

Chapter 2

Literature Review

2.1. Introduction

Participants at a workshop in 2000 convened by the International Institute for Rural Reconstruction (IIRR) succinctly defined scaling up as “the process of bringing more benefits, to more people, more quickly, more equitably, and more lastingly over a wider geographic area”. This is a good working definition, which appeared to have wide acceptance across a variety of sectors. Viewed even in these simplified terms, however, scaling up is a complex subject embodying a myriad of related concepts and assumptions. To better understand this complexity, several bodies of literature are reviewed for this study. First, given that scaling up is a social process, bringing about lasting social change, the actor-oriented paradigm in rural sociology is reviewed to provide a theoretical grounding for the study. Second, the history of rural development strategies is reviewed to contextualise the involvement of multiple actors in rural development and natural resource management. Third, a range of scaling up concepts and assumptions, the challenges identified in scaling up agricultural development and research projects, and a range of case studies are examined to provide a clearer understanding of the variety of issues involved in the scaling up process. Finally, the remaining issues and gaps in scaling up are discussed.

2.2. The Actor-Oriented Approach to Rural Development

2.2.1. Actor-Oriented Approach Versus Structural Approaches

The actor-oriented paradigm stresses the need to give proper weight to both human agency and emergent structures in development analysis, as opposed to the dominant theoretical paradigms of planned interventions from the 1960s, which employ a purely structural analysis of the relationship between inputs and outcomes (Long 1992). This structuralist approach is underpinned by the convergent paradigms of modernist and neo-Marxist models, which both visualise development and social change as emanating primarily from centres of power in the form of intervention by states, sign-posted by stages of development or by the succession of dominant modes of production. Thus the conceptualisation, implementation, and evaluation of development interventions are essentially linear in

nature, involving a step-by-step progression from formulation, to implementation, to outcomes, after which one could make an ex post evaluation to establish how far the original objectives had been achieved (Long & Van der Ploeg 1989).

The shortcomings of the structural models became apparent in the 1980s, particularly in explaining the sources and dynamics of social heterogeneity. Policy analysts were seeking new ways of conceptualising policy formulation and implementation as they began to recognise that policy outcomes are derived from much more complicated processes of interpretation and local action (Long 2001). According to Long & Van der Ploeg (1989), these outcomes may even result from factors not directly linked to policy implementation or program intervention, because in the course of implementation, local groups actively formulate and pursue their own actions that often clash with the interests of central agencies. As a result of this shift in thinking, other contemporary theorists reformulated their approach to structural analysis. For instance, Preston (1996; 1999), in distinguishing the ways of theorising the global system and in developing new interpretations of structural change, identified the logic of interdependence between groups occupying niches in the global scene. This coincided with the view of other scholars, stressing that the process of restructuring should not disembodify the social action of different types of actors because they constitute past and present social struggles (Long 2001). Ultimately, Preston's appraisal of structural analysis points out the need to move away from structural explanations in favour of an agency or actor orientation (Long 2001).

The actor-oriented paradigm coincides with the growing awareness among scholars and professionals of the many ways in which individuals organise themselves individually and collectively in the face of planned intervention. This has gained academic and practical prominence, for example, with the new development paradigms and new professionalism espoused by Chambers (1993b) and, in a similar vein, Korten's (1980) "Learning Process Approach" to community organising and rural development. These authors advocate that development should be people centred, and that learning processes originate in local people and are sustained at their own pace. Related elaborations grew quickly, as evidenced by the rise in the use of Rural Rapid Appraisal (RRA) tools in rural development planning and implementation in the 1980s and Participatory Rural Appraisal (PRA) in the 1990s.

However, the actor-oriented approach is not entirely antagonistic to structural analysis. It views structures, on the one hand, as an extremely fluid set of emergent properties which result from the interlocking of various actors and, on the other, as an important point of reference for further elaboration, negotiation and confrontation of actors. What distinguishes the actor-oriented approach is the abandonment of simple causative notions, such as the idea of “commoditisation”, as this is invariably insufficient to explain actions and outcomes. Long (1992; 2001) emphasises that his objection is to the notion of structure as the basis of explanation as this often results in a reification of central normative or statistical tendencies as explanations. He adds that his critique does not seek to dispense with the idea of structure altogether since the question of how specific social relations are constructed, reproduced, and transformed remains central to actor-oriented analysis. Booth (1994) supports this thinking, stressing that the structure-agency issue remains a central topic for the future of social development both because of the importance of structures for actor-oriented studies, and because of what an actor or constructivist perspective can do for structural analysis. In programmatic terms, Long (1992) views actor-orientation as a paradigm of interface analysis between structure and agency, while the discovery of new variables and outcomes and unanticipated consequences are the pay-off (Booth 1994).

Ultimately, the actor-oriented paradigm is used as a theoretical or methodological approach to understanding social development processes, including planned interventions. Even so, it has implications for development practice as it has a sensitising role to play in the design and management of planned interventions. Its guiding analytical concepts are (1) agency and social actors, (2) the notion of multiple realities and arenas of struggle where different life-worlds and discourses meet, (3) the idea of interface encounters, and (4) the interface in terms of interests, values, knowledge and power, and structural heterogeneity (Booth 1994). In other words, the interaction of different actors in terms of their interests, values, available resources, and the structures attendant to such interaction are crucial considerations in designing planned interventions.

2.2.2. Actor-Oriented Approach to Planned Intervention

Most development theories state that induced technological and institutional change in the form of planned intervention is important to bring about development (Long & Van der

Ploeg 1989). Intervention is thus viewed as a delivery system of some kind of material or organisational input or package from the outside. However, the bulk of evidence runs counter to this, particularly in the highly interactive arena of rural development. For instance, the green revolution technologies of the 1970s had limited geographic capability. The problem was that the dramatic yield increases were only possible in well-endowed areas but not in risk-prone, marginal areas. The main critique of the promoters of the green revolution was the lack of clear understanding of the inequality of initial resource endowments among farmers, leading to further socio-economic inequalities. Agricultural development is many sided, heterogeneous, and complex, based on confounding internal circumstances and external technical, economic or political factors (Long 2001; Long & Van der Ploeg 1989). Hence, an intervention of such magnitude as the green revolution reflects an overly simplistic view of local realities.

In examining the reality of rural development projects, Biggs (1997) argues that projects produce a tremendous range of outcomes and behaviours as a result of constant negotiations for resources, influence and control. For instance, he saw numerous occasions where powerful state agencies controlled decision-making, while in other situations, farmers had successfully mobilised, for example, to bring about a World Bank funded forestry project. Thus, interventions involve different sets of social forces originating from international, national, regional and local arenas, where they interplay to generate specific forms and rhythms of agricultural change (Chambers et al. 1993a; Long 2001; Long & Van der Ploeg 1989). To understand social change, a dynamic approach that stresses the interplay and mutual determination of internal and external factors and relationships is needed (Long 2001).

The actor-oriented paradigm is derived from this realisation, that while important structural changes may result from the impact of external interventions, these interventions enter in the life worlds of individuals and social groups, and are mediated and transformed by these same actors and structures in a social arena (Long 2001). The extent to which these interventions alter the natural workings of a social arena is contingent upon the way different types of actors interpret and shape their actions towards such interventions. Social arenas are social or spatial locations in which the actors contest over issues, resources,

values and representations (Long 2001). Moreover, the actors confront each other, mobilise social relations, and deploy discursive and other cultural means for the attainment of specific ends, including that of simply remaining in the game.

In the actor-oriented paradigm, development interventions are viewed as ongoing, socially constructed, and transactional processes involving negotiation over goals and means between parties with conflicting or diverging interests, and not merely as the execution of a particular pre-planned intervention (Long & Van der Ploeg 1989). Thus intervention is seen as a transformational process where external factors are internalised. It is also constantly reshaped by its own internal organisational and political dynamics and by the specific conditions it encounters or itself creates, including the responses and strategies of local actors and regional groups who may struggle to define and defend their own social spaces, cultural boundaries, and positions within the wider power structure (Long 1992; Long & Van der Ploeg 1989). Along this line of thinking, interventions need to identify specific patterns, strategies, and accommodations that take place between and among actors, and to analyse the ways in which their particular histories, memories, and conceptions shape outcomes (Long 1992; Long & Van der Ploeg 1989). Hence, it is argued that an analysis of planned intervention should focus on intervention practices, the real processes of social interaction that take place, including the attendant forms of discourse of cultural expression, rather on the intervention model per se (Booth 1994).

2.3. Rural Development Strategies

2.3.1. Phases in Rural Development Thinking

The rural sector is significant for economic and social development. Both in terms of size and economic impact, rural producers and their families are important considerations for development policy (Gabriel 1991). Promoting technical change in agriculture has been the main rural development strategy, succeeding the integrated approach of rural reconstruction movements in the post-war era in the 1940s (Shepherd 1998). This aimed to support the national pursuit of economic growth and expansion, but it is increasingly recognised that development is about human improvement and social equity rather than just economic

growth (Gabriel 1991; Shepherd 1998). Hence, the debate about rural development continues, undergoing constant shifts in thinking and in practice.

