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Chapter 10

Conclusions

10.1 Main findings

This chapter first considers the main findings of the thesis which answer the sub-questions. Together, these answer the primary question:

How can new modes of knowledge production and exchange, such as transdisciplinary research, knowledge management for development and social capital, improve approaches to sustainable development?

Next, we consider the implications for theory, academic fields, policy and practice. Finally, we reflect on the validity of the thesis and provide ideas for future research. Many of the findings of this thesis are chapter specific and were summarized within the respective chapters (Chapters 2-9). This section will synthesize and reflect on these findings.

10.1.1 Dominance of Western approaches and Western researchers

In Chapter 1, we presented the view that Western approaches and Western researchers are dominating the discourses of knowledge related to the SDGs and development. In Part I of the thesis, we consider whether we can substantiate these views. To this end, we formulated the following sub-question which was investigated in two studies:

To what extent do Western approaches to knowledge and Western researchers dominate discourses of knowledge related to sustainable development (and development more generally)?

In the first study (Chapter 2), we employed interdisciplinary critical discourse analysis to consider which discourses on knowledge are evident in the SDGs at the level of vision, strategy, implementation and goals, and whether these discourses are in the position to address the complex problems facing the global community. In the second study (Chapter 3), we considered the extent to which academics from developing countries are represented as authors and editorial board members in 10 scientific journals in the field of development studies.

Three main conclusions were drawn from the discourse analysis of the SDGs. First, we established that knowledge made a marginal appearance within the SDG document: there were only 11 references to knowledge within the 40-page document. This relative absence does not appear to be consistent with general trends in which the importance of knowledge to development is recognised by a wide variety of stakeholders including international organisations, such as the UNDP (Gaye, 2011), the World Bank (1999) and UNESCO (2005); global interest groups (Jha et al., 2016); civil society (ICSU/ISSC, 2015); and some academics (Mansell, 2015; Hornidge, 2011). Second, we established that where knowledge is present within the SDGs, it is linked to the technical-scientific-economic discourse of knowledge societies, a discourse which Hornidge (2011) considers is employed by national governments of developed countries. The pluralist-participatory discourse, proposed by some academics and UNESCO that emphasizes the importance of local knowledge, appears to be virtually absent. Local knowledge is only mentioned once within the SDGs as ‘traditional knowledge’ and then only as it relates to biodiversity, a clear reflection of the way in which local knowledge

is marginalised as only concerning the environment. This finding is consistent with reflections on the SDGs by Ramalingam (2015), Leach (2013) and the ICSU/ISSC (2015). This also appears to go hand-in-hand with a further criticism of the SDGs, namely ‘the illusion that top-down steering by governments and intergovernmental organizations alone can address global problems’ (Hajer et al., 2016), possibly ignoring the actions and opinions of local actors with local knowledge.

Third, we established that there is a considerable mismatch between the rhetoric and the actual implementation of the SDGs, and that this mismatch is also evident within the 10 academic journals which we studied in Chapter 3. We established, for example, that the SDGs are transformative at the level of vision and strategy, while the means of implementation and the goals and targets do not appear to reflect this vision. We have found a similar trend within the journals. For example, the journal ‘World Development’ has a transformative vision as we have quoted in Chapter 2:

Our goal is to learn from one another, regardless of nation, culture, income, academic discipline, profession or ideology. We hope to set a modest example of enduring global cooperation through maintaining an international dialogue and dismantling barriers to communication. (World Development, no pagination)

Despite these intentions, we found that academics from developing countries are poorly represented as authors and members of editorial boards. This is despite the fact that questionnaire results indicate that the vast majority of corresponding authors of journal papers are in favour of collaboration with academics in developing countries and see their research as a form of development cooperation (Dahdouh-Gubas et al., 2003). We consider that the pattern we have revealed here as it relates to authors – which is fairly similar across all journals – is the result of very complex processes which are active at a systemic level and are affecting many more academic fields than development studies (Dahdouh-Gubas et al., 2003; Burgess and Shaw, 2010; Lee, 1995; Ozbilgin, 2004). Critical processes comprise dominance of the publishing industry and academic institutions of the developed world, the dominance of the English language in academic communications, and the severe challenges facing universities and research in many developing countries (see, for example, Jazeel and McFarlane, 2010; Graham et al., 2011).

Based on this sub-question, we conclude that Western approaches to knowledge in the SDGs and Western researchers in academic knowledge production dominate discourses of knowledge related to sustainable development, and development more generally. However, the problem is not so much that Western approaches and researchers are dominant but that the approaches to development that are being espoused are not transformational, despite a rhetoric which contradicts this, and do not take sufficient notice of local knowledge and local realities. Given that the first study focused on semiosis, the methodology recommends a response in terms of narratives for advocacy by encouraging the Knowledge Management for Development (KM4Dev) community to develop a focus on the societal role of knowledge (Akude, 2013) and to participate in initiatives to put knowledge on the SDG agenda (Brandner and Oster, 2015). To redress the balance in favour of academics from developing countries in

journals in the field of development studies, a possible solution might be the development of new guidelines for journals, sponsored by professional associations of development researchers, such as the European Association of Development Research and Training Institutes (EADI). This would not be able to change the systemic issues outlined above, but might be able to support the participation of authors from developing countries in academic journals. According to Dahdouh-Gubas et al. (2003), collaboration with developing country authors is higher within the medical and life sciences than the social sciences, such as the field of development studies, because it involves official collaborations with local hospitals and Ministries of Health and more research on location. This might be another path to follow for development studies.

