to training the uneducated for instance in simple electrical tasks, thus supporting renewable distributed energy generation at village level. This voluntary educational model could be applied in many BOP contexts. On the one hand, while mobile communication is widely cited as an important driving force in connecting the BOP, newspaper readership is still growing. On the other hand, literacy also remains a key challenge. We found little evidence of products bridging the gap between the illiterate and literate. For instance, *newspapers for the semi-literate* could serve a central role in developing reading and education. This and various other types of media would be an important opportunity to provide *a voice to the poor*. While mobile phone subscriptions are rising at impressive speeds, there is little evidence of hybridisation, i.e., the combined use of print and electronic material. *Hybrid electronic-printed material use* holds great potential in BOP environments where it is unlikely that education will move immediately to handheld devices and where the costs of printing new books can be prohibitive. Another practice identified in Tanzania was *studying together* in voluntary groups.

This involved sub-practices such as sharing books and using school premises outside school hours, without teacher supervision. Underlying these practices we find a lack of books and other study materials as well as a lack



Figure 5. Originally homeless waste pickers were organised into a waste-recycling cooperative called Asmare, which collects and sorts recyclable refuse from homes and off the streets in Belo Horizonte, Brazil

of teachers. From a business perspective, this practice indicates that study materials should be designed to support *shared use*.

Engagement with practice was built into the project in many ways. The central themes and focus areas of the research emerged from a dialogue between the academic researchers and company practitioners, selecting academically relevant topics that could be valuable for business innovation. During all phases of the project, an advisory board consisting of company representatives supported the research and had quarterly meetings with the research team. After the project was completed, a two-day innovation workshop for participating companies was organised, facilitated by a consulting company. The researchers were also invited to participate in innovation company internal post-project innovation rounds.

Framework for Evaluating BOP Rapid Ethnography

To generalise the learning from this project, we offer a framework to evaluate the success of BOP rapid ethnography projects in Figure 6.

The figure shows the central elements of each of the four stages – new project planning, field work, data analysis, and opportunity space recognition – finally moving to market testing and prototyping. The key outcome of each stage is described in the last line. Ultimately, the aims are to plan a relevant, focused, but still adaptive project and produce rich and insightful data leading to strong stories evaluated in an open way, combined to offer actionable outcomes.