Conventionally, rural development has been part of the modernisation paradigm, which emphasises capital investment, production growth, modern science and technologies, nation-states and large-scale political and economic organisation, and urbanisation (Shepherd 1998). Thus, the history of planned development in rural areas has focused almost single-mindedly on modernisation of agricultural technologies, growth in production, and the expansion of the market economy (Gabriel 1991; Long 1985; Shepherd 1998). The modernisation paradigm views development in mechanical or structural terms, and has neither helped remove poverty nor conserved valuable social and environmental resources (Shepherd 1998). For Biggs & Neame (1995), an intervention within this paradigm is linear in nature, with a set of predictable outcomes to be achieved through the ordering of project inputs and outputs within logical frameworks. In characterising rural development, Long (1985) finds that development intervention is planned by some public agencies usually based outside the rural population itself. Yet over time, development priorities have shifted considerably. Long (1985) and Shepherd (1998) summarise the shifts in rural development into four approaches.

The first is a phase of “Improvement and Transformation Approaches” in the 1960s, which encouraged production improvements within the peasant sector, leading to new patterns of land tenure and rural settlements. Examples of this are small farmer or green revolution programmes, extension and farmer training schemes, and various self-help projects associated with community development (Long 1985).

The second is the “Basic Needs Approach” of the 1970s, which focused on redistribution of income, fulfilment of basic human needs, and improvement of living standards of the poorest groups (Gabriel 1991; Long 1985). This period was marked by a shift in agricultural research to improve farming practices, augment the productivity of poor people, and promote their fuller participation in society. This philosophy has fed much of development planning in the 1980s, but with limited success because this required fundamental changes in the nature of the state and the national economy to enable the

design of strategies that aim to increase the political influence of the poor. The question arising from this approach is the participation of target groups and the design of participatory intervention programs.

The third shift was more evident in the 1990s in the imposition of structural adjustment programmes (SAPs), focusing on trade liberalisation. The main goal was to reduce economic instability and create the conditions for growth by encouraging citizen-based modes of action and private sector participation. However, there is lack of evidence on how much these adjustments indeed achieved their basic objectives. The problem is that much of these structural adjustments did not touch the life of the rural poor as they lie outside the officially recognised and measured economy (Shepherd 1998).

Finally, a shift was seen from technology development to an organic or holistic approach with sustainable improvement replacing profits, and from technocratic to a participatory and inclusive approach to development management (Shepherd 1998). This shift is widely supported by elaboration of such concepts as sustainable livelihoods (Ellis 2000; Scoones 1998), sustainable agriculture (Chambers 1997; Pretty 1997;1998; Shepherd 1998), sustainable local institutions (Pretty & Frank 2000; Pretty & Ward 2001; Scherr et al. 2001), and gender perspectives. This new paradigm of rural development is substantively moved by the tradition of social science (Chambers et al. 1993a; Hettne 1995; Shepherd 1998). It upholds the variety of experience of development in time and place, and the need to search out what is appropriate and relevant both in terms of explanations and prescriptions (Shepherd 1998). Ultimately, the central thrusts of this new paradigm are decentralisation and empowerment of the rural poor. This shift in development thinking grew in parallel with the elaboration of the actor-oriented approach.

The trend of government decentralisation and participation in development leads to increasing demands for collaboration, joint learning and decision making by diverse groups of actors (Aslop 1998). For instance, from an actor-oriented perspective, technology development is a complex, multi-stranded, and multi-directional process, involving many actors other than scientists in the formal research system (Cramb 2000b). The disparities in actors' perspectives required this process to be centered on building coalitions of interest

(Aslop 1998; Biggs & Smith 1995; Cramb 2000b). Coalitions create a force by combining resources and actions of multiple actors to pursue a common purpose (Aslop 1998; Biggs & Smith 1995; Cramb 2000b). Coalitions also create a “critical mass” that is necessary for powerless groups to enter into a situation of negotiation with higher authorities (Aslop 1998; Biggs & Smith 1995; Cramb 2000b). In the development literature, labour and union movements have demonstrated the power of the critical mass. The implication for decentralised development is that multiple actors should be involved in decision making during planning and implementation of interventions, and development coalitions should be supported to encourage public participation.

2.3.2. Rural Development from an Actor-Oriented Perspective

The actor-oriented perspective gives important insights in the research of planned intervention in rural development. Investigations beginning with an actor perspective have revealed an unexpected heterogeneity of actions and outcomes. Heterogeneity is thus a feature of rural development, emanating from “below” in a diversity of local knowledge (Booth 1994). Adopting the actor-oriented approach to the analysis of rural development intervention processes requires the identification of types of arenas, interface struggles, negotiations and transformations that take place, the actors involved, their identities and their subjective interests and perspectives (Long 2001; Long & Van der Ploeg 1994). Moreover, in the actor-oriented approach, the idea of commoditisation and institutional incorporation in contemporary rural histories becomes real only when given meaning by specific actors themselves. This is based on the fact that integration into new markets or the introduction of new technologies can only be mediated and translated by specific strategies and understandings of the actors involved. This implies the importance of power relations and the active roles of farmers and their interrelations with other actors and agencies within the rural structure. Some of the key actors in contemporary rural development and natural resource management are considered below.

a. Governments

The 1990s marked the re-entry of the state as an important actor in development after periods of severe criticism of its ineffectiveness. As a permanent institution with greater

public accountability, it remains central for long-term national and local development (Philippine Department of Agriculture 2004). With this, it is recognised that the state is important even for the work of NGOs and local groups, because it can create greater political space for local action and empowerment. Uvin & Miller (1996) identified the advantages of the state in broader development efforts. The state has the ability to (1) implement national scale programs, (2) provide important public services, (3) coordinate and arbitrate among various organisations, (4) enable legislation, and (4) provide entitlements. However, state performance has been generally irresolute. For instance, a poverty assessment project in India, Uganda, and Nigeria reported that villagers attributed the decline in poverty to state sponsored development and antipoverty programs, but countless project failures were also observed in other countries, interwoven with corruption and distrust, which drastically reduced the efficiency and effectiveness of public service (Narayan et al. 2000). Nonetheless, central governments are still needed to provide an important non-local perspective with a different incentive structure, containing a broader vision for benefits, such as for forest conservation, arising at regional, national and global scales (Bebbington 1997; Bebbington & Farrington 1993; Kaimowitz 1993).

The current emphasis on decentralisation in many developing countries is also important to note. Ribot (1999; 2000), consistently refers to decentralisation and participation in environmental management, which means shifting of responsibility from central governments to more local levels to manage natural resources. However, while local governments are essential elements in the decentralisation literature, this is not the case in the literature of natural resource management (NRM). Concern for grassroots participation is so strong that NRM studies seem to give less attention to local governments and/or assign them the primary role of promoting local participation (Enters & Anderson 2000; Kaimowitz 1993). The apprehension about local governments is not unfounded, as they are often short of financial resources and technical expertise, and sometimes captured by elites who promote clientelist relations rather than democratic participation (Kaimowitz 1993). Nonetheless, with local governments having more autonomy, their role in NRM should not be underestimated. The theory and evidence suggest that local governments can and should play a more extensive role in NRM (Kaimowitz 1993; Larson 2002). Some cases of more genuine decentralisation in Bolivia, the Philippines, some states in India, and elsewhere

give credibility to the belief that decentralisation done well can bring environmental decisions that are more acceptable to local people and more effective at meeting environmental management goals (Rosen 2004). In general, it appears that local governments are at least no worse at managing natural resources than central governments and theoretically could be much better (Kaimowitz et al. 1998). The challenge therefore is in the ability of both central and local government to complement roles and harmoniously create a structure for effective democratic environmental governance.

b. Non-Government Organisations (NGOs)

A positive trend since the 1980s has been the continuing growth in number, scale, and scope of NGOs concerned with rural development (Chambers 1993b). Korten (1990) helped clarify this transformation by identifying four generations of development NGOs. The first generation was concerned with relief services; the second with community development; the third with development of sustainable systems; and the fourth with people's movements (Chambers 1993b). However, Biggs & Neame (1995) express concerns about the stages and the linear progression these generations supposedly represent. Citing the experience of Philippine NGOs, they argue that the move from political mobilisation to relief provision was a necessary step in response to militarisation in 1987, and was not necessarily a backward move on their part as Korten's typology suggests. Chambers (1993b) agrees that the generations overlap or co-exist; for instance, even if relief and welfare services remain vital activities, progress is made in putting emphasis on community empowerment. Hence, NGO roles are now very diverse including service roles previously carried out by government. The range of activities not only include relief and welfare and community development, but also advocacy and lobbying, development education, legal reform, training, national and international networking, many forms of dissemination, and alliance-building (Chambers 1993b). In fact, they have become potent advocates for better and fairer environmental decisions in the last three decades (Rosen 2004).