10.1.2 New modes of knowledge production and exchange

The next part of the thesis also comprised two studies and two chapters (Chapters 4 and 5, Studies 3 and 4) which were to answer the following sub-question namely:

What are the characteristics of the new modes of knowledge production and exchange, and to what extent are they applicable to development?

The first study compares and contrasts two academic fields which are concerned with knowledge for development, namely transdisciplinary research and knowledge management for development.

The emergence of the field of transdisciplinary research was sparked by the international seminar in Paris in 1970 on 'Interdisciplinarity in Universities', organised by the Organisation for Economic Cooperation and Development (OECD). The seminar was a response to the growing awareness that the monodisciplinary nature of scientific education and research was not adequate for the changing needs of science and society, leading to the development of the academic field of transdisciplinarity. In recent years, various authors have conducted literature reviews in search of a shared definition of transdisciplinarity (see, for example, Stock and Burton, 2011; Pohl, 2010; Pohl and Hirsch Hadorn, 2007) and found a plethora of concepts, approaches and perspectives, but also a set of widely shared features. First, there is general consensus that transdisciplinary research responds to persistent 'real world' problems. Second, multiple stakeholders are involved. Third, in order to resolve real world problems, different forms of knowledge need to be integrated, crossing disciplinary boundaries as well as boundaries between science and society. Fourth, in transdisciplinary research, the process of knowledge production is integrated with the process of societal problem solving. Finally, transdisciplinary research is an iterative process that follows an emergent design.

Emerging in the late 1990s, knowledge management for development originated in the mainstream of the field of knowledge management which focuses on organisations and networks in the developed world. Since this time, four generations of knowledge management for development with different key perspectives, methods and tools have emerged (Ferguson and Cummings, 2008). In this thesis, we identify the emergence of a fifth generation of knowledge management for development that bears an increasing resemblance to transdisciplinary research. The fifth generation is characterised by a growing awareness of

multiple knowledges and multi-stakeholder processes in the solution of ‘wicked problems’ (Brown, 2008; 2011); recognition of development knowledge as a global public good and the development knowledge commons (Cummings et al., 2011; Ferreira, 2012); increased understanding the role of knowledge in endogenous development (Mansell, 2010); an emphasis on cross-domain interactions and knowledge co-creation (Ho, 2011; Ho et al., 2012); and recognition of the importance of complexity and emergence (Ramalingam, 2008; Brown et al., 2013).

Transdisciplinary research is based on the understanding that scientific knowledge alone cannot resolve persistent and wicked problems, emphasising the role of socially robust knowledge and experiential knowledge. Although these insights are not new to the field of knowledge management for development, the theoretical grounding of transdisciplinary research can add new perspectives to the practice of knowledge management for development. In addition, transdisciplinary research’s emphasis on the breaking of boundaries between science and society, between research and problem solving, and between knowledge production and implementation, is also relevant to knowledge management for development. For example, ‘multiple knowledges’ (Brown, 2008; 2011), originating from the field of transdisciplinary research, has provided the knowledge management for development community with a conceptual framework which recognises the importance of individual and community knowledge, while transition theory can help development practitioners understand why their innovative experiments at niche level (micro level) are difficult to scale up to regime level of social system. At the same time, knowledge management for development can probably also contribute to transdisciplinary research because of its explicit focus on knowledge processes and learning. Cross-fertilisation and synergy between the two fields is also stimulated by the fact that both are focused on addressing real world problems, such as the difficulty of realizing sustainable development.

In the second study (Chapter 6), we consider whether social capital can be employed to examine knowledge networks for development, based on social capital’s postulated role in the production and exchange of knowledge (Coleman, 1988; Lin, 1999; Burt, 1992). A number of researchers in the developed world have examined the role of social capital in knowledge networks, concluding that social capital increases the capacity to exchange knowledge (Hopkins and Thomas, 2002; Huysman, 2004; Lin, 2001). Based on a substantial literature review, Nahapiet and Ghoshal (1998) hypothesize that social capital facilitates knowledge production and exchange in organisations. Van der Spek et al (2002) present a similar finding for knowledge networks in which social capital also played a role in knowledge production, developing socially constructed understandings and supporting the exchange of tacit knowledge. In addition, social capital is seen as being applicable at the micro-level as well as meso and macro-levels (Grootaert and van Bastelaer, 2002). In this chapter, three non-development approaches to examining social capital in online networks and communities are reviewed (van der Spek et al., 2002; Lesser and Storck, 2001; Nahapiet and Ghoshal 1998). Elements of these approaches, combined with development-related aspects, are used to produce a framework to facilitate the analysis of social capital in online networks in a development context.