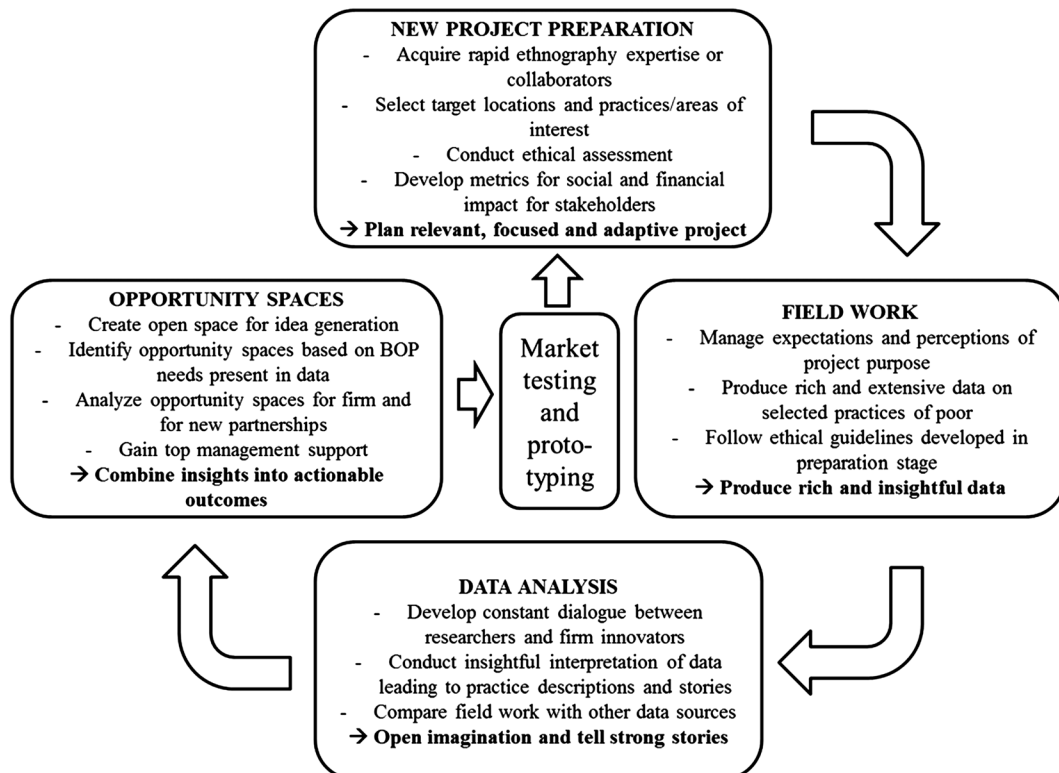


Figure 6. Framework for evaluating BOP rapid ethnography projects

Conclusions

The current BOP literature tends to focus on business model innovation and on strategic approaches and partnerships geared to achieving this aim. While low-income individuals are seen as potential consumers, producers and, in some cases, innovators, only few studies focus on ways of including the poor in innovation. In this study, we have focused on the early stages of opportunity recognition that can ultimately lead to innovation of products or services to alleviate problems caused by poverty. We examined the challenges of multi-sited rapid ethnography during the stages of preparation, data gathering, analysis, and identification of opportunity spaces, and suggested possible ways in which to overcome these challenges.

Our contribution to sustainability management and the CSR literature is in exemplifying the translation of user needs to business innovation by describing all stages of the research process, and in adopting a multi-sited approach to sustainability innovation across different BOP contexts. On the one hand our study serves as an account of challenges faced when conducting rapid multi-sited ethnographic research at the BOP and on the other hand it suggests ways in which to use the findings of this type of research for the purpose of identifying business opportunities and ideas for sustainability innovation. Multi-sited rapid ethnography is a method that can provide important knowledge about practices at the BOP for the early phase of sustainability innovating in businesses. While not as thorough and detailed as traditional anthropological research, this middle-ground application of ethnography that involves multi-country studies by multi-member teams, can offer useful support and insights to businesses that want to learn about low-income households' practices for purposes of early phases of innovation. This is an alternative to business offering stripped-down versions of their existing products, and involving low-income users in fine-tuning or testing at late stages of the existing product's modification process. Such late-user involvement severely hampers the potential for co-creating the innovation – a virtue so often advocated in the inclusive business and BOP literature.

This paper systematically documents the empirical research process among BOP people in four urban locations. Our description of the research process is divided into phases, starting from preparation, moving on through field entry and data collection to analysis, and finally to the recognition of business opportunity spaces. In each of these phases, we depict our main actions, the main challenges, and their proposed solutions. Some of these challenges included team and trip preparation, gaining access to urban slum contexts, doing ethnography while under the focus of attention, negotiating an understanding with interpreters and field assistants, constantly changing plans, coping with the emotional stress from witnessing human suffering, and ultimately attempting to link the research findings to possible business opportunities. As this is one of the first attempts to develop multi-sited ethnography at the BOP, we acknowledge that further research is needed to fine-tune the method in a number of respects. We hope that this paper encourages and inspires researchers in business disciplines and other social sciences to study BOP individuals and communities more closely, and to pursue such refinements.

The study has important implications for the management of organisations in BOP environments. While CSR and BOP research acknowledges that innovative products and services need to be rooted in a deep contextual understanding, we suggest that an important way to achieve this understanding of poverty and the informal sector is through the observation of the practices of low-income individuals. Without such an approach it is difficult for actors within BOP ecosystems (including multinational enterprises, SMEs, social entrepreneurs, non-profit organisations, social movements, and public sector organisations) to move away from an organisation or product-centric view. A more responsible avenue to innovation is to move from individual practices and needs towards new business models, products and services and back to evaluating whether these approaches do indeed meet local needs and alleviate poverty. Companies interested in operating within BOP environments, whether local firms, larger multinationals or small and medium sized enterprises (Rodgers, 2010), should conduct the type of research presented in this study in order to link real-life practices with the identification of opportunity spaces for business. In the general framework of Figure 6 we offer a checklist of key elements to consider at each stage of the project. After the completion of the research and the opportunity space recognition, another process begins within firms: market testing and prototyping. In this way, multi-sited rapid ethnography feeds into the innovation processes of firms. In order to understand the BOP – be it individuals, communities, or (often micro) enterprises – researchers also need to develop new empirical research skills. Through the description of our research project and the general framework we develop, we show how to link rich and extensive data to actionable ideas and business opportunities through interaction with practice.

Acknowledgements

Minna Halme and Arno Kourula share the first authorship. We would like to thank the following organizations and persons for making this research project possible: FIBIC and Tekes for funding; Vectia; the Finnish Forest Cluster companies; Niilo Hakkarainen and Risto Kallio from Stora Enso; Niti Bhan, Tapio Peltonen, Mia Halme, Nadia Kulikova, Centre for Community Initiatives personnel and local assistants for their invaluable help in field research.