In terms of NRM, few NGOs were founded mainly to deal with agricultural technologies but, even so, they combine technology promotion with activities related to livelihood, training, and social services. Agricultural programs of NGOs are relatively small

(Bebbington 1997; Bebbington & Farrington 1993). For example, most NGOs that work with natural resource conservation in Central America have concentrated on simple technologies such as contour ploughing, bench terraces and hillside ditches (Kaimowitz 1993). Disseminating these technologies has also been difficult, and there are few documented NGO success stories with agricultural technology. NGOs tend to avoid complex technologies and leave them with agricultural research institutions. This is because the study of diversified farming systems requires complex methodologies and involves many more variables than considered in traditional agronomy, and most NGOs lack the capacity to carry out this type of study (Kaimowitz 1993). Hence, the idea of linking NGOs with formal research institutions is a necessary logical step. Bebbington & Farrington (1993) adds that if the NGOs' strong point is their closeness to their clientele, and that of research institutions is their technical capacity, bringing the two together could allow each of them to complement the comparative advantage of the other.

c. Public Research Institutions

Impressive progress in agricultural science and food production research has helped significantly in feeding the world's growing population over the past 30 years (International Food Policy Research Institute 2004). However, major challenges remain. Of the 5.1 billion people who live in the developing world, 1.2 billion still confront the ravages of poverty on a daily basis (International Food Policy Research Institute 2004). Accordingly, research for better technologies, appropriate policies and institutions in the areas of food production, nutrition, science and technology, natural resources, markets, and trade are still much needed. These demands imply the need for strategic investments and capacity strengthening in international and national agricultural research institutions to generate global public goods that are available to all, to make real progress in creating economic wealth, reducing poverty, and protecting the environment (Consultative Group on International Agricultural Research 2004).

In the context of NGO linkages with the research sector, public research institutions are now recognised as an important actor in local NRM and rural development, although their physical presence has remained relatively limited. International agricultural research centres have increased their involvement with NGOs as they become interested in natural

resource issues and conscious of the decline of their traditional public sector counterparts (Kaimowitz 1993). There have been examples of this involvement in many countries; for instance, the International Centre for Tropical Agriculture (CIAT) has been involved in setting up cross-institutional consortiums, including NGOs, in several countries (Bebbington 1997; Kaimowitz 1993). Also, research institutions have now enjoined the participation of local governments in on-farm research activities through working with local agricultural extension staff.

Coordination between NGOs, local governments, and research institutions is considered more effective when it focuses on concrete activities of mutual interest (Kaimowitz 1993), but coordinating these types of institutional actors continues to be difficult because many NGOs are critical of government activities, in the same way as governments are critical of NGO work. This is because a significant number of NGOs are directly connected to political opposition movements, and there is real conflict of government policies and the interest of local groups that these NGOs represent (Kaimowitz 1993). Apparently this tension is much less true of international NGOs and research institutions, as they are seen to provide more professional services. Hence there is scope to increase the involvement of international and national research institutions even to more local levels, as they become more important in the highly interactive arena of NRM and rural development.

d. Local Organisations

Governments and NGOs have increasingly come to realise that rural development and protection of watersheds cannot be achieved without the willing participation of local people (Pretty & Ward 2001). A meta-analysis of 80 case studies by Templeton & Scherr (1997; 1999) has shown that local communities have not been passive in the face of environmental degradation. Pretty & Ward (2001) estimate that 50,000 watershed and sustainable agriculture groups have been formed in Australia, Brazil, the USA, and some countries in Africa and Asia. These local organisations typically command confidence because people feel a sense of ownership of them, and feel that these organisations are responsive to their priorities (Narayan et al. 2000). A variety of rural development studies have also shown that when people are well-organised in groups, and their knowledge is sought, incorporated and built upon during planning and implementation, they are more

likely to sustain activities after project completion (Pretty & Frank 2000; Pretty & Ward 2001; Uphoff et al. 1998).

It is said that local organisations are manifestations or sources of social capital. The term “social capital” captures the idea that social bonds and norms are an important part of the basis for sustainable livelihoods (Pretty & Ward 2001). Coleman (1988) describes social capital as a structure of relations between and among actors that encourages productive activities. Social structure act as resources for individuals to use to realise personal interests (Pretty & Ward 2001). Like Coleman (1988), Woolcock & Narayan (2000) define social capital as trust and norms of reciprocity inherent in a social network. Putnam (1993) associates the concept with civic responsibility, while other authors consider it a resource with multiple functions (Sabio 2002). Woolcock (1998) distinguishes different forms of social capital that change as development proceeds. He draws on the sociological concepts of “embeddedness” and “autonomy” at both the micro and macro levels to develop a typology of social capital (Cramb 2004). Social relations embedded at the micro level, which are based on a common history and culture, are termed “integration” or “bonding social capital” (Cramb 2004; Narayan et al. 2000; Uphoff 1994; Woolcock & Narayan 2000). These are the intra-community ties that enable poor people in a village setting to “get by”, e.g., through monitoring of property rights, labour exchange, emergency assistance, savings mobilisation (Cramb 2004). This kind of social network influences collective action and decision-making, leading to another level of social relations at the micro level termed “bridging social capital” (Woolcock & Narayan 2000). These are extra-community networks that enable individuals and groups to tap outside sources of information, support and resources, not just enabling them to “get by” but to “get ahead” (Cramb 2004).

Narayan et al. (2000), in World Bank supported studies on “poverty and development” in 50 countries, differentiated the degree of social capital existing between rural and urban areas. They found that social networks in urban areas had become weaker and more strained, with the growing number of unemployed whose focus is to compete to gain individual benefit, whereas, rural populations appeared richer in terms of community relations and support mechanisms, and happier despite greater poverty. In particular,

indigenous groups in rural areas tended to belong to groups that aimed to benefit the locality as a whole, whereas urban poor people were more likely to belong to groups for individual income gains (Narayan et al. 2000). The identity of rural indigenous organisations was based on a common history and culture, whereas the identity of urban organisations was based on occupation and shared common interest. In addition, indigenous households participated in organisations much more than their non-indigenous counterparts. Narayan et al. (2000) conclude that when individuals and social groups are disconnected, it is difficult for them to organise around shared issues to bring about change, and social mobilisation is unlikely.

According to Pretty & Ward (2001), social capital manifested in local groups is linked with improvement in natural capital. Indeed, the effectiveness of local groups and associations for sustainable environmental and economic outcomes has now been widely recognised (Pretty & Frank 2000; Pretty & Ward 2001; Uphoff 1993). Their efforts also result in changes in human welfare that produce further dynamic changes within the community (Scherr et al. 2001). However, while local organisations are thought to have positive impacts on local welfare, local resources, and watersheds there has been little documentation (Scherr et al. 2001). Scherr et al. (2001) conclude that the establishment and empowerment of local organisations is not a panacea for the serious challenges in NRM; it is only a necessary step. As local capacities are constrained by many social and political factors, governments, NGOs, and other actors are equally important and will play critical roles in assuring the effectiveness of local organisations. Ultimately, the involvement of multiple actors is essential.

2.4. Scaling Up Concepts

As mentioned earlier, the concept of scaling up is complex, and different definitions have been used in the literature. According to Uvin & Miller (1994), its description is as varied as the people who have written about it, suggesting that the concept of scaling up is a constellation of several theoretical perspectives emerging from different disciplines. However, different sectors, including education, health, nutrition, and agricultural extension, have equated scaling up with expansion and replication to reach out to more targeted groups in wider areas to increase the level of project impacts. Its basic meaning is

commonly understood as a form of expansion, or a planned dissemination effort designed to be faster and of greater magnitude than the normal process of expansion.

2.4.1. Definitions and Taxonomies of Scaling Up

Some writers hold more complicated views of scaling up. For example, Krishna et al. (1998) regard scaling up as a process of adaptation, innovation, feedback, and expanded human capability. On the other hand, Lecomte (1996) based his concept of scaling up on different phases of maturing self-help organisations and uses autonomy, self-reliance and independence as indicators of scaling up (IIRR 2000). A management-oriented view considers scaling up as an institutional process, but with sociological undertones. Berman & Nelson (1997), Senge et al. (1999) and De Leener (2000) view scaling up as an institutional process, which requires various levels of policy and institutional arrangements, relationship building, and marketing. Relatedly, in Korten's (1980; 1990) "Learning Process Approach" to program development, scaling up is analogous to the "learning to expand stage". The first stage is learning to do things effectively through an action research process. The second stage is learning to be efficient, reducing the input requirements per unit of output, as important activities are gradually routinised. In the expansion stage, the concern is an orderly phased expansion process, emphasising organisational capacity and continued refinement to respond to the demands of large-scale operations. However, Korten warns that it is more likely that some loss of effectiveness will be a necessary price of increasing efficiency, and expansion also means some inevitable sacrifice in effectiveness and efficiency. The rate of expansion will be governed largely by how fast the necessary organisational capabilities can be developed to support it (Korten & Klauss 1994). Ultimately, for Korten, Senge, De Leener and many others, scaling up has both institutional and political dimensions, and influencing politics is an important aspect of scaling up.

