

Tilburg University

Regulating the negative externalities of enterprise cluster innovations

Voeten, J.; Naudé, Wim

Published in:
Innovation and Development

DOI:
[10.1080/2157930X.2014.921356](https://doi.org/10.1080/2157930X.2014.921356)

Publication date:
2014

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Voeten, J., & Naudé, W. (2014). Regulating the negative externalities of enterprise cluster innovations: Lessons from Vietnam . *Innovation and Development*, 4(2), 203-219. <https://doi.org/10.1080/2157930X.2014.921356>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

This article was downloaded by: [84.87.56.25]

On: 02 July 2014, At: 00:02

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Innovation and Development

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/riad20>

Regulating the negative externalities of enterprise cluster innovations: lessons from Vietnam

J.J. Voeten^a & W.A. Naudé^b

^a Tilburg School of Economics and Management, Tilburg University, Tilburg, The Netherlands

^b Maastricht School of Management, UNU-MERIT, and University of Maastricht, Maastricht, The Netherlands

Published online: 27 Jun 2014.

To cite this article: J.J. Voeten & W.A. Naudé (2014): Regulating the negative externalities of enterprise cluster innovations: lessons from Vietnam, *Innovation and Development*, DOI: [10.1080/2157930X.2014.921356](https://doi.org/10.1080/2157930X.2014.921356)

To link to this article: <http://dx.doi.org/10.1080/2157930X.2014.921356>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Regulating the negative externalities of enterprise cluster innovations: lessons from Vietnam

J.J. Voeten^{a*} and W.A. Naude^b

^a*Tilburg School of Economics and Management, Tilburg University, Tilburg, The Netherlands;*

^b*Maastricht School of Management, UNU-MERIT, and University of Maastricht, Maastricht, The Netherlands*

Innovation has been acknowledged as contributing to development, in particularly inclusive innovations that involve and benefit poorer groups in developing countries. However, such innovations may have negative externalities. Most often external regulation is required to reduce these effects. However, it is often not enough, and in many developing countries the required institutional context is not present to enable external regulation. Hence, a case may be made for internal regulation of inclusive innovation. Helping to fill the gap in our knowledge on internal regulation of innovation externalities in developing countries, we explore four cases of innovation in informally organized small producers' clusters Vietnam. From this we propose a model of internal regulation as a societal process.

Keywords: inclusive innovation; clusters; Vietnam; small and micro-enterprise; internal regulation; societal process

1. Introduction

Innovation can be broadly defined as the process of introducing new processes, new products and new business concepts that create value (Nelson and Winter 1977; Kline and Rosenberg 1986) and as the 'putting into practice of inventions' (Fagerberg, Mowery, and Nelson 2005). Widely used measures of innovation such as R&D expenditure and patent filings suggest that innovation is concentrated in advanced economies (Szirmai 2008). However, taking an understanding of innovation in a broader sense – including as the (incremental) introduction of new processes, existing products in different markets and/or changes in business practices – innovation may be seen to be widely prevalent in developing countries (Wolf 2007; Gellynck, Kühne, and Weaver 2011; Szirmai, Naudé, and Goedhuys 2011). Indeed, a small but growing literature has been concerned to describe the nature and extent of innovation and growth in developing countries, in particularly innovations that involve and benefit poorer groups. Various typologies have been introduced – frugal innovation, jugaad innovation and Base of the Pyramid (BOP) innovation – including 'inclusive innovation'; the particular focus here (Utz and Dahlman 2007; Zeschky, Widenmayer and Oliver 2011; George, McGahan and Prabhu 2012; Radjou, Prabhu and Ahuja 2012).

Despite this rising interest in innovation in developing countries, it is still the case that innovation is overwhelmingly seen as having only positive impacts on growth and development. The fact is, however, that innovation does not always or automatically result in unambiguous

*Corresponding author. Email: j.voeten@tilburguniversity.edu

development. Cozzens and Kaplinsky (2009) state that growth does not necessarily reduce poverty and ‘about half the time inequality decreases with growth and half the time it increases with growth’. Moreover, innovation may also be marked by negative externalities. These include direct and indirect costs, including environmental and societal, that result from innovation and that affect otherwise uninvolved actors and stakeholders. This means that, a priori, poor people may not necessarily always participate in or benefit from innovation, even supposedly inclusive innovation. As Soete (2012, 7) posed it, ‘Could it be that innovation is not always good for you?’

One way of addressing negative externalities that may be associated with innovation is by institutionalizing policy and regulatory frameworks. Soete (2012), for instance, argues for better public sector surveillance and regulation. Such ‘external’ regulation, important though it is, is not the only possible approach, particularly in developing countries where the formal institutional context is often weak. Furthermore, external regulation of innovation is subject to the problem of asymmetric and imperfect information; by definition innovation results in novelty, and the longer term impacts of these novelties may not always be known to external regulators. Innovative entrepreneurs may be able to avoid detection, taxation, or effective regulation, even in advanced economies with established institutions, as the global financial crisis of 2008 made painfully clear. In developing countries, the often weaker formal institutional structures may further hamper a prompt assessment of harmful outcomes and the establishment of external regulation mechanisms. In most fragile states, government ‘capture’ by innovative entrepreneurs and other business interest groups is the norm.

The shortcomings of external regulation of innovation in developing countries suggest that ‘internal’ forms of regulation may be more necessary than the literature had until now recognized. By ‘internal’ regulation, we mean mechanisms through which an entity (e.g. firm) exercises control over itself (Palzer and Scheuer 2003). In the case of innovation, for instance, to monitor economic, social and environmental innovation consequences and responses of customers, employees, shareholders and stakeholders (Hart 2009). An example of this is the recent move of large corporations to adopt voluntary internal and industry-level regulation mechanisms, such as corporate social responsibility (CSR) programmes or sets of global ethical standards (e.g. the UN Global Compact or the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises).

In contrast, most of the inclusive innovation by smaller, informal entrepreneurs in developing countries – which mostly goes unnoticed by the scholarly community – may or may not be subjected to internal regulation, as very little is known about this at present. The result is that there is only a limited understanding of the broad spectrum of innovation outside of the large multinational and state-owned firms, and a lacuna in terms of the internal regulation mechanisms to limit or avoid negative spillovers from these other forms of innovation. Yet, these ‘other forms’ – particularly inclusive innovation by small and micro-enterprises based on lower income communities – are increasingly recognized as central to socio-economic development (Utz and Dahlman 2007; Soman, Stein, and Wong 2014).