Given that social capital is applicable at these multiple levels and has been found to facilitate both knowledge production and exchange, we decided to further consider how applicable it is to development at the grassroots. The Nahapiet and Ghoshal (1998) framework seemed to be a particularly interesting approach to knowledge production and exchange, despite the fact that it focuses on the business environment in developed countries. At the same time, we also recognised that transdisciplinary research is able to stimulate new modes of knowledge production and exchange. It therefore seemed a useful approach to apply transdisciplinary approaches to social capital and local knowledge.

10.1.3 Strengthening social capital and local knowledge

The third part of this thesis comprised four chapters and two studies (Chapters 6-9, Studies 5 and 6) which together answer the following sub-question:

Through which mechanisms and strategies can local knowledge and social capital be strengthened for sustainable development?

In the first study (Chapter 6, Study 5), we undertook a literature review to investigate how social capital can contribute to poverty alleviation at the grassroots. To do this, we analysed theoretical perspectives and empirical studies in the literature. In a wide variety of developing countries and contexts, social capital was found to contribute to poverty alleviation through a number of different activities: micro-credit in Bangladesh (Larance, 1998; Dowla, 2006) and other developing countries (Anderson et al., 2002); agricultural production and marketing in Vietnam (Sultana and Thompson, 2004), Bangladesh (Islam et al., 2011; Sultana and Thompson, 2004) Rwanda (Elder et al., 2012) and Uganda (Kaganzi et al., 2009); environmental protection in India (Kerr, 2002) and India, Vietnam, Thailand and Syria (Kruijssen et al., 2009); and knowledge networking in Honduras (Humphries et al., 2012; Classen et al., 2008) and India (Gupta et al., 2003). Previously discussed by Cilliers and Wepener (2007), we identified four mechanisms to strengthen social capital at the grassroots: structural opportunities to meet, knowhow of social interaction, sense of belonging and an ethos of mutuality. We postulated that it might be possible for development projects to strengthen social capital by fostering such mechanisms.

The final three chapters in this thesis (Chapters 7, 8 and 9, Study 6) are concerned with the development programme in Bangladesh. In the first of these chapters (Chapter 7), we considered the methodology of action research which played an important role in enabling poor women and other stakeholders to articulate a development path fit to the local context. The programme demonstrated the suitability of action research to address complex challenges, such as poverty alleviation and unequal gender relations. Efforts to alleviate women's poverty by improving their livelihoods involved gradual changes to gender relations at the household and community level and improved women's capabilities, both of which have the potential to be a motor for sustainable development. We conclude that these defining characteristics, development impact and lessons for development practice have their roots in the iterative process which kept the main objective of the project, namely poverty alleviation, central throughout.

In Chapter 8, we applied the Nahapiet and Ghoshal (1998) framework to analyse the process of knowledge creation and exchange in rural Bangladesh. Despite having been developed for a very different hypothesized group of people, we established that the framework was applicable to the grassroots and the context under study. We adapted the framework to enhance understanding of how development interventions stimulate social capital for knowledge creation and exchange. We also established that bonding, bridging and linking social capital represent different functional subtypes of social capital with different functions in terms of their use along development paths. In our study context, characterized by poverty but also by limited access to social networks due to *pardab*, bonding social capital with family members is generally the first type of social capital to which the programme participants have access, followed later by bridging (networks of peers) and linking capital (vertical links with powerholders). As a result of this insight, we further developed the structural dimensions of the framework, dividing it into the three functional subtypes of social capital (bonding, bridging and linking) in order to distinguish between three distinct paths in which social capital contributes to knowledge production and exchange. In addition, we added to the model by identifying the capabilities and knowhow that have been co-created. We found, however, that knowledge is of huge importance for development at the grassroots but that leveraging knowledge and social capital is not a simple process: it requires concerted efforts and dedication from people at the grassroots and from NGOs who are assisting them.

The programme also developed strategies to strengthen women's social capital (Chapter 9). Some of these strategies were developed by the NGO PRIDE, others were developed by the women themselves, such as working in harmony with norms and customs and becoming change agents. The four categories of strategies identified are closely related to mechanisms of social capital production identified in the literature review but we have also identified a number of new strategies. First, PRIDE worked within the social norm of *pardab*, selecting women who already had more freedom of movement because of age or lack of familial relationships through widowhood. The NGO navigated its way around obstacles and negotiated with resistances to change, reinforcing the value of altruism, already valued in local society. Second, corresponding to structural opportunities to meet, we demonstrated that PRIDE provided opportunities for women to meet other women and to make 'social exchanges' (Wels, 2000), including gift exchanges, barter and financial exchanges. We argued that creating opportunities for women to meet and exchange is a pre-condition for strengthening social capital and improved livelihoods for women living in circumstances of *pardab*. This finding reflects Larance's argument that, on the one hand, patrilocality 'dislocates a woman from established networks in her natal village' (2001: 5) and, on the other, women have fewer opportunities to interact with others because 'unlike men, rural women [in Bangladesh] rarely have the socially sanctioned opportunity to convene in common spaces beyond the confines of their *para* [neighbourhood]. This confinement limits their extra-familial social ties and opportunities for exposure beyond the boundaries of their homestead' (Larance, 2001: 6). Third, developing knowhow and know-who of social interaction are important strategies for strengthening social capital, building on the identification of pre-existing social and networking skills. Fourth, we found that improved feelings of self-worth and increasing 'recognition capital' often helped women to become change agents, able to develop themselves and their communities. This

becomes a virtuous cycle in which these new capacities are then increasingly valued from the norm of altruism.