Drawing on a comprehensive study of the World Hunger Program, Uvin & Miller (1996) develop a taxonomy of scaling up based on structure, program, and strategy or resource base. They distinguish four types of scaling up, namely quantitative, functional, political, and organisational. Quantitative scaling up simply means an increase in the number of people drawn into the program or organisation, while functional scaling up takes place

when new activities are added to the program, implying an expansion of operational range. The process becomes political when there is deliberate building of a political power-base in the desire to reach higher goals of the organisation. Where changes in organisational structure are made to ensure sustainability, the process becomes organisational scaling up. Similarly, Goran-Hyden (1999) differentiates organisational scaling up, i.e., serving larger constituencies without necessarily changing goals, from functional scaling up, i.e., diversifying activities and expanding goals for the same target clients (IIRR 2000). Gaventa (1998) concurs that scaling up has a “quantity” dimension, which means an increase of participants or places in which participation occurs, while “scaling out” is the expansion of participation from one activity to another.

The IIRR definition of scaling up, mentioned at the beginning of this chapter, connotes an integration of vertical and horizontal movements across institutional levels. First, vertical scaling up involves both lower and higher levels of stakeholders (e.g. farmer, extension agents, policy makers, donors, etc.). This process, as a form of political scaling up (in Uvin and Miller’s taxonomy), seeks hierarchical involvement of stakeholders, normally carried out by influencing government officials. Horizontal scaling up (for others, “scaling out”) is geographical spread, which means covering more people and expansion within the same stakeholder group (IIRR 2000), a form of quantitative scaling up in Uvin and Miller’s taxonomy. However, participants of the IIRR workshop argued that a third direction is feasible, that is, “scaling down”, which involves breaking down big programs into smaller units and achieving wider participation among stakeholders. In summary, scaling up is a multi-directional process, where the degree of integration of these movements is dependent on the major activity at each stage of the process.

Following on the studies of scaling up NGO programs in India, Uvin et al. (2000), summarised two paradigms of scaling up. The “old” paradigm is about scaling up through expansion whereby NGOs become larger, more professionally managed, more efficient, and programmatic institutions. The “new” paradigm is scaling up through multiplication and mainstreaming, through spinning off organisations, letting go of innovations, creating alternative knowledge, and influencing other social organisations. However, the two

paradigms were said to be non-exclusive; NGOs can choose to move forward by employing these paradigms simultaneously or successively.

Reviewing experience in the social sector (health, education, community service, etc.), Oudenhoven & Wazir (n.d.) distinguish five paths to replication and scaling up. The first is the “franchise” or “cookie-cutter” approach, which carries a set of inviolable performance standards. A central agency provides technical assistance, training and marketing to ensure that the components of the prototype programme are maintained. Second is “mandated replication”, applicable to both private and government agencies wanting to disseminate a prototype programme through their own structures as a matter of organisational charter. In this case, there is not much choice involved, as the process is usually top-down. The third is “staged replication” that follows a pilot stage, a demonstration stage, and a replication stage. The fourth is “concept replication” where focus is on general components and principles that can be transported to other sites, rather than on specific elements of the prototype programme. Unlike in the other approaches, strict adherence to program strategies is not required and success is measured in terms of adaptation to each particular situation. Finally, “spontaneous or endogenous replication” is need based, characterised by spontaneous and informal contacts between like-minded individuals. The demand for the prototype comes from below and communication is maintained as a two-way process where participants converge to create and share information.

The above elaboration of scaling up by different authors does not result in a definitive definition of scaling up. Rather, it highlights some basic ideas of what is meant by scaling up, the forms it could take, and the possible ways to make it happen. For this study, the IIRR working definition of scaling up is adopted, hence the term scaling up is used interchangeably to include “scaling out” or “scaling down”. Having examined the meanings of the term, it is now useful to explore the latent premises and basic concepts of scaling up.

2.4.2. Basic Concepts in Scaling Up

In general terms, scaling up begins with the basic assumption that there is a product, a process, or innovation worthy of expansion, and a universe of potential users who could

benefit. This notion is based on the condition that an innovation has already been adopted on a small scale and is ready to be disseminated on a much wider scale--the scaling up stage. Following Rogers (1995) on technology diffusion and Oudenhoven & Wazir (n.d.) on replicating social programs, scaling up thus involves a proven set of products or innovations that is assumed to benefit a wider group of clients, and the processes involved in delivering the innovation to the intended clients. This process could proceed spontaneously or be planned, but in both cases understanding the pre-requisites will not only ensure greater possibilities for spontaneous diffusion but, more importantly, will help in systematic planning for accelerating the scaling up process (IIRR 2000).

a. Universalist and Contextualist Approaches

For clarity in understanding the concept of replication and scaling up, Oudenhoven & Wazir (n.d.) outline two basic approaches, the universalist and contextualist approaches. Proponents of the universalist approach share a belief in broad principles which can be applicable to a very wide band of practices and situations, hence this approach is characterised by a supply-determined dissemination mode. In contrast, the contextualist approach emphasises local practice and initiative, spontaneity, mutual learning and problem solving with a demand-driven dissemination effort.

The universalist approach is attractive among donors and implementers for rapid scaling up of successful programs. The caveat is that the strategies and processes employed could be initiator- or sponsor-oriented. The designation of the initiating actor has far-reaching consequences, immediately building into the process a “source bias”, reflecting the interests, style and values of the initiator and possibly overriding the local situation. The franchise or cookie cutter approach, blueprints and pilot projects are usually contained in the universalist perspective, and are often criticised in the discourse on participatory approaches.

The contextualist approach puts emphasis on particular settings where local needs and conditions are accorded high importance. This approach has been widely supported in the literature, particularly by Chambers (1997), who has promoted the “putting the last first” paradigm in extension, research, and rural development. However, in applying this

approach, there is a need to pay special attention to the process of identifying local needs, as this could be short-changed or negated, defeating the whole basis of local participation. In summing up, Oudenhoven & Wazier (n.d.) argue that the two approaches enjoy their own individual merits, and with much reflection, might be combined in practical situations.

The universalist and contextualist distinction is akin to the argument on commonality and specificity. The problems facing most countries of the world have an element of commonality wherein common interventions could be applicable (Oudenhoven & Wazir n.d.). However, finding a common solution to shared problems can be overwhelming, in that the underlying contextual differences could be easily negated. Hence, care needs to be exercised not to ignore the underlying specificities of a local situation. The argument running through this is that such concepts as “universalist and contextualist” and “commonality and specificity” are not mutually exclusive but could be combined with careful assessment. This means that scaling up efforts should not be locked in to one approach or the other.

b. Diffusion, Dissemination and Extension

Although scaling up implies a much broader context and scope, the concept has links to the works of Rogers (1995) on technology diffusion and Glaser et al. (1983) on dissemination and extension. These authors point out that diffusion is a meta-theory combining several theoretical perspectives. Diffusion or dissemination is a process by which an innovation is communicated through certain channels over time among the members of a social system, resulting in widespread adoption of the innovation (Rogers 1995). The elements of diffusion theory are the innovation itself, communication channels, time, and the social system. The characteristics of the innovation are important. Potential users consider the adoptability of an innovation based on its relative advantage, compatibility, complexity, trialability, and observability. In practical terms, the relevance of an innovation is the underlying basis for adoption and diffusion; this too is central in the scaling up process.

On the other hand, extension is defined as the provision of a continuous flow of information and data for decision making, to motivate the clientele to learn more, with self-development as the main benefit (Bhatnagar & Desai 1987). In the agriculture sector, contemporary

extension primarily involves a planned technology transfer, emphasising relevance of technologies to farmers, ensuring “adaptation” rather than straightforward adoption as a valid response to extension, and that the transfer process is based on sound principles of adult learning and participatory processes (Scarborough et al. 1997). Thus, one common element of diffusion, dissemination, extension, and scaling up is that an innovation is ready to be communicated, expanded, transferred, and adapted with the end view of reaching out to more people, more widely for more benefits.