The contribution of this paper is to argue that these internal regulation mechanisms may also be important in developing countries to limit the negative impacts of innovation by smaller indigenous firms. We do this by presenting case studies from informally organized clusters of small producers in Vietnam, explored in earlier research on responsible innovation (Voeten et al. 2012). The cases contain various critical elements of inclusivity in terms of poverty alleviation (Alkire 2007; London 2007; World Bank 2008), accessibility to and empowerment of the poor (Sen 1999) and acknowledging responsibility for negative innovation externalities (Elkington 1999; Hart 2007). Vietnam is an interesting context for this study, being a notable example of a fast-growing economy as a result of economic reforms and increasing integration into the global economy while at the same time suffering considerable environmental degradation as well as

persistent poverty. The rest of the paper will proceed as follows. In Section 2, we provide the theoretical context, and in Section 3 we set out our methodology. The various cases we discuss are presented and analysed in Section 4. We conclude with discussing implications for promoting inclusive innovation for development.

2. Theoretical context

2.1. Innovation in developing countries

The growing interest in innovation in developing countries stems from the idea that basic improvements in innovation and technology infrastructure can contribute to improvements in welfare, education, and productivity in economic sectors (Aubert 2005). However, the institutional environment is characterized by the presence of high transaction costs and by weak institutions (Collier 1998). These affect the functioning of the market and the transmission of signals – e.g. demand for certain goods – to the innovators. As a consequence of the overall problematic environment, innovation systems in developing countries are poorly constructed. Given their relatively lower innovative capacities, developing countries are generally dependent on industrialized countries for the provision of new technology and knowledge (Léger and Swaminathan 2007).

These positions resulted in ‘stylized facts’ of innovation in developing countries: (i) productivity and economic growth are largely resource- and factor-driven, and not innovation-driven; (ii) innovation tends to be of the ‘new to the firm’ rather than the ‘new to the world’ variety, i.e. imitative in nature; (iii) innovation tends to be incremental rather than radical or disruptive and (iv) national innovation systems, a prerequisite for high and sustained innovation-driven growth, are largely lacking in developing countries (Szirmai, Naudé, and Goedhuys 2011).

These ‘stylized facts’ have recently come under scrutiny. There may be more ‘innovation’ in developing countries than that is captured in traditional measures such as R&D. A newly emerging consensus recognizes that while innovation is important at all stages of a country’s economic development, different innovation manifestations may play different roles at various stages. In earlier stages in developing countries, incremental innovation is often associated with the adoption of foreign technology, imitative innovation and introduction of new combinations; it does not involve technological breakthroughs (OECD 2012). Mobile telephony in Africa is a frequently used example. In fact, a number of studies have found evidence for the contribution of innovation at the firm level to foster greater productivity and efficiency in developing countries. For instance, Van Dijk and Sandee (2002) describe patterns of innovation adoption and diffusion in the Kenyan food processing sector, furniture making in Nicaragua and tile manufacturing in Indonesia. They find that these innovation efforts resulted in improved entrepreneurial performance. Gebreeyesus (2011) discusses innovation and micro-enterprise growth in Ethiopia. And a growing body of research documents the innovativeness of small and medium-sized firms in the developing countries’ information and communications technology (ICT) and other hi-tech sectors (Dutz 2007).

Unpacking these studies shows that ‘early stage’ innovation takes place in developing countries but often materializes in a different – less visible – way. Moreover, the innovation process often does not manifest solely at the firm level but materializes in networks or clusters of enterprises, which have been acknowledged for their collective efficiency (Schmitz, 1999) and dynamism and links to wider global markets (Caniëls and Romijn, 2007; Szirmai, Naudé and Goedhuys 2011). The notion of innovation occurring within a larger constellation of actors is familiar in the more developed economies; being referred to as innovation systems (Lundvall 1992), learning networks (Watts and Strogatz 1998) and learning regions (Rutten and Boekema 2007). But the particular interest here is the poor, informal context in developing countries and the

innovations occurring within clusters of small and micro-enterprises. Given the lack of attention to such cluster-based innovation within lower income communities, we can see this as a model of inclusive innovation that requires greater emphasis and exposure; with the specific focus of this paper, as discussed next, being the impact of this form of innovation.

2.2. *Innovation as two-edged sword*

Richard Feynman once quoted a Buddhist proverb stating that ‘to every man is given the key to the gates of heaven; the same key opens the gates of hell’. Innovation and entrepreneurship have the same two-sided nature. Nuclear energy, the automobile, guns and modern medicine are all cases in point. As a result, authors have pointed to the fact that innovation can have negative, undesirable consequences for the economic development process (Soete 2012). Hence, and also in developing countries, one has to acknowledge the possible harmful societal consequences of innovation, which may conflict with broader development goals.

Negative externalities of innovation related to development have not been addressed much in the literature. However, there is a small but growing body of scholarly work that encompasses such externalities in economic, social and environmental spheres (Ferreira and Ravallion 2009; World Bank 2012). Examples include unfavourable or even dangerous working conditions (e.g. in recycling of heavy metals used in ICT), jobless growth (e.g. through automation of services) and environmental damage through pollution or degradation of ecosystems (e.g. over-fishing due to the use of more efficient nets).

In addition to the negative spillover effects of innovations, Baumol (1990) pointed to the impact of ‘destructive’ entrepreneurship. His point is that when entrepreneurs innovate, it is to improve their ‘own status and wealth’. This can, however, come at a cost to the rest of society (Soete 2012; Desai, Acs and Weitzel 2013; Sanders and Weitzel 2013).

Where communal/institutional mechanisms to regulate entrepreneurship and its related innovations are lacking, these types of negative externality of innovation are costs borne by society or by others, not by the entrepreneurs. There is, therefore, the danger of a ‘dark side’ to inclusive innovation – not merely that poor people in developing countries may fail to benefit from the innovations being undertaken in their context; but that they may suffer the costs of such innovations through environmental degradation, social inequalities and economic stagnation. One implication is that innovation impacts must be understood through a lens that sees not just income but also a broader, multi-dimensional understanding of development encompassing capabilities, equality and sustainability (Sen 1999; Elkington 1999; Hart 2007; Gries and Naudé 2011). The second implication is that innovation must be understood not just as a process to be set free but also as a process that needs some regulation; a topic to which we now turn.

2.3. *Regulation*

A common economic perspective in dealing with negative externalities is to argue for control and regulation (policy). As a result, environmental and social policies and regulations have been developed and implemented, but with varying degrees of success. As noted in Section 1, this external form of regulation suffers from problems of asymmetric information; it is also becoming increasingly costly (Levi-Faur 2005) while simultaneously the power of the nation-state to regulate is facing erosion in a globalizing world (Cioffi 2000). These challenges are often multiplied in developing country settings given the weaker foundation of formal institutions.

As also noted in Section 1, the alternative to external regulation is internal regulation by enterprises and innovators themselves. There is already a sizeable set of both activity and literature on this in the context of the global North, where internal regulation has seen the development of notions

such as CSR (Bowden 1953; Frederick 1960), the stakeholder approach (Freeman 1984), and sustainable business and the ‘people–planet–profit’ triple bottom line (Elkington 1999; Hart 2007). While there may be concerns about the motivations behind such initiatives, this type of internal regulation is seen as a complement to – and perhaps even a substitute for – external, government regulation, which faces the challenges just identified (Parker 2002; Palzer and Scheuer 2003).