In Bangladesh, improvements in women's livelihoods went hand-in-hand with gradual change to gender relations in the household and community in which women's improved access to social networks was a symptomatic part. Although women's livelihoods improved considerably over the study period, the greatest, most sustainable impact was probably the improvement in women's capabilities to take action and see opportunities in their own environment. The programme seems to have started a positive spiral in which women's contribution to the community has been enhanced, and their self-esteem and their social status has been improved. It is this positive spiral which might be the basis of sustainable change.

10.2 Reflections on the main findings and on the theoretical framework

In the introduction, we presented a theoretical framework which attempted to delineate hypothesized relationships between new modes of knowledge production and exchange, endogenous change and ultimately sustainable development. Based on our findings, I have developed a new representation of these relationships in Figure 10.1 which also supports our answer to the main research question. This representation is largely based on Chapters 7, 8 and 9.

At the centre of Figure 10.1 can be seen the stakeholders who were involved in this programme, namely the poor women, the NGO and the researchers. The implicit purpose of the women was the desire to escape poverty while working within social norms, such as altruism. For the NGO and the researchers, the intention was to do no harm, alleviate poverty and to support self-sufficient sustainable change. The NGO and the researchers contributed external resources, including scientific and technical knowledge, such as transdisciplinary research methodologies, as well as their own social capital. The social capital of the NGO was particularly important as its links with local powerholders were made available to poor women as linking capital. Local resources, such as social capital and knowledge, were strengthened by the programme. Through processes of knowledge integration and co-creation, these local and external resources were combined to develop new livelihood strategies, new social skills and knowhow, and improved self-worth and capacity to act. I, therefore, conclude that new modes of knowledge production and exchange can improve approaches to sustainable development by bridging multiple knowledges through knowledge integration and co-creation, and by creating new local knowledge and capacities which contribute to self-sustaining, endogenous change. As we have demonstrated in the development programme in Bangladesh, this process does not happen by itself. It requires long-term commitment from external stakeholders and represents an extremely complex process of social change. We make no claims that this approach will be applicable elsewhere, although we consider that some aspects of it might be applicable in other situations where increased access to social capital can contribute to poverty alleviation. These findings also have implications for the nature of sustainable development

When PRIDE started the development programme studied in this thesis, it was designated the Route to Sustainable Development. In the formulation of the programme and in its own mission, PRIDE aimed at the ‘the sustainable development of the resource-poor people in Bangladesh through action research and participatory, interactive and bottom-up strategies... To improve and enhance [their] self-reliance, dignity and capabilities, and develop strategies for enhancing their livelihood by helping them to help themselves through facilitation of the necessary information, knowledge and skills’ (Torfder, 2010), recognizing the importance of self-reliance and capacities of poor people to sustainable development and the need for interactive methodologies that support this process. This thesis might provide evidence of the need for new definitions of sustainable development which prioritise the needs of the poorest, responding to comments by Barkemeyer et al., (2014), and which incorporate culturally-specific definitions which favour local knowledge rather than the dominant science paradigm, reflecting comments by Norgaard (1988).