Contemporary approaches to extension (at least in theory), involve scaling up technical innovations and practices through participatory approaches and wider stakeholder involvement. However, the deliberate process of scaling up begins when the extension agent recognises that an adopted innovation is adoptable in other locations. For Oudenhoven & Wazir (n.d.), studies of diffusion, dissemination and extension give an understanding of the dynamic process of linking technology adoption to disseminating the technologies widely, involving deliberate linking of the innovation or concept to a universe of potential users. This line of thinking raises the point that there is an element of supply-driven extension in planned diffusion or dissemination, just as in scaling up. Thus diffusion and dissemination are key concepts of scaling up.

c. Actor-Innovation Systems

In examining the strengths and weaknesses of the methodological approaches to scaling up agricultural technologies, Biggs (2003) contrasts the so-called “pipeline model” and the “innovations systems model” for understanding innovation processes and diffusion. The idea of the pipeline model is that technological innovations come from the actions of planned research, which follows linear stages of problem identification, research formulation and implementation, dissemination or scaling up, and evaluation. Subsequently, learning takes place and the whole cycle starts again, with identification of second-generation problems (Biggs 2003). The green revolution model in India is a classic example of the pipeline model where technologies generated elsewhere (wheat varieties in Mexico) were tested and disseminated in many developing countries within differing conditions. This model has obvious roots in modernisation and structuralist approaches discussed earlier in this chapter. Hence, it is often referred to in the literature as the

“transfer of technology”, “top down”, or “linear model for research and development” (Biggs 2003).

On the other hand, the actor-innovation systems model is more holistic, where the major actors that influence the generation and diffusion of an innovation are identified and the relationship between these actors is investigated over time. Further, the model recognises that agriculture and NRM are constantly undergoing change, and pragmatic decisions are taken on a day-to-day basis. This model has its roots in the actor-oriented approach (Long 1985;1992;2001).

Biggs (2003) argues that the actor-innovation systems model is a better model because it starts by recognising the central role of people and institutions in technology generation and diffusion. It examines the overall sense and focus of actions of specific actors, as opposed to the pipeline model, which follows sequential processes, and learning takes place at the end. In Nepal, many actors in research and development (R&D) have used this model to conceptualise innovation processes and to encourage cost-effective ways forward (Biggs 2003). In using this model, the practical implications for scaling up are clearly about understanding and explaining the past and providing a better framework for planning purposes. Biggs (2003) concludes that the actor-innovation systems model is a shift in the centre of gravity in the way R&D and scaling up should be thought through.

d. Scaling Up and Social Marketing

Uvin et al. (2000) found that the evolution of programs, particularly those of NGOs, start with deliberate entrepreneurial initiatives, characterised by the passionate involvement of an individual or a small group of people. Racine (1998) and Oudenhoven & Wazir (n.d.) support this view, in that scaling up social programs requires the initiator to play an entrepreneurial role to engage in social marketing. They suggest the social sector to look at the experience of the business sector, where the environment is considered as a market, where products are diffused, exchanged, or traded. Accordingly, just like starting a new business, social programs like health, nutrition, and education should have strong public appeal, requiring popular strategies and charismatic program entrepreneurs. The caveat is that, in contrast to the business sector, social or agricultural extension programs are

restricted in the use of copyrights or patents of successful innovations, and preventing misuse of the key concepts and strategies of the innovation is a major problem. It is hard to juggle the business principles of standardisation with that of agricultural extension due to the latter's strong adherence to principles of participation, ownership, transparency, and empowerment.

Racine (1998) presents four critical questions that need to be addressed when replicating or scaling up social programs: (1) whether the program has worked well in one area; (2) whether it is likely that the program will work elsewhere; (3) how can an organisation get the program to work in another situation; and (4) what kind of resources will it take the program to work in other locations. He developed a detailed scheme to determine the replicability or marketability of a social program based on analysis of the relationships between (1) market and program, and (2) outputs and process. The analysis of the “market and program” relationship focuses on the characteristics of the program in relation to market conditions in which the program is going to be applied. On the other hand, the “output and process” relationship centres on analysis of program outputs and the processes involved in achieving such outputs. Table 2.1 summarises the criteria for replicability of social programmes based on Racine's (1998) analysis of relationships between “market and program” and “outputs and process”.

The main idea running through Racine (1998) and Oudenhoven & Wazir's (n.d.) arguments is that replicating or scaling up social and agricultural extension programs could benefit from the experience of the business sector, in that both require entrepreneurial activities. They maintain that the experience of modern franchised operations might be helpful, as they are now allowing for local input and creativity through market research and niche analysis. Racine (1998) maintains that with proper planning and analysis of the relationships between “markets and program” and “outputs and process”, it is possible for donors, implementers, and participants to assert strict adherence to fixed standards of effectiveness in scaled up social programs without negating local specificities.

Table 2.1 Racine's criteria of replicability

Category	Criteria	Description
Program-Product Relationship	Effectiveness	The program is asked whether it advances its particular field or objectives.
	Explainability	The program is clear how and why it achieve its results.
	Focus	The program results match the problem it is supposed to address.
	Speed	The program generates worthwhile outcomes quickly
Program-Process Relationship	Specificity	The more specific the elements of a program, the more it can be spelled out concretely
	Coherence	The parts of the program reinforce and complement each other.
	Affordability	The cost can be quantified and potentially compared to other programs
Market-Product Relationship	Significance	The program has a wide appeal and relevance.
	Marketability	The program respond directly to specific needs in areas it will operate.
	Learnability	The program is not too difficult to learn to implement.
	Resilience	The program has the ability to detect signals and collect feedback.
	Responsiveness	The program can alter its operations in response to changing situations.
Market-Process Relationship	Manageability	The program has clear set of goals and objectives to manage in terms of available resources.
	Localisability	The program has adaptive features that can change from location to location.
	Embeddability	The program can be applied based on local setting
	Dynamism	The program remains useful and even grows stronger with changing market conditions.

2.5. Challenges in Scaling Up Agricultural Development and Research Projects

There were dissenting perceptions among aid agencies on agricultural projects that progress has been slow and impacts are below par. A recent analyses of 95 agricultural project evaluations logged in the Overseas Development Assistance Committee (ODAC) database shows a disturbing rate of failure, with at least 27 per cent of projects having non-sustainable structures, practices or institutions, and 10 per cent causing significant negative environmental impacts (Pretty 1997). After decades of strong investment in both international and national agricultural research, there are signs of stagnation of support, and research institutions need to reinvent themselves to demonstrate that they are valuable and competitive investment of public resources (Denning 2002).

According to Pretty (1997), the reasons for failure of agricultural development projects include an emphasis on external technologies; absence of local participation, ineffective training of professionals, and institutions working with no orientation towards the diversity of local conditions and needs of local people. Pretty (1997) summarised the following

important considerations related to scaling up, based on the evidence of the completed review of agricultural development projects:

- *Imposed technologies do not persist.* Practices are not likely to persist after project termination if financial incentives or coercion are used to encourage people to adopt sustainable agricultural technologies
- *Imposed institutions do not persist.* New institutional structures that are imposed at the local level, such as cooperatives, rarely persist beyond the project.
- *Expensive technologies do not persist.* Expensive external inputs or high technology hardware are not likely to persist beyond the project.
- *Sustainability does not equal fossilization or continuation of a thing or practice forever.* Sustainability implies an enhanced capacity to adapt in the face of unexpected changes and emerging uncertainties.

Castellonet (2001) adds that the biggest obstacle to the widespread use of technologies in agroecology and NRM is the demand for specificity in its application to work well with each particular agroecosystem. Accordingly, these technologies are “knowledge intensive” and entail high quality of fine observations on nature’s features, which is more easily found in traditional farmers than in broad knowledge engineers or agricultural specialists.

However, in an environment of shrinking resources, it makes sense on pragmatic and economic grounds to scale up programs that have proven success rather than reinvent the wheel (Oudenhoven & Wazir n.d.). It is suggested that replicating good practices is a cost-effective means of utilising scarce resources. Successful initiatives in sustainable agriculture and NRM need to be scaled up in order to spread their benefits more widely (IIRR 2000). It is recognised that failure to spread these successes would mean a greater failure to rescue lost opportunities to increase agricultural production in economically viable, environmentally benign and highly vulnerable farming communities. Pretty (1997) suggests that those small-scale programs that are sufficiently successful to suggest the need for application on a much wider scale should adopt flexible, inter-disciplinary and local approaches, build on local knowledge, and reinforce local social organisation through active rural peoples’ participation (Cramb 2000c). Taylor (2000) supports this view, and

adds that, although specific solutions for each community will differ based on the hopes, capabilities and resources of that community, there is a common process that can work, so every community can reach all its people— a way of sifting out which among the older processes, brought us the good that we have today—and then recognising those successes so actions build to continued progress.

Pretty (1998) argues that sustainability ought to mean more than just agricultural activities that are environmentally neutral or positive; it implies the capacity of activities to spread beyond the project in both space and time. He stressed that a successful project that leads to improvements that neither persist nor spread beyond the project boundary should not be considered sustainable. Here, scaling up is tied to the notion of sustainability.