References

- Agar M. 1996. *The Professional Stranger*. Academic Press: London.
- Arnold DG, Valentin A. 2013. Corporate social responsibility at the base of the pyramid. *Journal of Business Research* **66**: 1904–1914.
- Arnould E, Price L. 2006. Market-oriented ethnography revisited. *Journal of Advertising Research* **46**(3): 251–262.
- Atkinson P, Hammersley M. 2007. *Ethnography: Principles in Practice*. Routledge: New York, NY.
- Banerjee A, Duflo E. 2007. The economic lives of the poor. *Journal of Economic Perspectives* **21**: 141–167.
- Beebe J. 2001. *Rapid Assessment Process*. Altamira Press: Walnut Creek, CA.
- Blomberg J, Giacomi J, Mosher A, Swenton-Wall P. 1993. Ethnographic field methods and their relation to design. In *Participatory Design: Principles and Practices*, Schuler D, Namioka A, (Eds). Lawrence Erlbaum Associates Publishers: NJ; 123–155.
- Buford May R, Pattillo-McCoy M. 2000. Do you see what I see? Examining a collaborative ethnography. *Qualitative Inquiry* **6**: 65–87.
- Byron E. 2010. Gillette's latest innovation in razors: The 11-cent blade. *Wall Street Journal*, Oct 1. <http://online.wsj.com/news/articles/SB10001424052748704789404575524273890970954> [19 November 2013].
- Corbett S. 2008. Can Cellphone Help End Global Poverty? *New York Times*, April 13. http://www.nytimes.com/2008/04/13/magazine/13anthropology-t.html?em&ex=1208059200&en=a3f185a62fe41fb5&ei=5087%0A&_r=0 [19 November 2013].
- Corradi G, Gherardi S, Verzelloni L. 2010. Through the practice lens: Where is the bandwagon of practice-based studies heading? *Management Learning* **41**: 265–283.
- Dewalt K, Dewalt B. 2002. *Participant Observation*. Altamira Press: Walnut Creek, CA.
- Dobers P, Halme M. 2009. Editorial: Corporate social responsibility and developing countries. *Corporate Social Responsibility and Environmental Management* **16**: 237–249.
- Easterly W. 2006. *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good*. Penguin Press: New York, NY.
- Elliott R, Jankel-Elliott N. 2003. Using ethnography in strategic consumer research. *Qualitative Market Research: An International Journal* **6**(4): 215–223.
- Falzon M. 2009. *Multi-Sited Ethnography: Theory, Praxis and Locality in Contemporary Research*. Ashgate Publishing: Farnham.
- García-Rodríguez FJ, García-Rodríguez JL, Castilla-Gutiérrez C, Major SA. 2013. Corporate social responsibility of oil companies in developing countries: from altruism to business strategy. *Corporate Social Responsibility and Environmental Management* **20**(6): 371–384.
- Gau R, Jae H, Viswanathan M. 2012. Studying low-literate consumers through experimental methods: Implications for subsistence marketplaces. *Journal of Business Research* **65**: 535–537.
- Hahn R, Gold S. 2013. Resources and governance in 'base of the pyramid' partnerships: assessing collaborations between businesses and non-business actors. *Journal of Business Research (in press)*. DOI:10.1016/j.jbusres.2013.09.002.
- Halme M, Laurila J. 2009. Philanthropy, Integration or innovation? Exploring the financial and societal outcomes of different types of corporate responsibility. *Journal of Business Ethics* **84**: 325–339.
- Hammond A, Kramer B, Katz R, Tran J, Walker C. 2007. *The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid*. World Resources Institute and International Finance Corporation: Washington D.C.
- Handwerker W. 2001. *Quick Ethnography: A Guide to Rapid Multi-Method Research*. Almira Press: Lanham, MD.
- Hart S. 2005. *Capitalism at the Crossroads: The Unlimited Business Opportunities in Serving the World's Most Difficult Problems*. Wharton School Publishing: Upper Saddle River, NJ.
- Ite UE. 2004. Multinationals and corporate social responsibility in developing countries: a case study of Nigeria. *Corporate Social Responsibility and Environmental Management* **11**: 1–11.
- Kao T-Y, Chen JCH, Wu J-TB, Yang M-H. 2014. Poverty reduction through empowerment for sustainable development: A proactive strategy of corporate social responsibility. *Corporate Social Responsibility and Environmental Management (in press)*. DOI:10.1002/csr.1365.
- Kolk A, Lenfant F. 2012. Multinationals, CSR and partnerships in Central African conflict countries. *Corporate Social Responsibility and Environmental Management* **20**(1): 43–54.
- Kolk A, Rivera-Santos M, Rufin C. 2014. Reviewing a decade of research on the "Base/Bottom of the Pyramid" (BOP) concept. *Business & Society* **53**(3): 338–377.
- Krämer A, Belz F. 2008. Consumer integration into innovation processes: a new approach for creating and enhancing innovations for the Base of the Pyramid? In Kandachar P, Halme M (eds.), *Sustainability Challenges and Solutions at the Base of the Pyramid: Business, Technology and the Poor*. Greenleaf: London; 214–241.
- Kusenbach M. 2003. Street ethnography: The go-along as ethnographic research tool. *Ethnography* **4**: 455–485.
- London T, Hart S. 2010. *Next Generation Business Strategies for the Base of the Pyramid: New Approaches for Building Mutual Value*. Upper Saddle River, NJ: Pearson Education.