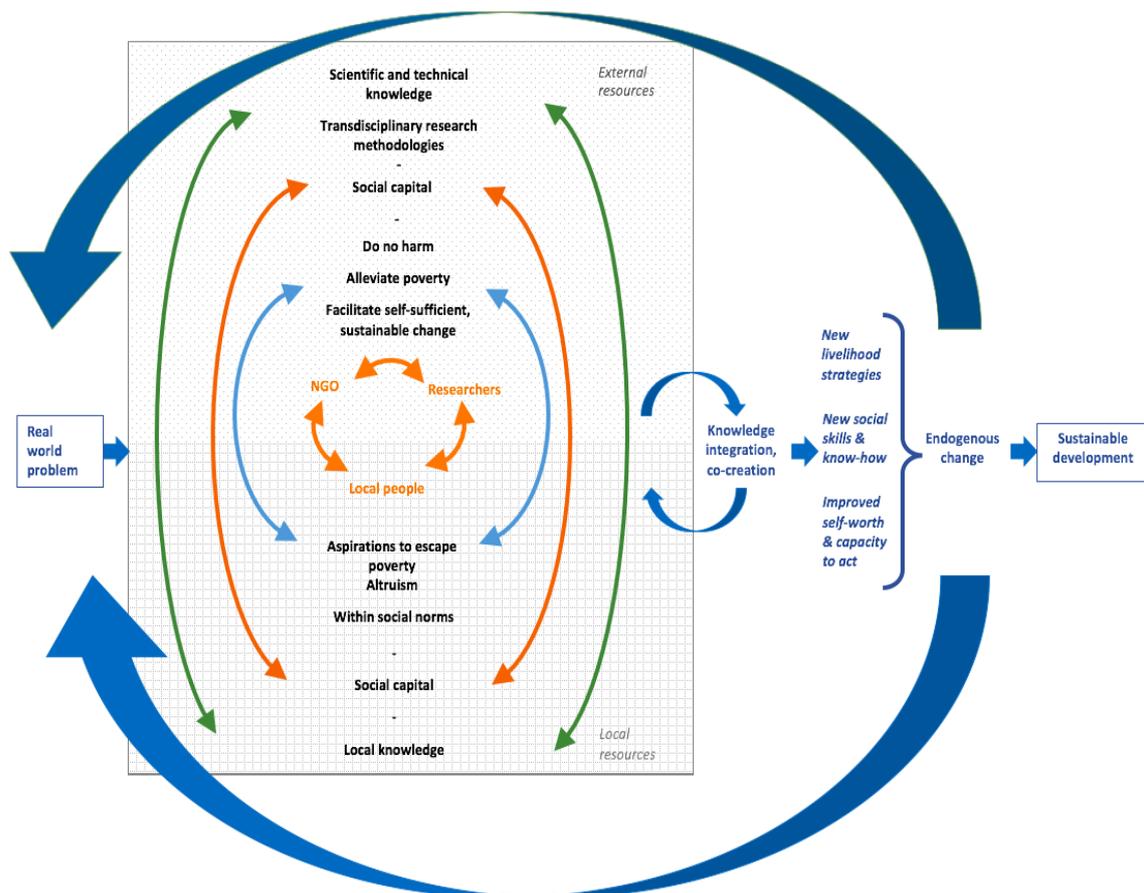


Figure 10.1 Representations of processes of knowledge production and exchange

10.3 Wider Implications

In this section, we consider the implications of the findings for academic knowledge, the academic fields under discussion, policy and practice

10.3.1 Implications for academic knowledge

In this thesis, we have added to academic methods and theory in a number of ways.

We have adapted two methodologies. First, we have adapted the methodology of interdisciplinary critical discourse analysis (CDA) to make the phases and steps clearer, facilitating its application by researchers who have not previously used CDA and making the methodology more widely applicable. In addition, the step relating to the identification of past discourses has been made more prominent, making the methodology more suited to the analysis of sub-discourses and more grounded in the history of past discourses. Second, we have adapted the influential Nahapiet and Ghoshal (1998) framework to make it applicable to processes of knowledge production and exchange at the grassroots. The amended framework shows the main dimensions of social capital that contribute to knowledge production and exchange but also demonstrates the domains where poor women produce and exchange knowledge. These domains are self-reinforcing capabilities that will support the women and their communities in processes of sustainable development.

In this thesis, we have also developed additional insights into the role of social capital. First, this thesis demonstrates that bonding, bridging and linking social capital have different implications in terms of access to knowledge. Bonding capital with husbands and in-laws was a necessary precondition for women to be able to participate in networks and undertake income-generating activities; bridging capital predominantly provided access to like-minded advice and knowledge about livelihoods, health, and other problems; while linking capital provided access to resources, such as land, and advice from the government extension officer. Moreover, bonding, bridging and linking social capital appeared to demonstrate different modes of knowledge creation. Bridging social capital not only enables women to share narratives and co-create knowledge, stimulated by a strong motivation to exchange and combine knowledge, but also generates a very strong capacity to identify opportunities for development, identified as value anticipation by Nahapiet and Ghoshal (1998).

Second, gift exchange played an unexpectedly important role within the context under study. Gift seems to be the visible manifestation of social capital: gifts can be material, such as seeds and vegetables, but also non-material, such as advice and knowledge. Exchanges were intensified as a result of the programme and this strengthened social capital. Moreover, gifts are reciprocated, giving them a natural circularity which appears to be self-sustaining. Although the importance of making gifts does not appear to be widely recognised in the development literature, the close relationship between social capital and gift exchange is recognised in the business environment. For example, Dolfsma and colleagues consider that 'building a new social capital community, or extending an existing one, requires protracted investments in the form of gift exchange between individuals' (2009: 32).

Third, linked to the exchange of gifts, trust appears to play a far more important role in this context than it does in the Nahapiet and Ghoshal (1998) framework, possibly because the programme was taking place in a context with low levels of trust – where NGOs are not trusted, and where women are not trusted to be able to contribute to their own, their household's and their community's development. Initially, the gift exchange of seeds was

chosen as an alternative to market exchange because it overcame this lack of trust. Fisher has identified the link between trust and knowledge, arguing that ‘trust provides an essential catalyst enabling passive information to be transformed into usable knowledge’ (2013: 1). In addition, the positive feelings of the women involved in the programme, their feelings of self-worth and of being valued, should not be underestimated. Gift, trust and positive feelings are the hidden mechanisms of this development programme.

Fourth, changes brought about by the development programme are based on social capital and local knowledge already theoretically available to the participants. The dynamic process was instigated and guided by PRIDE and facilitated by a transdisciplinary methodology that involved a long-term process of experimentation and learning. In this process, local knowledge of the participants and PRIDE, and the scientific and technical knowledge of PRIDE and the team from the Athena Institute, were integrated over the period of the project. Both were necessary to reach the positive result.