However, several concerns were raised related to replicability and scaling up, because so far, there is little documentation of large-scale replication of pilot success (Van de Fliert et al. 2000). One concern raised in scaling up is the risk of using successful initiatives as blueprints. Malvicini & Jackson (2000) argue, that pilots rarely go to scale, and scaling up remains rhetoric particularly in large-donor-funded initiatives. According to Chambers (1993b), this is particularly true when these pilot projects are considered core programs described as spreading standardisation over diverse realities. However, a common understanding of scaling up places the concept as a social process that fits well with Chambers' (1993b) new development paradigm, where development programs embrace diversity in ecological and socio-economic conditions to generate solutions and determine pathways. In this context, scaling up a pilot project is viewed as a learning process, embracing diverse local realities and acting on the basis of needs and complementarity of skills and resources of the actors involved.

2.6. Illustrative Cases and Case Study Reviews

Despite the growing interest in scaling up, discussions remain compartmentalised with little or no acknowledgement, cross-referencing, cross fertilisation or exchange (Franzel et al. 2002; Gundel et al. 2001; Oudenhoven & Wazir n.d.). This results in a limited and sporadic discussion at the academic and scientific levels. Quite recently, though, a number of case studies and reviews on scaling up experiences, as well as international and national

workshops, have been conducted to unravel the complexities of scaling up and to find strategies for improvement. The following case studies were selected to illustrate some of the concepts discussed earlier. The same case studies were presented to the IIRR International Workshop on Scaling Up in the Philippines in 2000, sponsored by the Consultative Group on International Agricultural Research (CGIAR). In addition, three major case study reviews were examined. Since the focus of this study is scaling up the Philippines Landcare Program, it was also important to review the literature on Australian Landcare.

2.6.1. Case Studies from the Philippines Scaling Up Workshop

a. The Integrated Pest Management-Farmer Field School Program (IPM-FFS)

The IPM model involved more than two million farmers from season-long FFS across many countries in Asia. The FFS is a field-based learning experience based on adult education principles that lasts for a full cropping season. Farmers meet at least 12 times for four to five hours per meeting. Each meeting consists of a set pattern of activities: agroecosystem field observation, analysis and presentations; special topics; and group dynamics. The school meets throughout the cropping season in order that participants can observe and analyse the dynamics of the rice field ecology across a full season. Geographic expansion went along with an increased range of activities including health risk reduction programs, farmer organising, policy formulation and advocacy, and the creation of a large-scale cadre of Asian IPM trainers. The FFS is considered a most promising multiplier of program success, and the farmer trainers had become the major vehicle for scaling up (Roling & Van de Fliert 1998). At the peak of its global success, however, FFS facilitators encountered problems of differing development paradigms and vested interests. According to Dilts (2000), government systems are geared to providing inputs, not empowerment, and enlightened agencies have difficulty in “letting go” of control and putting the development of sustainable agriculture back into farmers’ hands. Hence, building a farmer-led movement through the existing system was problematic. To further the scaling up agenda of IPM, Dilts (2000) suggests devoting time and resources to “scaling down and out”, and to finding a better framework to integrate and explain its current directions.

b. The Campesino-a-Campesino Movement

The *Campesino a Campesino* (farmer to farmer) movement traces its beginning to a small group of the Cachikel Mayans in the Guatemalan Highlands, and now includes 10,000 farmers across Central America. The movement is based on innovation and solidarity through small-scale experimentation, and widely sharing knowledge through farmer-to-farmer exchange (Holt-Gimenez 2000). Farmer promoter-teams and peer mentorship are key programs. The movement has influenced professional NGOs to adopt some of their methodologies, and it has reshaped the technical and methodological agenda of many NGOs. However, despite its extensive presence in the largest farmers' union in Central America, it has not been very successful in scaling up its agenda within national and regional farmer organisations. According to Holt-Gimenez (2000), stakeholders at this level are primarily unsupportive of sustainable agriculture, and sheer lack of power sharing and dominant conventional strategies precludes the union of potentially interested parties. The limits to scaling up are more related to structural problems, national policy contexts, and institutional behaviour, than technologies. The policy and institutional environment only manifest symbolic gestures and do not really support farmer-led developments.

c. The Brazilian Experience in Participatory Development

The AS-PTA (Asesoria en proyectos de tecnologia alternativas) implemented its development programs initially with 160 farmers in three communities for six years along the border of Parana and Sta. Catarina states in southern Brazil, and expanded to work with 5,000 farm families in 150 communities. The approach was to identify major constraints in agroecosystems through participatory methods and develop technical solutions (Von der Weid 2000). Farmers carried on field activities in on-farm small-scale experimental plots. Limitations to farmers' adoption were observed due to (1) high costs of technical innovation, (2) limited market access with middlemen taking most of the benefit, and (3) the high costs involved in technology generation and dissemination as AS-PTA lacks resources to involve more communities in the expansion program. To scale up further, it was proposed to provide farmers a loan to convert their agricultural system to an agroecological pattern, and to enlarge and unite several existing small family farm cooperatives. This requires a capital outlay of US\$2 million, but with some 20,000 farm-

families running their own business venture. In this case, an intensive process of education, experimentation and farmer exchanges is much needed. The costs of this new scaling up process would amount to US\$1.7 million over a five-year period (Von der Weid 2000). This may appear expensive, but on a per capita basis the investment is only about US\$175 per farmer over five years, which is much less than government spending in all categories of research and extension (US\$1,000 per farmer). The AS-PTA is hoping to demonstrate a rational and efficient way of government expenditure for the benefit of the 55,000 farm families in the southern Brazil.

d. *The Agrarian Reform Communities Project in the Philippines*

The Department of Agrarian Reform (DAR) is a state agency tasked to develop Agrarian Reform Communities (ARC) to reduce poverty through land allocation. Scaling up efforts were pursued through a World Bank-assisted project covering 140 ARCs across 25 provinces nationwide. The scaling up goals were to (1) ensure 80-100 per cent participation of beneficiaries, (2) set up ARC learning centres to showcase performing technologies and approaches, (3) pilot a multi-agency approach to planning a comprehensive ARD Development Plan for eight provinces, and (4) mainstream project innovations within the department's regular programs with local government units. The project has five years to make a meaningful contribution to scaling up the impact of this strategy (Dacanay 2000). It is expected that the crucial factor for success would be institutional in nature, that is the leadership of DAR in taking advantage of helpful innovations that bring more impacts, even beyond what the project originally envisioned.

e. *The Cambodian Agricultural Research and Development Project*

The Cambodia-IRRI-Australia Project (CIAP) started in 1988 with resource-poor rice farmers as the target group. The project focused on improved rice production technologies that were disseminated and scaled up geographically through the joint efforts of the Royal Government of Cambodia with assistance from bilateral agencies, the United Nations (UN), and NGOs operating within the area. The major limitation to further scaling up is the lack of institutional capacity of the central agency. In part, NGOs and their networks supplemented this limitation. The project was instrumental in the establishment of a

national R&D capacity, which was deemed important in sustaining the scaling up process. Lessons from other IRRI projects stress the importance of a project driver, capacity-building, good collaborators and funding, and of matching stakeholder needs with incentives and technology (Nesbitt et al. 2000). The project recommends the continuous utilisation and improvement of farmer focused approaches and strong NGO linkages in pursuing the scaling up agenda.

f. The Bangladesh Expansion of Micro-Credit Programs

The Association of Social Advancement (ASA) focused its programs on economic empowerment of its members following the successful Grameen Bank model. The corporate policy stressed the importance of strategies that do not create donor dependence, but instead achieve financial viability at an early stage. It developed a low cost and fast expansion strategy that enabled it to serve a larger number of poor people while moving towards financial viability (Jain 1994;2000). Beginning in 1991, ASA has burgeoned to become one of the largest and best-reputed micro-credit programs in Bangladesh, with a ten-fold increase of its borrower-base and twenty-fold increase of its loan portfolio within a period of six years (1992-1998). The scaling up agenda was focused on increasing the number of beneficiaries and expanding the coverage, and the range and quality of financial services extended to borrowers. However, ASA is facing some issues in their scaled up operations, including maintenance of financial viability, staff training and development, limited local group development and leadership, responsiveness to strategic needs and donor preferences, maintenance of quality with increasing size, risk management limits, and product or service matching with user needs. Based on this experience, scaling up was seen to involve balancing opposing factors, such as participation and hierarchy (Jain 2000).

g. The South African Soil Fertility Management Innovations

ICRAF scientists in Eastern Zambia have been working with farmers in implementing on farm research on improved fallow technologies. *Sesbania sesban*, an indigenous nitrogen-fixing tree, was found to be superior in the species screening trials. Since 1999, a growing number of farmers are participating in the evaluation of this technology. Strategies to scale up technology adoption were implemented with four groups of stakeholders: (1)

governments and their extension service; (2) NGO networks; (3) grassroots movements; and (4) policy decision-makers, to facilitate a platform of discussion between policy-makers and scientists. The success factors are summarised to include (1) the process of technology development and the technology itself, (2) the good and effective relationship with partners, (3) the economic analyses that explain the profitability of the technology, (4) a dissemination network with NGOs, (5) adequate funding, and (6) committed leadership. However, the unavailability of seed was a major bottleneck. There was also a weakness in the extension system in terms of budgets and low morale of staff, hence technical backstopping was inadequate. The demand for backstopping becomes more critical as adoption increases. Some NGOs were also found to be not sufficiently adept at meeting farmers' technical needs. It was also recognised that technologies may fail to realise their potential without supporting policies, which are important in ensuring lasting impacts (Kwesiga et al. 2000).