- Mahmood M, Humphrey J. 2013. Stakeholder expectation of corporate social responsibility practices: a study on local and multinational corporations in Kazakhstan. *Corporate Social Responsibility and Environmental Management* 20: 168–181.
- Mariampolski H. 2006. *Ethnography for Marketers: A Guide to Consumer Immersion*. Sage Publications: Thousand Oaks, CA.
- Minowa Y, Visconti L, MacLaran P. 2012. Researchers' Introspection for Multi-Sited Ethnographers: A Xenoheteroglossic Autoethnography. *Journal of Business Research* 65: 483–489.
- Millen DR. 2000. Rapid Ethnography: Time Deepening Strategies for HCI Field Research. In: *Proceedings of the Conference on Designing Interactive Systems*, 280–286. New York City.
- Moyo D. 2009. *Dead Aid: Why Aid Is Not Working and How There Is Another Way for Africa*. Allen Lane: London.
- Narayan D, Patel R, Schafft K, Rademacher A, Koch-Schulte S. 2000. *Voices of the Poor: Can Anyone Hear Us?* Oxford University Press/World Bank: Oxford, UK.
- Narayan D, Chambers R, Shah M, Petesh P. 2001. *Voices of the Poor: Crying Out for Change*. Oxford University Press/World Bank: Oxford, UK.
- Prahalad C. 2005. *Fortune at the Bottom of the Pyramid: Eradicating Poverty through Profits*. Wharton School Publishing: Upper Saddle River, NJ.
- Rodgers C. 2010. Sustainable entrepreneurship in SMEs: A case study analysis. *Corporate Social Responsibility and Environmental Management* 17(3): 125–132.
- Salvador T, Bell G, Anderson K. 1999. Design ethnography. *Design Management Journal* 10(4): 35–41.
- Sandhu J, Altankhuyag P, Amarsaikhan D. 2007. Serial Hanging Out: Rapid Ethnographic Needs Assessment in Rural Settings. In *Human-Computer Interaction, Part I*, HCI 2007, LNCS 4550, Jacko, J. (Ed.). Springer: Berlin: 614–623.
- Sen A. 1999. *Development as Freedom*. Oxford University Press: Oxford, UK.
- Sharmin S, Khan NA, Belal AR. 2014. Corporate community involvement in Bangladesh: An empirical study. *Corporate Social Responsibility and Environmental Management* 21: 41–51. DOI:10.1002/csr.1304.
- Singh R, Bakshi M, Mishra P. 2014. Corporate social responsibility: Linking bottom of the pyramid to market development? *Journal of Business Ethics (in press)*. DOI:10.1007/s10551-014-2283-8.
- Sunderland P, Denny R. 2007. *Doing Anthropology in Consumer Research*. Left Coast Press: Walnut Creek, CA.
- Tesch R. 1990. *Qualitative Research: Analysis Types and Software Tools*. The Falmer Press: Basingstoke, UK.
- United Nations Development Programme UNDP. 2008. Creating Value for All: Strategies for Doing Business with the Poor. New York. www.undp.org/gimlaunch/docs/GIM%20Report%20Final%20August%202008.pdf [20 December 2009]
- United Nations Department of Economic and Social Affairs (UN-DESA). 2011. Urban Population, Development and the Environment 2011. http://www.un.org/en/development/desa/population/publications/pdf/urbanization/urban_wallchart_2011-web-smaller.pdf [19 November 2013]
- Van de Ven A. 2007. *Engaged Scholarship: A Guide for Organizational and Social Research*. Oxford University Press: NY.
- Weidner K, Rosa J, Viswanathan M. 2010. Marketing to subsistence consumers: lessons from practice. *Journal of Business Research* 63: 559–569.
- Welford R. 2002. Editorial: Globalization, Corporate Social Responsibility and Human Rights. *Corporate Social Responsibility and Environmental Management* 9: 1–7.
- Viswanathan M, Rosa J. 2010. Understanding subsistence marketplaces: toward sustainable consumption and commerce for a better world. *Journal of Business Research* 63: 535–537.