Finally, we present a first dynamic framework for strengthening social capital for grassroots development which combines insights from theory, studies conducted by others, and the data from the action research project (see Figure 9.1). In a necessarily simplified, graphical form, this framework attempts to show how processes to stimulate social capital were found to work at the level of norms and ethics, opportunities, self-worth, capacity to act, social skills and knowledge, and to strengthen components of social capital investment, namely structural and cognitive social capital. These processes were then found to strengthen social capital functional subtypes: bonding, bridging, and linking social capital, recognising that the latter is more difficult to strengthen. This framework represents an effort to make visible the processes underlying the changes brought about by the development programme in Bangladesh, based on previous theory and empirical studies. However, we cannot make claims about its direct relevance to other contexts.

10.3.2 Academic fields addressing knowledge for development

This thesis represents research at the intersections between three interlinked fields, namely development studies (described in Chapter 3), transdisciplinary research and knowledge management for development (described in Chapter 4). The six studies of this thesis are taking place at intersection of these fields as can be seen in Figure 10.2. Studies 1-4 are to be found at the intersection between the fields of knowledge management for development and development studies. Study 5, the literature review of social capital, falls only within the field of development studies, while Study 6 represents a transdisciplinary study in Bangladesh which took place at the intersection of all three fields.

In Chapter 3 (Study 2), we consider patterns of academic knowledge production, taking an interdisciplinary approach. In our conclusions, we recommended that the professional association for European development research, EADI, and also publisher of one of the journals being considered, could develop guidelines to increase the representation of development country academics in journals as authors and editorial board members. With hindsight and an awareness of the value of transdisciplinary research which has come about through the process of undertaking this thesis, a transdisciplinary approach, involving

consultation with multiple stakeholders, such as academics located in developing countries, journal editors and editorial board members, might have been a more effective approach to the issue.

This insight, recognising that transdisciplinary research probably provides a better basis for development and change than monodisciplinary and interdisciplinary research, appears to be consistent with the results of a recent consultative exercise that identified 100 research questions of critical importance for the post-2015 international development agenda (Oldekop et al., 2016). Some 21 representatives of international organisations, NGOs and consultancies, and 14 academics with diverse disciplinary expertise developed an agenda to address long-standing problems, new challenges and broader issues related to development policies, practices and institutions. In this exercise, one of the main findings was the need for ‘transdisciplinary research collaboration’ (Oldekop et al., 2016: 55), arguing that ‘transdisciplinary efforts for knowledge co-production combining the expertise of academics, practitioners and policymakers are needed to design problem-driven, usable and solution-oriented approaches’ (Oldekop et al., 2016: 57).

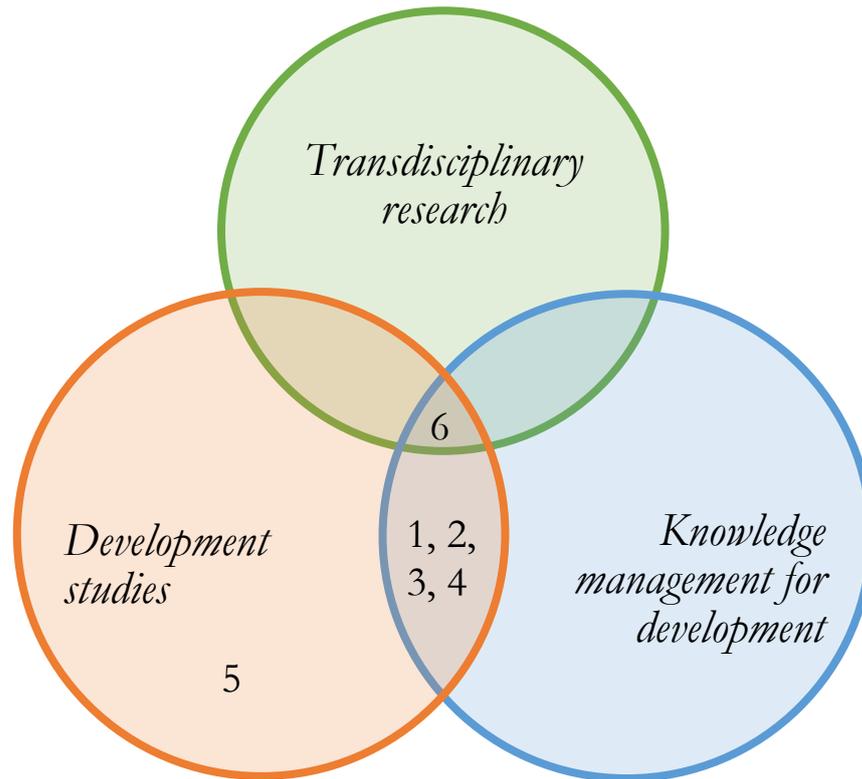
10.3.3 Implications for policy

Based on these findings, we recommend that policymakers should be made aware of the fact that local knowledge is almost absent from the SDGs, while local realities and local knowledge should be the starting point for the SDGs if they are to realise their ambitious aims. Policymakers should probably also recognise that the SDGs might be subject to ‘cockpitness’, namely ‘the illusion that top-down steering by governments and intergovernmental organizations alone can address global problems’ (Hajer et al., 2016).