h. The Watershed Development Program in India

In 2000, the Indian government merged the guidelines of the watershed development program of the Ministers of Agriculture and Development to produce a common framework for the implementation of micro-watershed management programs across the country (Pangare 2000). Since then, watershed development programs have grown fast, geographically and quantitatively, and in terms of stakeholder involvement from the government, non-government and participating communities. Scaling up is supported formally by government through funding of community projects implemented by NGOs, and informally through cross learning between and among NGOs and village communities. However, the process of partnership building and developing plans runs the risk of foregoing the interests of resource-poor groups and women in the village, in an attempt to push centrally-driven goals in watershed management. The NGOs working in the area recommended that phased implementation of the program should occur with a "community organising" focus in the first phase, before the physical works start. According to Pangare (2000), strengthening people's institutions will increase the propensity of individuals to take responsibility and accept accountability, and therefore will help to sustain the program and scale up their interests and positive experiences to neighbouring villages.

i. The Swedish Working Life Fund

The Swedish Working Life Fund (SWLF) invested more than US\$ one billion in over 25,000 local projects. Within five years (1990-5), over half the country's workforce had been touched by these projects, supporting significant changes toward popular empowerment and increased productivity (Malvicini & Jackson 2000). The project claims genuine originality, refuting the effectiveness of the "blueprint" approach. The role of SWLF staff was to support project organisations' internal "infrastructure of change", opening up space for people to create their own change. This case presents a learning strategy designed at the national level in that, instead of simply supporting local initiatives, it started with a large-scale strategy in which the local initiatives were elements. The fund pooled the experience and learning of people in process, not just after the fact. While this case is instructive for scaling up efforts, its application could be limited in developing countries. As an industrialised country with strong traditions of social and industrial democracy, success depended on established, well-organised groups, strong policy support, and substantial investment from the national government. Despite the context-specific dimensions of the SWLF case, lessons learned challenged the predominant pilot strategy for scaling up.

j. Key Findings of the Case Studies

The case studies suggest three modes of scaling up, characterised by their points of departure and their trajectories. The first illustrates a bottom-up mode where a successful pilot or small-scale program was scaled up to cover a wider geographic area (e.g., AS-PTA; Bangladesh Micro-Credit Program). The second is a top-down mode, where a relatively large program (nation-wide) covered wider areas by "scaling down" or breaking large-centralised programs into smaller units to implement nationally driven "localised programs" (e.g., IPM; SWLF; Indian Watershed Management Program). The third mode is multi-directional, a combination of the two previous modes, where large-scale projects expanded to cover much wider geographic areas at regional or national levels (e.g. IPM). This is done initially by scaling up vertically, involving higher order discussions, followed by scaling down programs and structures to reach out to target groups, and finally, scaling out horizontally to cover more participants in much wider areas. According to IIRR (2000)

involving higher institutional structures (vertical) will increase the chances for horizontal spread, in the same way as spreading further geographically (horizontal) will increase the chances for influencing those at the higher levels. In any case, scaling up can proceed in one or a combination of these directions.

The case studies also demonstrate the types of scaling up described by Uvin & Miller (1996). The majority of case studies increased the number of participants drawn into the program (e.g., 160 to 5,000 farm-families of Brazil's Participatory Development Program) with corresponding increase in program activities. Organisationally, adjustments have to be made in staffing and task assignment to ensure that the increase in number of participants, range of activities, and area of coverage are addressed (e.g., Bangladesh Micro-Credit Program; IPM). Several cases also scaled up through central governments. The African Fallow Management Project, the IPM Program, the Philippines' ARC Project, the Indian Watershed Development Program, and the CIAP pursued large-scale implementation with involvement of national level policy-makers. The case studies showed that scaling up is less successful in a political environment where policy-support that enables the construction of partnership is missing (e.g., Campesino Movement). However, the IPM experience with governments also shows that government support can create problems due to differing values, work ethics, and traditions. Likewise, government institutional structure was found to be weak in carrying-out the tasks of large-scale projects.

Except for the Campesino Movement, the cases show that scaling up was primarily initiated by the "sponsoring agency", although local partners, for example, farmer groups, were also involved as part of an over-all strategy for scaling up. The Campesino Movement scaled up (to reach out to more campesinos) more spontaneously than planned, due to a hostile political situation constraining the establishment of partnership with government. The sponsoring agencies were attempting to scale up technical innovations, processes, structures or systems; a combination of technical and social technologies that were all contained in a package or "program". While doing so, some aspects of programs appeared to be less replicable or were difficult to scale up due to a myriad of factors.

In summing up, the case studies suggest that the requirements for scaling up include (1) logistical support, (2) organisational capacity, (3) broader partnerships, (4) adoptable technologies, processes and structures, (5) capacity-building for partners, (6) willingness to change, and (7) political and administrative support. The lack of these would make scaling up difficult if not impossible.

2.6.2. The Australian Landcare Program

The case of Australian Landcare is particularly relevant to the present study. The account given here is based on both literature review and interviews with leading figures in Australian Landcare.

Australian farmers and voluntary groups had started to work cooperatively on salinity and erosion problems at a district scale from in the early 1980s, notably in Western Australia and Victoria. In other parts of Australia, there was also a range of community-based tree farming groups and special interest groups that had similar characteristics (e.g. Midlands Tree Committee in Tasmania), particularly in farmers' enthusiasm for the voluntary group concept. In early 1986, Victorian Conservation Minister Joan Kirner established a new land protection program based on community participation and holistic land management principles. In an interview, she said that there was ample scope to bring local communities into frontier rural development, as their actions are likely to shape the future of rural Australia.¹ In the same year, the Victorian government introduced a broader, community-based program, which it registered under the name "Landcare" (Campbell 1994; Horrie Poussard pers. comm., 15 April 2002). The federal government acted on this initiative, and announced the 1990s as the "Decade of Landcare", outlining a US\$340 million funding allocation for ten years through a National Landcare Program (NLP) (Campbell 1994; Lockie & Vanclay 1997). This propelled the formation of landcare groups, bringing them to the centre of farming and rural communities (Bebbington 1997).

The explosive growth of the Landcare Movement has continued, with now more than 4,000 landcare groups and one-third of Australian farming families involved. The NLP became

¹ Interview with Joan Kirner, 15 April 2002, Melbourne.

the umbrella of the Landcare Movement, and even programs of Commonwealth agencies that support community activities were aligned to form part of the NLP. The main source of funding was the Natural Heritage Trust (NHT) set up by government. According to Landcare Australia Limited (LAL) Chief Executive Officer, Bryan Scarsbrick, LAL was established to raise public awareness of Landcare, and to provide a vehicle to generate and disburse corporate sponsorships for projects.² Australian Landcare Council (ALC) Chairman, Bruce Lloyd, added that the ALC was established in conjunction with the NLP to provide ministerial advice and to create a platform for Landcare views to be discussed and to be presented to the Commonwealth Government.³ The National Landcare Facilitator Program was also set up to look after the training needs of Landcare facilitators and coordinators.

The most important component of Australian Landcare is the community landcare groups. Campbell (1994 p.31) defines community landcare groups as a “group of people concerned about land degradation problems, who are interested in working together to do something positive for the long-term health of the land”. Farmers with a common agenda come together and discuss how things could be solved through their own means or with some external help. Landcare groups are engaged in varying activities from total farm care, to catchment care, bush care, property planning, revegetation, coast care and many others. There is no standard definition of a landcare group, but its distinguishing mark is “volunteerism”. Landcare facilitators and coordinators are key actors at the interface between government agencies and landcare groups.

Such government recognition and support of landcare groups provides a clear message about bottom-up versus top-down approaches. Campbell (1994) says that neither approach is likely to work on its own; they are mutually dependent. He argues that the value of high profile, committed political leaders to grassroots initiatives and their support for community participation is profound, and it is unlikely that Landcare would have grown as quickly with the same degree of support from government and landcare groups, without such

² Interview with Bryan Scarsbrick, 14 May 2002, Canberra.

³ Interview with Bruce Lloyd, 12 April 2002, Melbourne.

obvious commitment to it right at the top. However, this raises the issue of whether farmer groups could retain their voice within the broader political influences. Power relations, genuine participation, and partnerships are common themes in discussions about the sustainability of community landcare groups.