These trends in internal regulation have so far largely been studied in the cases of multinational firms and large indigenous or state-owned firms in developing and emerging economies. There is a gap in the literature on the internal regulation of innovative entrepreneurs in micro, small and medium, informal and family-owned firms in developing countries. We know next to nothing about the forms such internal regulation may take, nor about the extent to which the possible negative impacts of their innovative activities may be circumvented or reduced. In the remainder of the paper, we seek to help fill this lacuna, by discussing and analysing a number of case studies from Vietnam, focusing specifically on internal regulation of innovative enterprise clusters.

3. Method and background

3.1. Method

We analysed inclusive innovation along with its societal impacts in four craft villages¹ in the Red River Delta in northern Vietnam. These were chosen for three main reasons. First, because they reflect the model of cluster-level innovation noted above, rather than just firm-level innovation; with cluster-based innovation being a notable manifestation of innovation in the Vietnamese context (as concluded in earlier research: Voeten, de Haan and de Groot 2011). Second, because they reflect the notion of inclusivity. The village enterprises are generally informal sector; that sector being where 60% of those on lower incomes find employment. Although the impact of each individual household micro-enterprise is small, as a cluster they are much more significant; being equivalent in production size and employment creation to a large enterprise. Vietnamese enterprise clusters provided direct employment to an average of 2000 people per village and many more indirectly. (Of course they were also comparable to large enterprises in terms of their negative externalities, as discussed later.)

The third reason for selection was that these craft villages were exemplars of a wider phenomenon. In the Red River Delta alone, there are 300 such villages (Nguyen, Tran, and Le 2003). The selected four were found to be similar to the broader population in terms of size, structure, geographical location, type of enterprise and innovation, and their institutional, economic and political context. In total, it is estimated that there are 1500 such villages in the whole of Vietnam (Konstadakopoulos 2005).

The four particular villages were selected in order to provide a variety of different innovation externalities, and community perceptions and responses to those externalities. Over a period of three years, we carried out a series of 7 to 10 data collection visits per village². We interviewed (open interviews) some 20 to 30 households per village to discuss innovations and the negative innovation externalities leading to societal conflicts, and conducted 20 further interviews of village administration officers, clients, tourists and transportation sector workers. We analysed the data and identified patterns and impacts of innovation through an iterative process involving theoretical analysis and comparison. This *grounded theory* approach (Glaser and Strauss 1967) enabled us to inductively develop an understanding of the nature of innovation and the emerging innovation externalities. Moreover, conducting a series of visits over time made it possible to observe the changes and social dynamics in the villages in terms of emerging harmful consequences, how the various actors perceived these and responded, how conflicts emerged and whether eventually regulation of the harmful outcomes was taking place.

3.2. *Vietnam*

Over the past two decades, Vietnam has become an emerging economy in Southeast Asia after many troubled years, including a war with the USA, and hardships during a socialist post-reunification era. In 1986, Vietnam initiated an economic reform campaign (*Doi Moi*), setting in motion a transition process that would shift the economy from its socialist orientation towards a free and more open market economy, integrating into the global economy. Since *Doi Moi*, the Vietnamese economy has experienced considerable growth. In 1986, Vietnam was listed among the poorest countries in the world with a per capita gross domestic product (GDP) of US\$203. GDP growth averaged 7.8% per annum over the period from 1995 to 2008 and has quadrupled since the reforms (IMF 2008).

Rapid growth brought about new societal challenges. Wages for low-skilled jobs are minimal and unemployment is high. Economic growth has benefitted urban more than rural households, resulting in a growing income disparity (Cling, Razafindrakoto, and Roubaus 2011). Other challenges include environmental degradation, lack of diversification in production and exports, and a declining contribution of productivity growth to economic growth and poverty reduction (World Bank 2012). Pollution is a significant problem; some of the rivers and lakes in urban areas are little more than open sewers, and levels of heavy metal and other industrial pollutants are well above safe levels in some areas.

Large multinational firms, domestic large firms and state-owned firms as well as households are important causes of these negative environmental effects (World Bank 2012). Inevitably however, small and micro-firms are also responsible for the simple fact that they play a significant role in Vietnam's economy in terms of number of businesses, employment creation and contribution to GDP. In 2007, the informal sector accounted for almost 11 million jobs out of a total of 46 million, with, as noted above, those jobs being disproportionately directed at those on lowest incomes (Cling, Razafindrakoto, and Roubaus 2011). Informality constitutes a growing feature of many developing countries, and notwithstanding its heterogeneity, the informal sector is generally associated with low profits and productivity, limited credit access, the absence of official employment contracts and limited or no social security for workers (Rand and Torm 2012). However, the informal sector should not be associated with stasis. Many informal enterprises have been going through an innovation trajectory in a process of product and service upgrading. This is most evident in the case of micro- and household-based crafts businesses in the country.

In the course of the agricultural collectivization in the 1950s, private sector activities were restricted and craft villages were converted into cooperatives. With the introduction of the economic reform policy in 1986, the people in the craft villages faced the challenge of re-organizing their networks and, where appropriate, adjusting their production to modern market demands. New markets were made accessible and some craft villages changed their production – in other words, they have been increasingly innovative to adjust to the new global economic challenges facing the country. We now turn to an analysis of these craft villages to study the link between the impact of their innovation and internal regulation mechanisms.

4. Case studies

4.1. *Van Phuc silk village*

Van Phuc is a semi-urban craft village 12 km south-west of Hanoi specialized in silk weaving. The silk industry village was collectivized in the socialist command economy and silk products were sold to state-owned intermediaries. After the introduction of the free market economy in the 1990s, silk weaving households innovated by adopting new marketing routines, as well as by

opening retail shops in the village's main street; a functional innovation assuming responsibility for the marketing function in the value chain. This resulted in an increase in demand for silk weaving, and stimulated further home-based silk production – boosted by an increase in tourism to the village. Overall silk production in Van Phuc has tripled and sales in small shops account for 40% of overall sales.

By and large the village benefitted from the advantage of the new marketing practices. The silk weavers and silk dye workshops in the village enjoy higher and more stable incomes than before, albeit not to the same extent as the shop owners. Competition is increasing and the shops have to compete more on price and/or produce a differentiated product. The former implies the need for higher production volumes per business and also pressure not to keep costs to a minimum. The latter implies a need to produce designs that meet current fashions.

Although the silk shops do not affect the environment directly, increased silk production in Van Phuc has caused serious environmental problems, particularly water pollution. The weaving workshops and shop owners outsource the dyeing to several specialized workshops in the village. The latter use more toxic chemicals for the dyeing process to obtain fashionably bright colours. The wastewater from this process is discharged directly into the sewage system and river without any treatment. According to many villagers, this results in severe pollution, black river water and increased, and new, health problems.