10.3.4 Implications for practice

The development programme in Bangladesh demonstrates that action research is a suitable methodology to address complex problems. Key lessons for development practice include the need to develop interventions over a longer time-frame; the need for a transformational vision of development, made up of small incremental changes, and embedded in the local context; and the important role of social capital. The gradual changes triggered by the programme were conservative steps which did not undermine women’s support networks. The programme shows that development interventions should first and foremost ensure that ‘no harm’ is done.

The programme was based on PRIDE’s long-term, in-depth knowledge of the communities in which the programme was implemented which involved understanding the knowledge and know-how of the women involved and their poverty. Replicating such stimulation of social entrepreneurship in a resource-constrained environment will probably require that NGOs and other actors take the time to strengthen the capacities of facilitating staff and be prepared to undertake such a process. Other NGOs can learn from this experience, which is based on a long-term intervention with co-creation of knowhow across multiple domains.



Key:	
Study 1	Discourse of knowledge in the SDGs
Study 2	Patterns of academic knowledge production in the field of development studies
Study 3	Comparative analysis of transdisciplinary research and knowledge management for development
Study 4	Social capital and knowledge networks for development
Study 5	Social capital for development

Figure 10.2 Location of studies within transdisciplinary research, development studies and knowledge management for development

10.4 Reflections on validity

For the methodologies employed, the validity has been examined below, and divided into internal and external validity. In terms of overall validity, the greatest strength of the thesis is the variety of different studies, the variety of methodologies and the diversity of researchers involved. In terms of internal validity, bibliographic analysis, social network analysis and action research are discussed.

10.4.1 Internal validity

Internal validity refers to the conduct of the study to ensure that inferences from the data are accurate and that representative samples have been used. In qualitative data collection, triangulation is a general strategy for increasing internal validity. Triangulation consists of four

techniques for data collection and analysis, namely multiple methods for obtaining data, consultation of multiple data sources, teams of multiple researchers to collect data, and reliance on additional researchers for data analysis.

10.4.1.1 Bibliographic analysis and social network analysis

For the bibliographic data collection (Chapter 3, Study 2), we needed to develop categories for ‘developing countries’ and ‘developed countries’ so that they could be accurately applied to identify patterns of academic knowledge production. To distinguish developed and developing countries, we employed the Human Development Index (HDI) 2014 categories. The HDI divides countries into four categories: 49 countries with Very High Human Development (VHHD), ranked 1-49; 54 countries with High Human Development (HHD), ranked 50-102; 42 countries with Medium Human Development (MHD), ranked 103-144; and 42 countries with Low Human Development (LHD), ranked 145-187. For the purposes of this study, developed countries were defined as those with either a VHHD or HHD Index totalling 103 countries, and developing countries are those with a MHD or LHD Index, totalling 84 countries. The use of the terms, ‘developing’ and ‘developed countries’ was pragmatic, but basing these definitions on the HDI does avoid one negative aspect of this designation, namely a focus only on economic elements.

10.4.1.2 Action research

To overcome sources of possible internal bias, the action research project triangulated researchers, instruments and data. Research questions, interview designs and data analysis were performed by a team of researchers. It was possible to reflect on the programme from different perspectives because research teams had multiple, changing memberships.

Triangulation of data was undertaken by a variety of methods. First of all, saturation was sought. Second, data collection instruments were triangulated to enhance validity. Data obtained from one instrument was checked using data obtained from two other data collection methods. For example, results of the photo-voice method were checked with results of questionnaires and in-depth interviews. In addition, data was checked between two different researchers or research teams. Data collected on different stakeholder categories was also triangulated. For example, data on relationships between intermediaries and community members was checked in interviews with community members. In addition, there was reflection on preliminary findings and concepts with others outside the programme, including local NGO practitioners, local community members such as shopkeepers, academics and others. The results and findings were also discussed with specialists in various fields such as sociology, social networking, anthropology and economics.

10.4.2 External validity

External validity relates to whether the results are representative and whether they can be generalised to other settings.

10.4.2.1 Critical discourse analysis

In the critical discourse analysis of the SDGs (Chapter 2, Study 1), we based our conclusions on 11 references to knowledge in the document under study. Although these are few, we consider that taking a genealogical approach to past discourses made it possible to use even the small number of clues to reach credible conclusions. The fact that all but one of these references could be categorized as being representative of one discourse, lent further credibility to these conclusions.

10.4.2.2 Bibliographic analysis and social network analysis

One possible weakness of the methodology for analysing the 10 journals in the field of development studies (Chapter 3, Study 2) is that it was very difficult to decide on a sample of journals because the field of development studies is not a discrete entity with a fixed number of journals. Instead, academic knowledge production in this field is published in a wide range of journals, not just those on development studies, but also journals on regional studies, economics, and health (Sumner and Tribe, 2009). We originally tried to combine three different ranking systems, namely journals with an 'impact factor', journals rated A&B (rather than C, D or E) by EADI, and journals rated in the classification developed by Richard Heeks (a prominent academic in the field of information for development) using Google Scholar. Given the very limited overlap between the three different categories, we decided to take the pragmatic step of using the 'well-known journals' identified in an influential textbook on development studies (Sumner and Tribe, 2009: 32). Of the 14 journals on Sumner and Tribe's list, 10 are in the Web of Science (WoS) database. These 10 journals then formed the basis of our sample of journals. Given the similarity of the results from the 10 journals in terms of author locations, it is unlikely that the addition of the other four journals would have changed the findings substantially.