Landcare outcomes were much broader than its advocates had predicted. A recent survey by the Australian Bureau of Agricultural Resource Economics (ABARE) showed that the participation rate of farmers in Landcare has grown to reach over 37 per cent, and that 60 per cent of farmers had learned about land degradation issues from their involvement with Landcare (Australian Government-Department of Agriculture Fisheries and Forestry 2004). According to Cary & Webb (2000), several reviews of Landcare have also identified social and economic outcomes. However, Lockie (2000b) says that there is an ambivalent result regarding the actual impact of Landcare on land management practices, despite millions of trees planted across Australia. He adds that levels of participation are held up as evidence of success. Although at the very least, this indicates profound cultural changes in rural people's understanding of their relationship with each other and their environments. In a book called *Critical Landcare*, Lockie and Vanclay (1997) examine the broader socio-political fabric that fostered the initial conditions for Landcare. They found that government and community partnership was important for success, but that much remains to be done to address a comprehensive list of challenges for the future of Landcare, including gender considerations, extension practice, and inter-farm cooperation. Additionally three critical factors behind the growth of Australian Landcare were highlighted: (1) the presence of increasingly catastrophic land degradation across vast swathes of Australia; (2) bipartisan political support; and (3) broad popular appeal due to the ability of Landcare to appeal to a range of normally competing discourses.⁴

In 2003, six years after the publication of the *Critical Landcare* book, the Australian Government reviewed the NLP to examine its effectiveness with a view to further funding of \$122 million for three years. The review highlighted the effectiveness of Landcare in raising awareness, changing attitudes and behaviours, and in improving NRM outcomes. It reports that funding of landcare groups and other support through the program have been

⁴ Input provided by the Examiner of this Thesis.

highly effective in building awareness and skills, transferring knowledge, and stimulating adoption of better farming practices, resulting in improvements in resource conditions at the farm and local level, creating significant public benefits. The review concludes that Landcare has been part of the fabric for achieving sustainable ecosystems, and that it has been the necessary link between farmer and catchment, and regional approaches and government policy to deliver broader landscape change.

Australian Landcare demonstrates a grassroots-driven and government supported initiative. The strong critical mass established from below triggered government action that was responsible for scaling up Landcare. In brief, the Australian Landcare Program followed multiple directions and pathways for scaling up. First is vertical scaling up in which one state had successfully influenced the Federal government. Second is scaling down by the Federal government to the state level. Third is scaling out across states for wider geographic spread.

2.6.3. Synthesis of Case Study Reviews

Several institutions have recently conducted case study reviews in order to evaluate different scaling up strategies. The three discussed here concerned with (1) Integrated Natural Resources Management (INRM) research, (2) Agroforestry research and development (R&D) initiatives, and (3) Community-Driven Development (CDD) initiatives.

Gundel et al. (2001) reviewed case studies to identify effective strategies for scaling up INRM research. The Department for International Development (DfID) Natural Resources Systems Programme (NRSP) commissioned the review with the aim to identify improved scaling up strategies for INRM in order to reduce the time-lag between technology development and uptake, and increase the availability of technology options, leading to efficient use of existing natural resources to the benefit of the poor (Gundel et al. 2001). The review found that many research cases had a narrow perspective of scaling up and emphasised the existence of knowledge and technologies and the ways of getting these technologies out to target groups. The development-oriented cases, on the other hand, stressed the multi-dimensionality of scaling up and the importance of institutional process

and learning (Gundel et al. 2001). The review also found that there is no single strategy or design for scaling up, hence the prerequisites for successful scaling up need to be addressed extensively in pre-project phases. This implies the need for a feasibility study of a planned scaling up intervention. Finally, the major research implication was that in order to respond to local demand, INRM research has to take place in the context of local and national development processes.

For agroforestry, Franzel et al. (2002) reviewed a number of case studies in Africa, Asia and Central America. The case studies focused on scaling up the impacts of agroforestry research through development-oriented activities. Most of the case studies involved scaling up technical options that had first been developed by researchers and farmers (Franzel et al. 2002). The technical options were highly adaptable to a range of biophysical and socio-economic circumstances, and were the main “catch” in the scaling up process. In this context, the elements for scaling up were: (1) technical options; (2) farmer-centred research and extension; (3) building local capacity; (4) germplasm availability; (5) market options; (6) policy options; (7) learning from success and failures; (8) knowledge and information sharing; and (9) strategic partnerships and facilitation. The review concludes that scaling up agroforestry innovations is far more complex than simply transferring or diffusing information and planting material. It entails building institutional capacities in the community to sustain the innovation and adoption process.

Drawing on experience with CDD initiatives, Binswanger & Aiyar (2003) identified the key problems that constrained scaling up, which were rooted in the very nature of CDD. The CDD is an approach to empower communities and local governments to take control of their own development, with vested powers but with few resources. The key elements of CDD are real participation, accountability, technical soundness, and sustainability. These elements make the scaling up process very challenging, as these are embedded in social and political contexts. Political commitment from central and local governments and genuine decentralisation are considered fundamental requirements for scaling up. The other obstacles to scaling up CDD initiatives are high fiscal cost, hostilities in the institutional setting, difficulties arising from co-production of inputs and outcomes, lack of adaptation to local context, and lack of scaling up logistics. Solutions to these obstacles were also

explored such as (1) reducing the fiscal costs by cost sharing and improvement of the local fiscal base, (2) demonstrating success and employing participatory appraisal and planning, (3) thorough analysis of social/political conditions for better program design, (4) fostering a common culture and vision among stakeholders, assigning tasks, and providing compatible incentives, (5) adapting to local context, and (6) designing operational manuals and toolkits that are flexible to the local context.

In synthesising these case reviews, it can be said that scaling up locally generated NRM and agroforestry innovations through process-oriented approaches was not different from scaling up CDD initiatives. Although NRM and agroforestry innovations were predominantly technical, such technological change was not devoid of social processes, and even if these were generated with support from national and international research agencies, they can be considered local or grassroots in origin in that they start with experimentation by small groups of farmers in the local setting. Hence, the problems and obstacles faced in scaling up grassroots NRM and CDD initiatives are the same, which means that their conditions for success are also the same. Scarborough et al. (1997) confirm that all types of extension and scaling up face a number of generic conditions alongside some specific issues.

2.6.4. Key Points From the Review of Case Studies

In summing up, the requirements for success in scaling up are (1) a sound political environment conducive to partnerships and grassroots development, (2) sustained institutional linkages and partnerships, (3) sustained local leadership and capability building, and (4) improved local funding. For these conditions to be in place, however, central government support in the form of broad policies, better incentives, and improved bureaucratic and administrative systems are needed.

Participants in the Philippines' Scaling Up Workshop recognised that scaling up has multiple dimensions and contexts, which are social, political, institutional, financial, technical, temporal and spatial, as well as equity dimensions (IIRR 2000). The multi-dimensionality of scaling up and the complexity of local conditions suggest that there is no single strategy to scaling up. Accordingly, scaling up has pre-requisites, including a

supportive and enabling environment, and understanding these pre-requisites will not only promote spontaneous diffusion of innovations but, more importantly, it will help to systematically plan for and speed up the process of scaling up.

Ultimately, the preceding discussion on scaling up reveals two important points. First, scaling up outcomes in general, involves social change where the actors are the main concern, rather than a narrow adaptation of a single innovation. Second, although scaling up might proceed spontaneously, it is mainly planned, with careful assessment of both commonalities and specificities. Thus, the challenge remains to institute a thorough planning for scaling up that centres on the involvement of actors and processes within a social arena.

2.7. Conclusion

Scaling up is a complex and multi-faceted subject embodying a range of concepts and assumptions. Different disciplines view it differently, but all denote an expansion or increase in number of participants, areas of coverage, capacity, and degree of impacts. The process has strong institutional, social, and political dimensions, and the underlying goal is lasting social change. Scaling up as a planned intervention thus involves many actors within evolving structures and not simply a managed linear process.

The literature suggests patterns of strategies that epitomise two major ideas of scaling up that are not necessarily exclusive but mutually supportive. The first is illustrated by Racine (1998) and Oudenhoven & Wazir (n.d.), where both cited the resemblance of scaling up to social marketing; that is, a program is replicable when it fits the conditions of the social market. Organisations desiring to replicate or scale up successful programs need to examine the program's adaptive potential to market conditions before a scaling up strategy is designed. Gundel et al. (2001) illustrate the second, concluding that the prerequisites for successful scaling up need to be addressed extensively in pre-project and implementation phases. The first idea follows a social marketing approach where ex-ante analysis of contexts is more explicit, whereas the second relies on expanding the stakeholder-base in the project design and implementation phases with an optimistic view of spontaneous spread and scaling up.

Nonetheless, there is a consensus that scaling up can be both spontaneous and planned. The latter, being more anticipatory, is assumed to reduce the risk of failure and raise the likelihood of success. However, in planning for scaling up, there is a real temptation to ignore local specificities and to consider successful initiatives as “blueprints”, undermining the actor-oriented approach. Hence, there is a need for effective planning strategies to ensure that different actors and local specificities remain central in scaling up.