The villagers began to see the result of the increased use of chemicals to create fashionable colours: severe water pollution and skin diseases. However, there were different internal understandings of whether this was caused by increased silk production or not. There are many polluting new factories around the villages. There is a growing mood in the village that the pollution is a problem that violates people's right to live in a safe environment. However, the general attitude among the small producers and shop owners is that the problem is an acceptable trade-off for increased economic prosperity. The dye workshop owners do not want to take any action to change their practices or increase their costs. The small producers assume that pollution in Van Phuc can only be addressed by the government and that it is the government's responsibility to do something about it.

4.2. *Duong Lieu cassava products village*

In the cassava-noodle-producing craft village Duong Lieu, groups of households traditionally processed cassava tubers into starch as an intermediate product, and sold it to other groups of households producing noodles within the village. Recently, several households introduced a product innovation in the form of new end products made from starch: children's candy, medicine pills and soft drinks. The candy production in particular has been quite a successful innovation. Candy production involves much lighter and quieter work, in contrast to the harder and dirtier tasks associated with starch and noodle production.

Candy production adds more value to the processing of cassava starch than noodle production. The sweets are sold at a 'good' price to agents in Hanoi who distribute them to new profitable markets within Vietnam, such as shops, mini-markets and super markets. They compete with imported sweets and provide the households with higher overall sales revenues than from noodles.

There is also an emerging pollution problem in the village. New end products have increased the demand for starch, resulting in more organic waste being discharged into the open sewage system. Several government research centres and non-governmental organizations have carried out environmental studies in Duong Lieu, which indicate a worrying pollution of soil and surface water associated with newly emerged health problems in the village, such as eye diseases and pneumonia. It is clear to all villagers that the solid organic waste pollution is a negative

innovation externality that comes from the increased cassava starch production. However, the many small producers ignore these reports and they do not want to discuss the negative consequences with outsiders, including journalists and researchers. Nobody complains because they see the trade-off that this inconvenience is compensated by the economic outcomes of the innovation.

4.3. *Phu Vinh rattan and bamboo village*

For decades, the craft village Phu Vinh has produced traditional bamboo and rattan articles, including baskets, bins, plates and boxes for the domestic market. Some 10 years ago, villagers who had migrated to study in Hanoi and were looking for new income, established export companies around the village and successfully initiated exports to the USA and Europe.

The export companies outsource the orders to middlemen in the village who subsequently engage small producers for the actual production. The small producers do the weaving and deliver the semi-finished rattan and bamboo products to the middlemen and export companies who then do the final colouring and varnishing, as the last step before shipment overseas. This marketing innovation implies a significant shift to producing higher quality and more expensive rattan and bamboo products with a large increase in value created.

For the export companies and middlemen it is very profitable business. However, the innovation has worked to the disadvantage of the small household enterprises. They get a lower unit price, have to work harder and more family members are now involved in the production work – including children who work after school and old people – and they still earn less than before. This negative innovation externality is driving the small producers into poverty, they say, and making them feel marginalized.

The export companies take a hard-line business attitude and do not see that they have a role to play or a responsibility to modify unit prices to reduce poverty. They see poverty alleviation as the role of the government. The small-scale producers have a different view and blame the export companies for offering such low prices, arguing that they could share more of their profits. The bargaining power of the export companies is very strong indeed. The household rattan producers have no other options but to do business with the export companies. The village administration recognizes and sympathizes with the problems of poverty faced by the small-scale producers, yet feels unable to interfere with the economic process and the free market price-setting mechanism. There are more and more disputes and frictions between the export companies and the household producers.

4.4. *Bat Trang ceramics village*

Bat Trang is a ceramics and pottery craft village. In the old days, small producers in the cluster baked ceramic products in traditional pottery kilns, fired with wood and charcoal. The smoke emissions from the traditional charcoal kilns produced a lot of air pollution, causing many cases of respiratory diseases. Dirty storage areas for charcoal polluted the streets. At that time, reports identified Bat Trang as one of the more polluted craft villages in the Red River Delta. Some 10 years ago, a collective concern for a clean environment surfaced. Small producers innovated by introducing new kiln technology based on firing with liquefied petroleum gas (LPG).

Better control of baking temperatures combined with more intense heat resulted in the production of thinner and smoother ceramics with fewer defects. The new technology also allowed a broad variety of contemporary and popular types, shapes, colours and designs of ceramics to be produced. The new technology enables higher production volumes, higher quality

ceramics (which can be exported) and saves on energy costs. The innovators have created surplus value in the village and new employment opportunities for poorer people.

The new production process has led to a significant improvement in the village’s living environment. The LPG kilns emit less pollution than the charcoal kilns. Today the air is much cleaner and there are fewer dirty storage areas for charcoal in the streets. According to the villagers, the village is now a greener and a more pleasant place to live.

There is a collective concern for a clean environment. All community members see the clear link between the innovation and the cleaner air, and act accordingly. The discussions in the village about the societal implications have come about naturally because the inhabitants of Bat Trang feel strongly connected through family ties and their shared history in ceramic production. In this sense, the innovation process was a collective process and the villagers recognized their responsibility, rather than looking to the government for a solution. They have sought little external assistance to help them move forward.

5. Analysis and discussion

Table 1 summarizes the empirical material in terms of the introduction of new products, new processes and business practices in the Vietnamese cases identified as innovation (Voeten, de Haan, and de Groot 2011). Typically we identify one key innovation starting off a process of introducing other forms of newness. All the types of innovations are classified according to the typology of innovations³ developed by Kaplinsky and Morris (2001).

The key innovations were new for the village concerned but not new to the world. The innovations mostly involved copying, imitating, adapting and adopting from technology elsewhere. The innovations were incremental, path dependent and did not concern radical technological breakthroughs, except for the LPG kiln in the Bat Tang ceramics case to a certain extent. In all cases, the innovation process was initiated, managed and owned by entrepreneurs themselves, which is critical in notions of poverty alleviation and (inclusive) development with regard to capability, participation and ownership (Sen 1999; Alkire 2007; London 2007).

The innovation process did not take place at the firm level but constituted an interactive process in which various small producers within the cluster participated. All cases show that the development of the innovation idea, the testing and the commercialization was a shared and interactive process among the small producers’ households. Hence, we conceptualize these new dynamics as ‘cluster-level’ innovation rather than ‘firm-level’, the usual unit of analysis in Western-based definitions of innovation (OECD 2005). The innovators confirmed that the

Table 1. Types innovations in the four villages.