The location of academics in terms of institutional affiliation and country formed the basis of the bibliographic analysis and the social network analysis. Given the mobility of the international labour force, this does not necessarily imply that the author is a national of that country. Indeed, a number of the academics affiliated with institutions in developed countries are nationals of developing countries, and vice versa. In this way, country location is being used as a proxy as has been used by other similar studies (see, for example, Burgess and Shaw, 2010; Ozbilgin, 2004). We consider that this approach is justified because it is related to fundamental issues of exogenous and endogenous development which have been discussed by Mansell (2010).

10.4.2.3 Literature reviews

According to Brown (2008), there are five criteria for evaluating the validity of literature reviews, namely purpose, scope, authority, audience and format. In the cases where literature reviews were employed in this thesis (Studies 3 and 5), the purpose and scope of the literature review was clear. In the case of Study 3, the purpose comprised analysis of the links between the fields of knowledge management for development and transdisciplinary research, and the scope limited to research within these fields. In the case of Study 5, the purpose was a review of literature on how social capital can contribute to development at the grassroots, while the scope was restricted to literature on developing countries in combination with theoretical literature which identified key aspects of mechanisms contributing to strengthening of social

capital. In the case of Study 3, authority was derived from the authors' active participation as researchers in the respective fields under study and from reference to other previous literature reviews. For Study 5, the authority was derived from the fact that the literature review of social capital was based on a series of previous literature reviews (Bebbington, 2004; 2007; 2008; Fine, 2008) and published in the journal *Progress in Development Studies* which specialises in review articles in the field of development studies. The audience and format of both studies was determined by the journals in which the research was published. In the case of Study 3, this was the journal *Knowledge Management for Development* and the study was part of a Special Issue on the topic under consideration. In the case of Study 5, the audience and format were provided by the journal *Progress in Development Studies*.

10.4.2.4 Action research

Given that social capital is very much linked to cultural practices and gender, the approach followed in this thesis might not be replicable elsewhere. Strategies developed in this study cannot be simply reproduced in another setting, although the methodology could be applicable.

10.5 A future research agenda

Based on the findings of this thesis, we see six avenues for possible future research focusing on the impact of the SDGs at the grassroots, the concept of sustainable development, new transdisciplinary research on models of academic publishing, action research in another locality, additional research on social capital, and a literature review focusing on the existing use of transdisciplinary research in development studies.

10.5.1 SDGs at the grassroots

We consider that a development project located at the grassroots would be able to examine the strengths and weaknesses of how the SDGs are implemented. A transdisciplinary approach would be taken with monitoring and evaluation from the perspective of grassroots development so that stakeholders could learn together.

10.5.2 The concept of sustainable development

Sustainable development is generally accepted as a universal development paradigm (UN, 2015). This universality has four aspects, namely the recognition that universal principles, standards and values are applicable to all countries; national and global development challenges are interconnected; sustainable development issues exist in all countries; and commitment to the most vulnerable populations (UNEP, 2015). The insights developed in this thesis might indicate the inadequacy of current general definitions of sustainable development, even the one adopted in this thesis namely:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet

present and future needs. (World Commission on Environment and Development 1987: 43)

We identified two potential inadequacies. First, current definitions might not fully reflect the complexity and the local realities in which sustainable development is taking place. Second, we consider that an improved definition of sustainable development might include processes of self-reinforcing endogenous change at the grassroots, advocated by van Lieshout et al. (2010) and evident in the development programme in this thesis. Based on this perspective, we consider that further research might consider the relevance of sustainable development at the grassroots, based on further analysis of the data from Bangladesh and on a meta-review of definitions of sustainable development.

10.5.3 New transdisciplinary research on academic journals and academic publishing

In the section on academic fields above, we argued that it might be useful to explore the patterns of academic publication, involving a wide range of stakeholders. Such research might be able to address the issue of representation of authors from developing countries in academic journals. For such an exercise, Chapter 3 could be employed as a background study. This initiative would need to be commissioned by a research institute or funding agency.

10.5.4 Action research in another locality

In this thesis, we have developed a novel framework of strategies to strengthen social capital and local knowledge. Another relevant follow-up would be to adopt the approach in other settings to see how they would work and whether the mechanisms and strategies would be different.

10.5.5 Social capital

We also propose more research to consider how different development projects make use of social capital. In particular, we would aim to consider strategies that projects have built to cope with negative social capital, building a greater repertoire of mechanism and strategies for leveraging social capital at the grassroots. In this research, we would also aim to test the application of the dynamic framework from Chapter 9.

10.5.6 Literature review

Given the enthusiasm of Oldekop et al. (2016) for transdisciplinary research in development studies, we propose to undertake a literature review of the extent to which, and how, transdisciplinary research has been or is currently employed in development studies.