Village	Key innovation	Type of innovation	Other newness
Van Phuc (silk):	Retail shops: the producers take over the marketing function of other value chain actors by setting up retail shops	Functional innovation	New silk products, new clients
Duong Lieu (cassava):	New products: the change from noodle to candy and other new end products	Product innovation	New technology
Phu Vinh (bamboo and rattan):	New markets: the export companies started to enter markets in USA and Europe	Market innovation	New products, new production processes
Bat Trang (ceramics):	New technology: introduction of LPG-fired kilns	Process innovation	New products, new shops

cluster provided a context for the innovation process in terms of cooperation, trust and information, and that this enabled learning and shared risk taking; all critical elements in the innovation process (Dosi 1988). The cluster in an informal way exerted several institutional functions comparable to an innovation system (Lundvall 1992).

All innovations created value for the cluster as a unit of analysis. In Bat Trang, Van Phuc and Duong Lieu, a broad group of poor small producers confirmed the increase in incomes. In Phu Vinh, however, there was emerging conflict within the cluster about the internal distribution of the innovation benefits, which was not considered equal and fair; small producers in the bamboo and rattan case did not appropriate value and got poorer instead, while the export companies in the cluster enjoyed good profits. In addition, as summarized in Table 2, there were other negative externalities described in the cases resulting from the innovation and conflicting with sustainable or inclusive development notions. There were also notable differences in the responses.

In Van Phuc, there was some acknowledgement of the negative environmental and health outcomes, but there were disagreements about attribution: whether silk production was the root cause. In Duong Lieu, the villagers did make the cause-effect connection that the increase in cassava starch production was causing the increasing amounts of waste and pollution. But this was accepted as a ‘price worth paying’ given the growth in incomes. In Phu Vinh, all villagers agreed that the poverty was a negative innovation externality resulting from the new export marketing practice. The export companies, however, do not acknowledge responsibility. There are no intervening third parties – government – and it has become an ongoing conflict. In Bat Trang, the air pollution perceived by all as a negative externality became unacceptable in the village. The producers acknowledged responsibility and introduced cleaner, LPG-fired kilns.

The Van Phuc, Duong Lieu and Phu Vinh cases correspond with the ‘tragedy of the commons’ concept of Hardin (1968) concerning the depletion of a shared resource by individuals, acting independently and rationally according to each one’s self-interest, despite their understanding that depleting the common resource is contrary to the group’s long-term best interests. The Bat Trang case, in which the individuals do take initiative and ownership by themselves, is in line with the ideas of Ostrom et al. (1999) that a tragedy of the commons is possible to avoid, once locals come up with solutions to the commons problem themselves. This is therefore an example of the internal regulation – within the cluster – of a negative externality of inclusive innovation.

In terms of conceptualizing internal regulation, the responses show a pattern of several steps of understanding and agreeing on the negative externality, considering it as a trade-off, or

Table 2. Negative externalities and responses.

	Negative externality	Responses
Van Phuc (silk)	Increased use of chemicals: severe water pollution and skin diseases	Difficulty in understanding and agreeing on the negative externality
Duong Lieu (cassava)	Solid organic waste dumped in sewage systems and open air. New diseases	Agreement on the negative externality and accepting it as trade-off
Phu Vinh (bamboo and rattan)	Unequal distribution of innovation incomes within the village. New poverty	Agreement on the negative externality but innovators do not acknowledge responsibility. Third-party enforcement required
Bat Trang (ceramics)	Charcoal kiln caused smoke and respiratory diseases	Agreement on the negative externality and innovators acknowledge responsibility

innovators accepting responsibility. Comparing the perceptions and responses from the case material in more detail, we advance a model (Figure 1) of approaching the internal regulation of the negative innovation externalities as a dynamic and interactive societal process of five steps. The model draws on the concept of *responsible innovation* – acknowledging responsibility for harmful outcomes – further developing and refining the ideas of Voeten et al. (2012). Our construction starts with the actual perception of societal change within the community and the issue of whether the change is harmful or not (step 1). Once the societal change is perceived and agreed as a problem, the community considers its origin; specifically, whether it is an innovation externality. At a certain point, the community understands and agrees whether societal change is a consequence of the innovation or not (step 2). Passing through these societal process steps implies a critical mass within the community, the tipping point (Gladwell 2000), that shares understanding and agrees on the issues at hand regarding the negative innovation externality. If it concerns an explicit negative externality, the subsequent question is whether this is an acceptable trade-off or an emerging issue (step 3). If it is not an acceptable trade-off, the next issue is whether the innovators acknowledge responsibility or behave opportunistically (step 4). If the innovators behave opportunistically, the conflict is likely to escalate, with no other solution than external regulation. If there are no third parties or existing institutional arrangements to enforce the innovator to acknowledge responsibility, there will be ongoing conflicts (step 5). In Figure 1, we identified an overall sequence (i) the agreement about the innovation externality, (ii) internal regulation and (iii) external regulation. If there is successful internal or external regulation (the space in the diagram above the dotted line), we termed the outcome of this societal process as what can be termed the ‘inclusive innovation zone’.

6. Promoting internal regulation

When confronted with negative externalities, government agencies typically react through regulatory measures. These are often *evidence-based* (Howlett and Ramesh 1995; Nutley, Davies, and Smith 2000) and based on the assumption that the outcomes of actors’ behaviour can be anticipated and manipulated by providing incentives, disincentives (‘polluter pays’) and an enabling regulatory framework.

However, the observation in the Vietnamese innovation cases and the proposed societal process model of regulation (Figure 1) does not match this type of approach with its evidence-

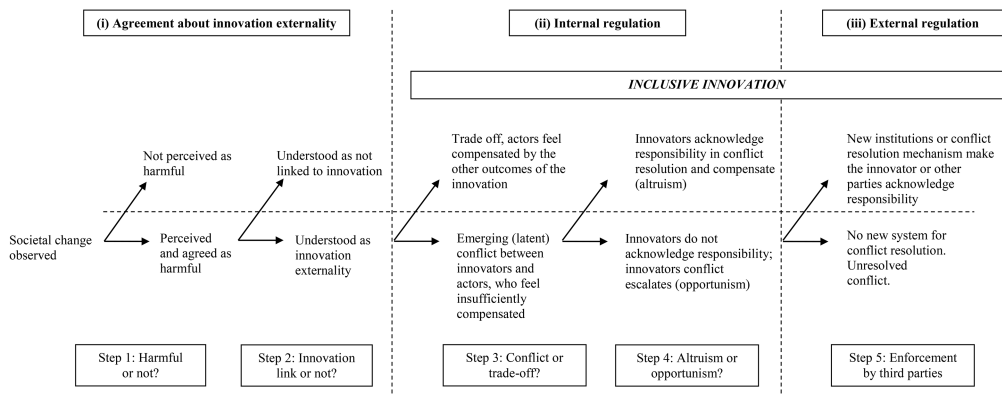


Figure 1. Conceptualizing regulation of inclusive innovation externalities as a societal process. Developed from Voeten et al. (2012).

based approach to policy-making, and its narrow focus just on formal enterprise innovation and a firm-level conception of negative externalities. The Vietnamese clusters show cluster-level innovation; no single enterprise is actually the owner of the innovation or sole originator of the negative externalities. Targeting the individual enterprise through a ‘polluter pays’ policy principle is therefore difficult. Another issue is the implicit claim, *ceteris paribus*, of understanding causalities between input – policy and institutional context – and the outcomes and behaviour of economic actors.

However, in the Vietnamese villages it is not possible to readily predict what course the societal process will take – whether externalities will result in societal conflict or not and whether they will be resolved internally. The analysis reveals a dynamic as well as complex societal process involving context-specific responses of community members who assess and value the outcomes and consequences of innovation against their own local normative frameworks. This fits critique of the evidence-based approach to policy-making on the grounds that it does not pay sufficient attention to the complexity and dynamism of practical realities, to emerging perceptions and upcoming constraints (Sanderson 2002; Nill and Kemp 2009).

Indeed, the perception of negative externalities may vary considerably from village to village. What is acceptable in one village may be the cause of conflict in another. A macro-policy approach therefore, assuming *one size fits all*, will probably not lead to effective regulation. The Vietnamese cases and the societal process model suggest context-specific internal regulation as an avenue to explore further; in particular, the idea of innovators acknowledging responsibility through interaction with other actors within the community. The model identifies an ‘internal regulation phase’ before establishing external regulation mechanisms, which has operational advantages in terms of fewer organizational costs while promoting community participation.

The challenge in operational terms is to provide support to a community to move swiftly through the stages of the societal process towards (i) agreement about innovation externality then subsequently to enable the community to come to an (ii) internal regulation situation. This implies that a community should be supported to assess and agree the harmful societal change (step 1). This may include scanning societal changes and informing villagers accordingly and organizing meetings to present information about societal change, involving external ‘neutral’ partners. For step 2 – understanding and agreeing on the cause–effect relationship – support could involve external research institutions, considered neutral, to provide analyses on the causality between an innovation and any harmful societal changes. The support may include the presentation of information from these different sources and organizing meetings to facilitate a discussion interpreting whether or not there is a link. Subsequently the progression to internal regulation could be facilitated by enabling the community to weigh the positive and negative outcomes of the innovation and accept any trade-offs (step 3). This could be by presenting information about the costs and benefits of the innovation, so that villagers themselves can balance and judge according to their set of norms. If there is not a trade-off settlement, support could be in form of mediation and encouraging innovators to behave responsibly (step 4). If there is ambiguity in the attitudes and behaviour of innovators, external support could challenge the innovators to take a position over whether they acknowledge responsibility or not, and encourage the innovators to behave altruistically and call them to account. If external regulation is inevitable, external support could be in sorting out and facilitating juridical procedures, mobilizing existing institutions or encouraging institutional change/reform (step 5).

A last consideration for promoting internal regulation is the challenge to develop micro-level responses that are context specific. In terms of the Vietnamese cases, these could manifest in an ‘independent’ policy-making and implementation entity at the village level. Such an entity within the village administration would be able to analyse and understand the innovation outcomes, their

societal consequences and locals' perceptions. The credibility of facilitating the societal process at the village level will depend on its autonomy and ability to interpret the innovation manifestations, societal outcomes and perceptions and to autonomously develop and implement context-specific innovation policy measures. Moreover, context-specific policy measures should be monitored on an ongoing basis, by involving the societal process model for instance, so as to respond quickly to emerging issues arising from these types of inclusive innovation. In conclusion, promoting internal regulation is about monitoring the quality of the process rather than measuring the outcomes.

7. Concluding remarks

This paper started out by noting, uncontroversially, that firm-level innovation may have negative societal impacts, and that this necessitates external regulation. What is less well established, however, is whether and how internal regulation, by firms themselves, can limit the negative externalities of innovative activities. This may be especially relevant in developing countries where institutional features that support external regulation are often lacking, and particularly so for inclusive innovations that derive from lower income communities where the writ of formal institutions runs least. Focusing on the case of inclusive innovation in Vietnamese craft villages, we found that cluster-level, as opposed to firm-level, innovation is a notable manifestation and also that the innovation generated in this context can have negative externalities. We explored to what extent internal regulation did or not limit these. We found evidence of innovators who acknowledged responsibility for the pollution they created and acted by introducing cleaner technology. By comparing a set of cases, we conceptualized and modelled inclusive innovation and regulation of its externalities as a 'societal process'. In essence, the model describes a series of internal regulation steps at the micro-level: community members who benefit from the craft village innovations, perceive and respond to the negative externalities; through various social interactions they may agree on what is acceptable and what is not, or force innovators within the cluster to acknowledge responsibility, thus concluding an internal regulation arrangement.

With regard to current ideas on internal regulation, CSR and sustainable business approaches typically take the form of a pre-defined strategy within a firm including targets set and measured, audited and owned by external experts. The 'societal process' model of inclusive innovation described in this paper is different in the sense that the societal process is an unpredictable emergent process implicitly owned by the community members. Consequently, acknowledging responsibility for negative innovation externalities in the societal process model is not a strategic decision taken at the firm level, but the result of emergent innovation consequences, involving close interactions and informal coordination among actors at the cluster level. Local normative frameworks apply in assessing and valuing the outcomes. The generalizability of the societal process model to other locations in Vietnam is supported by evidence of numerous other craft villages with very similar characteristics of informally organized small producers' clusters, which have been an essential part of Vietnam's rural economy and society for many centuries. Moreover, economic dynamics accompanied by harmful environmental and social consequences in the context of poor producers' clusters are common in many developing countries (Blackman 2006, de Oliveira 2008).

The societal process described here therefore could complement the 'projectified' approach of internal regulation, in particular on the emerging societal conflicts of firms' operations involving many visible and invisible stakeholders in informal contexts, often a problem in developing countries. Although large corporations may have a CSR strategy in place, including compliance to a pre-defined set of outcome indicators, societal conflict arises when (unexpected) long-term

impacts surface. Local communities apply their local normative framework in assessing emerging insights and perceptions.

Whether the societal process model described here also applies to other developing country settings remains a topic for future research. We suspect that it may be valuable and perhaps even applicable, since the process as described contains the typical elements of inclusive innovation. It also includes the local normative dimension in valuing of externalities, which is less commonly applied in current expert-based policy and research approaches.

Finally, one remaining difficulty of involving local normative frameworks concerns an ethical issue: if small producers damage their health over the long term by achieving short-term income goals and public policy research is aware of it, then promoting the involvement of local normative frameworks is ethically debatable. Although the levels of acceptability may vary from one village to another, long-term development goals may not be compromised. Policies need to be different precisely to achieve similar societal goals in different settings. This is still a difficulty in the model and a challenge for further research into internal regulation.

Notes

1. A craft village is understood to be a rural village where at least 50% of households engage in off-farm activities and at least 30% of the village's income is derived from such activities. A traditional craft is seen as one that has existed for at least 50 years, reflects Vietnamese cultural identity and is practised by artisans in the village.
2. The research was part of a larger Dutch research project on responsible innovation in developing countries funded by the Netherlands Organization for Scientific Research (NWO) from 2009 to 2012.
3. Kaplinsky and Morris (2001) identified various types of innovation: (i) process innovation aiming at improving the efficiency of transforming inputs into outputs; (ii) product innovation leading to better quality, lower price and/or more differentiated products; (iii) business practice innovation implying new ways to organize business and attract new clients; (iv) functional innovations – assuming responsibility for new activities in the value chain, such as design, marketing and logistics and (v) inter-chain innovations moving to new and profitable chains.

References

- Alkire, S. 2007. "Choosing Dimensions: The Capability Approach and Multidimensional Poverty." Chronic Poverty Research Centre Working Paper No. 88. <http://dx.doi.org/10.2139/ssrn.1646411>
- Aubert, J.-E. 2005. "Promoting Innovation in Developing Countries: A Conceptual Framework." Policy Research Working Paper No. 3554. Washington: World Bank Publications.
- Baumol, W. 1990. "Entrepreneurship: Productive, Unproductive and Destructive." *Journal of Political Economy* 98 (5): 893–921.
- Blackman, A. ed. 2006. *Small Firms and the Environment in Developing Countries*. Washington, DC: Resources for the Future.
- Bowden, H. R. 1953. *Social Responsibilities of the Businessman*. New York, NY: Harper.
- Caniëls, Marjolein, and Henny Romijn. 2007. "Does Innovation Matter for LDCs? Discussion and New Agenda." Paper presented at the Centre for Advanced Study (CAS) Workshop 'Innovation in Firms', Oslo, Norway, October 30–November 1.
- Cioffi, J. 2000. "Governing Globalisation? The State, Law, and Structural Change in Corporate Governance." *Journal of Law and Society* 27 (4): 572–600.
- Cling, J. P., M. Razafindrakoto, and F. Roubaus. 2011. "The Informal Sector in Vietnam." Report of the International Labour Organization. Accessed December 15, 2013. http://www.ilo.org/wcmsp5/groups/public/—asia/—ro-bangkok/—ilo-hanoi/documents/publication/wcms_171370.pdf
- Collier, P. 1998. "The Role of the State in Economic Development: Cross-regional Experiences." *Journal of African Economies* 7 (suppl. 2): 38–76.
- Cozzens, S., and S. Kaplinsky. 2009. "Innovation, Poverty and Inequality: Cause, Coincidence of Co-evolution." In *Handbook of Innovation Systems and Developing Countries – Building Domestic Capabilities in a Global Setting*, edited by B.-Å. Lundvall, K. Joseph, C. Chaminade, and J. Vang, 57–92. Cheltenham: Edward Elgar.

- Desai, S., Z. J. Acs, and U. Weitzel. 2013. "A Model of Destructive Entrepreneurship: Insight for Conflict and Postconflict Recovery." *Journal of Conflict Resolution* 57 (1): 20–40.
- Dosi, Giovanni. 1988. "The Nature of the Innovation Process." In *Technical Change and Economic Theory*, edited by G. Dosi, C. Freeman, R. Nelson, G. Silverberg, and L. Soete, 221–238. London: Pinter Publishers.
- Dutz, M. A. ed. 2007. *Unleashing India's Innovation: Toward Sustainable and Inclusive Growth*. Washington, DC: World Bank.
- Elkington, J. 1999. *Cannibals with Forks, the Triple Bottom Line of the 21st Century Business*. Oxford: Capstone.
- Fagerberg, J., D. C. Mowery, and R. R. Nelson. eds. 2005. *The Oxford Handbook of Innovation*. Oxford: Oxford University Press.
- Ferreira, F., and M. Ravallion. 2009. "Poverty and Inequality: The Global Context." In *The Oxford Handbook of Economic Inequality*, edited by W. Salverda, B. Nolan, and T. Smeeding, 599–638. Oxford: Oxford University Press.
- Frederick, W. 1960. "The Growing Concern Over Business Responsibility." *California Management Review* 2 (4): 54–61.
- Freeman, R. E. 1984. *Strategic Management: A Stakeholder Approach*. Englewood Cliffs, NJ: Prentice Hall.
- Gebreeyesus, M. 2011. "Innovation and Microenterprise Growth in Ethiopia." In *Entrepreneurship Innovation and Economic Development*, edited by A. Szirmai, W. Naudé, and M. Goedhuys, 122–146. Oxford: Oxford University Press.
- Gellynck, X., B. Kühne, and R. D. Weaver. 2011. "Innovation Capacity of Food Chains: A Novel Approach." *International Journal of Innovation and Regional Development* 3 (2): 99–112.
- George, G., A. McGahan, and J. Prabhu. 2012. "Innovation for Inclusive Growth: Towards a Theoretical Framework and a Research Agenda." *Journal of Management Studies* 49 (4): 661–683.
- Gladwell, Malcolm. 2000. *The Tipping Point: How Little Things can make a Big Difference*. Boston, MA: Back Bay Books.
- Glaser, B. G., and A. L. Strauss. 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine.
- Gries, T., and W. A. Naudé. 2011. "Entrepreneurship and Human Development: A Capability Approach." *Journal of Public Economics* 95 (3): 216–224.
- Hardin, G. 1968. "The Tragedy of the Commons." *Science* 162 (3859): 1243–1248. doi:10.1126/science.162.3859.1243.
- Hart, S. 2007. *Capitalism at the Crossroads – Aligning Business, Earth and Humanity*. 2nd ed. Upper Saddle River, NJ: Wharton School Publishing.
- Hart, S. M. 2009. "Self-regulation, Corporate Social Responsibility, and the Business Case: Do they Work in Achieving Workplace. Equality and Safety?" *Journal of Business Ethics* 92 (4): 585–600. doi:10.1007/s10551-009-0174-1.
- Howlett, M., and M. Ramesh. 1995. *Studying Public Policy: Policy Cycles and Policy Subsystems*. New York: Oxford University Press.
- IMF. 2008. *World Economic Outlook Database*. Washington, DC: International Monetary Fund.
- Kaplinsky, R., and M. Morris. 2001. *A Handbook for Value Chain Research*. Brighton: Institute of Development Studies (IDS), University of Sussex.
- Kline, S. J., and N. Rosenberg. 1986. "An Overview of Innovation." In *The Positive Sum Strategy: Harnessing Technology for Economic Growth*, edited by R. Landau and N. Rosenberg, 275–305. Washington, DC: National Academies Press.
- Konstadakopoulos, D. 2005. "From Public Loudspeakers to the Internet: The Adoption of Information and Communication Technologies (ICTs) by Small-Enterprise Clusters in Vietnam." *Information Technologies and International Development* 2 (4): 21–39.
- Léger, A., and S. Swaminathan. 2007. "Innovation Theories: Relevance and Implications for Developing Country Innovation." Discussion Papers 743. Berlin: Deutsches Institut für Wirtschaftsforschung.
- Levi-Faur, D. 2005. "The Global Diffusion of Regulatory Capitalism." *Annals of the American Academy of Political and Social Science* 598: 12–32.
- London, T. 2007. "A Base-of-the-Pyramid Perspective on Poverty Alleviation." Growing Inclusive Markets Working Paper Series. Washington, DC: United Nations Development Program.
- Lundvall, Bengt-Åke. 1992. *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*. London: Pinter Publishers.

- Nelson, R., and S. Winter. 1977. "In Search of a Useful Theory of Innovation." *Research Policy* 6 (1): 36–76.
- Nguyen, K. Q., V. T. Tran, and V. L. Le. 2003. "Project Vie/00/018/08: Assessing Participatory Rural Environmental Management in the Craft Villages (Cat Que Commune, Hoai Duc Distrit, Ha Tay Province)." Report of the Vietnam Agricultural Science Institute, Hanoi.
- Nill, J., and R. Kemp. 2009. "Evolutionary Approaches for Sustainable Innovation Policies: From Niche to Paradigm?" *Research Policy Special Issue: Emerging Challenges for Science, Technology and Innovation Policy Research* 38 (4): 668–680.
- Nutley, S., H. Davies, and P. Smith. 2000. *What Works?: Evidence-Based Policy and Practice in Public Services*. Bristol: The Policy Press.
- OECD. 2005. *The Measurement of Scientific and Technological Activities – Proposed Guidelines for Collecting and Interpreting Technological Innovation Data*. Paris: Organization for Economic Co-operation and Development (OECD), Eurostat.
- OECD. 2012. *Innovation for Development – A discussion of the Issues and an Overview of Work of the OECD Directorate for Science, Technology and Industry*. Paris: Organisation for Economic Co-operation and Development (OECD). Accessed January 14, 2014. <http://www.oecd.org/sti/inno/50586251.pdf>
- de Oliveira, J. A. P. ed. 2008. *Upgrading Clusters and Small Enterprises in Developing Countries: Environmental, Labor, Innovation and Social Issues*. Farnham: Ashgate.
- Ostrom, E., J. Burger, Ch. Field, R. Norgaard, and D. Policansky. 1999. "Revisiting the Commons: Local Lessons, Global Challenges." *Science* 284 (5412): 278–282.
- Palzer, C., and A. Scheuer. 2003. "Self-Regulation, Co-Regulation, Public Regulation." In *Promote or Protect? Perspectives on Media Literacy and Media Regulations*, edited by U. Carlsson and C. von Feilitzen, 165–178. Göteborg: The UNESCO International Clearinghouse on Children and Violence on the Screen.
- Parker, C. 2002. *The Open Corporation: Effective Self-regulation and Democracy*. Cambridge: Cambridge University Press.
- Radjou, N., J. Prabhu, and S. Ahuja. 2012. *Jugaad Innovation: Think Frugal, Be Flexible, Generate Breakthrough Growth*. San Francisco, CA: Jossey-Bass.
- Rand, J., and N. Torm. 2012. "The Benefits of Formalization: Evidence from Vietnamese Manufacturing SMEs." *World Development* 40 (5): 983–998.
- Rutten, R., and F. Boekema. 2007. *The Learning Region: Foundations, State of the Art, Future*. Cheltenham: Edward Elgar.
- Sanders, M., and U. Weitzel. 2013. "Misallocation of Entrepreneurial Talent in Postconflict Environments." *Journal of Conflict Resolution* 57 (1): 41–64.
- Sanderson, I. 2002. "Evaluation, Policy Learning and Evidence-Based Policy Making." *Public Administration* 80 (1): 1–22.
- Schmitz, H. 1999. "Collective Efficiency and Increasing Returns." *Cambridge Journal of Economics* 23 (4): 465–483.
- Sen, A. 1999. *Development as Freedom*. Oxford: Oxford University Press.
- Soete, L. 2012. "Maastricht Reflections on Innovation." UNU-MERIT Working Paper no. 2012–001.
- Soman, D., J. G. Stein, and J. Wong. eds. 2014. *Innovating for the Global South: Towards an Inclusive Innovation Agenda*. Toronto, ON: University of Toronto Press.
- Szirmai, A. 2008. "Explaining Success and Failure in Development." Working Paper 2008–013. Maastricht: UNU-MERIT.
- Szirmai, A., W. Naudé, and M. Goedhuys. 2011. *Entrepreneurship, Innovation, and Economic Development*. Oxford: Oxford University Press.
- Utz, A., and C. Dahlman. 2007. "Promoting Inclusive Innovation." In *Unleashing India's Innovation: Toward Sustainable and Inclusive Growth*, edited by M. Dutz, 105–128. Washington, DC: The World Bank.
- Van Dijk, M. P., and H. Sandee. 2002. *Innovation and Small Enterprises in the Third World*. Cheltenham: Edward Elgar.
- Voeten, J., J. de Haan, and G. de Groot. 2011. "Is That Innovation? Assessing Examples of Revitalized Economic Dynamics among Clusters of Small Producers in Northern Vietnam." In *Entrepreneurship, Innovation, and Economic Development*, edited by A. Szirmai, W. Naudé, and M. Goedhuys, 96–121. Oxford: Oxford University Press.
- Voeten, J., N. Roome, G. de Groot, and J. de Haan. 2012. "Resolving Environmental and Social Conflicts – Responsible Innovation in Small Producers' Clusters in Northern Vietnam." In *A stakeholder Approach*

- to Corporate Social Responsibility: Pressures, Conflicts, Reconciliation*, edited by A. Lindgreen, Ph. Kotler, J. Vanhamme, and F. Maon, 243–261. Aldershot: Gower.
- Watts, D., and S. Strogatz. 1998. “Collective Dynamics of ‘Small World’ Networks.” *Nature* 393 (6684): 440–442.
- Wolf, S. 2007. “Encouraging Innovation for Productivity Growth in Africa.” Work in Progress Series 54, African Trade Policy Centre (ATPC), UNECA ATPC, Addis Ababa.
- World Bank. 2008. *Growth Report: Strategies for Sustained Growth and Inclusive Development*. Washington, DC: World Bank Growth and Development Commission.
- World Bank. 2012. “Vietnam development report 2012, Market Economy for a Middle-Income Vietnam.” Joint Donor Report to the Vietnam Consultative Group Meeting, December 6, 2011.
- Zeschky, M., B. Widenmayer, and G. Oliver. 2011. “Frugal Innovation in Emerging Markets.” *Research-Technology Management* 54 (4): 38–45.