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Overcoming Ex-Post Development Stagnation: Interventions with Continuity and Scaling in Mind

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Abstract: Project interventions are important vehicles for development globally. However, while there is often allocation of resources for new and innovative (pilot) projects—with varying levels of success—there is seemingly less focus on consolidating and/or scaling the positive impacts of successful larger interventions. Assuming an overarching development goal to have long lasting impact at scale, this approach seems somewhat contradictory. Scaling is often not integrated into project planning, design and implementation and rarely pursued genuinely in the ex-post. However, where demand for further development remains outstanding beyond project completion, opportunities may exist to build upon project platforms and extend benefits in a cost effective manner. This paper examines existing scaling typologies, before introducing “scaling-within” as a concept to promote greater continuity of development to a wider range of stakeholders. Scaling-within offers the opportunity to “in-fill” intervention principles and practices to both project and non-project communities within a broader strategic framework to address disparities and to promote sustainable development. The authors draw on research from case studies of large-scale integrated watershed rehabilitation projects and assess scaling-within against a contemporary scaling framework drawn from the literature. While the concept is tested with watersheds as the administrative unit, the authors anticipate applications for other project management units.

Keywords: development interventions; ex-post; scaling; sustainability; impact; scaling-within; continuity

1. Introduction

The objectives of this paper are to: (i) clarify terminology and synthesize understandings of scaling in development interventions; and (ii) to draw on investigative research of large-scale integrated projects to introduce a new form of scaling—scaling-within—in an attempt to improve project continuity and to reduce disparities that may have emerged in areas nearby (but not included in) original project interventions.

A development intervention is defined as “an instrument for partner (donor and non-donor) support aimed to promote development” [1], typically in the form of a programme or project. Development interventions serve to move ideas into action [2], are temporary endeavors with a finite beginning and end [3], and their impact is seldom neutral [4]. Their popularity as vehicles for development is illustrated by the fact that there were reportedly more than 63,000 donor-funded development projects worldwide during 2003 [5] and over 19,000 projects by the OECD and multilateral agencies alone in 2010 [6]. Many projects are designed as “catalytic” or “pilot” initiatives [7], which often have as their

primary purpose to find and test new practices, concepts or solutions to a particular problem [8,9]. Irrespective of their scale, it is intended that they provide a useful model for future efforts and to help with replicability and cost effectiveness [10]. The overarching objective of many of these projects is to contribute to the development of the locale, region and/or country of the intervention, either through the intervention itself or perhaps by triggering a process of scaling. Pilot projects are often supposed to be “*the stepping stones for societal change*” [11] and “*stimulate transitions*” [12]. In this sense, the search for results is central in the debate over development effectiveness and it constantly shapes the evolution of international approaches [13]. Limited evidence of program efficacies [14] coupled with government and agency preference for planning, approval, and implementation processes rather than sustainment of outputs, outcomes, and impacts [15] means that ex-post performance, scaling and sustainability are not well understood or well pursued. In particular, the diffusion (defined as the spread of innovation or feedback of knowledge from the pilot into practice and policy-making and so reconnection of the pilot with broader innovation development [9]) process associated with pilot projects is not well understood [9], to such a degree that a pilot project’s actual impact on policy development is often so limited that it constitutes no more than “*learning from failure*” [9,16,17]. Pilot projects suffer such outcomes where they are used as end goals in themselves, diffusion is not of interest or pursued genuinely and the pilot is not intended to be part of a broader innovation process [9]. The challenge is now relatively well acknowledged and recent increases in accountability regarding the effectiveness of overseas development aid (ODA) (see [18] for example) suggests that this is an area that requires further work.

This paper provides a brief review of scaling, particularly in the context of one type of development intervention: large-scale integrated watershed management (IWM) projects. IWM is defined by Dargouth *et al.* [19] as “*the integrated use of land, vegetation and water in a geographically discrete drainage area for the benefit of its inhabitants, with the objective of protecting or conserving the hydrologic services that the watershed provides and of reducing or avoiding negative downstream or groundwater impacts*”. IWM’s appropriateness for managing environmental assets and natural resources, in addition to water resources, is accepted by many authors [20–22] and increasingly for its use as a vehicle for social development. However, this is not to say that IWM is not without its challenges, as reported by authors such as Palmer [20] who refer to the challenges of coordination of IWM approaches (particularly where watershed and jurisdictional boundaries and institutions do not match) and the continued underuse of fundamental scientific knowledge in real-world project applications. Despite this, the contemporary and emerging importance of IWM and its regard as a “*growth engine for sustainable development*” in many countries [23] means that new scholarship is needed to understand IWM as socio-ecosystems that determine management and functional outcomes as well as social willingness to change [20,24].

This paper draws on earlier research (see [25–27]), which adopted a mixed methods case-study approach of completed World Bank project interventions in China (Loess Plateau Watershed Rehabilitation Projects (I & II)) and Turkey (Anatolia and Eastern Anatolia Watershed Rehabilitation Projects). The projects, which have been well regarded internally by World Bank and externally by some critics (see, for example, [28]), were purposefully selected for their purported roles in ceasing and reversing generations of unsustainable practices across broad areas by redefining socioeconomic and environmental systems and influencing national land and water management policies. The research investigation strategy imitated the project governance hierarchies to comprehensively capture vertical and horizontal linkages across administrative divisions over basin-wide scales (Yellow River basin in China and Tigris-Euphrates basin in Turkey). The research approach endorsed calls by authors such as Palmer [20], who have appealed to the scientific community to respond to the demand for applied scientific input and to shift from solely technically-driven approaches to more sustainable enterprises that fully integrate ecological processes and social science methods.

World Bank watershed management interventions were selected for their impact on policies, poverty alleviation and natural resource rehabilitation at scale [29] and for their regard as adhering to a comprehensive set of social and environmental guidelines and procedures [30,31]. Concurrently,

criticisms of World Bank approaches, such as limited project cycles; projects being too donor-driven; narrowly focused impact assessments; and inadequate attention to downstream, indirect effects [2,30,32] are also acknowledged and incorporated into the central thesis of this paper.

2. Scale: Temporal and Spatial Components

Prior to introducing a new concept, it is important to distinguish between scale and scaling, both of which have relevance to project strategy and sustainability.

Scale is an essential concept in the natural and social sciences related to resolution and extent in time and space [33–35]. Many authors (including [21,36–41]) explicitly recognise the importance of both temporal and spatial sustainability in development project contexts. However, other authors (for example, [20]) recognize that temporal and spatial scale considerations and multi-scale interactions, while significant factors, are not always a significant influence on major projects in practice. The authors believe that such challenges warrant discussion and exploration.

2.1. Temporal Scale Considerations

Although development interventions have fixed spans of activity, their direct results and indirect consequences are likely to continue far into the future [38,42]. Creating conditions to support longer-term sustainability beyond project completion represents a recurring challenge [43] and it is not uncommon for activities and institutions to become inactive ex-post [44,45] or for stakeholders to revert to previously unsustainable practices or to even actively destroy project measures in some cases [46].

Authors such as Palanisami & Suresh Kumar [47] draw attention to the challenge of ex-post management, which represents a knowledge deficiency in temporal sustainability. Relative to the number of development projects undertaken, ex-post project assessments are not commonly carried out, meaning that rates of success are often unknown and the complexity of causalities and ex-post dynamics of interactions and processes are not well understood [15,48–53]. Consequently, lessons cannot readily be learned to improve the performance of future projects. The Centre for Global Development [54] highlights that whilst withholding programs known to be beneficial would be unethical, the implicit corollary—that programs of unknown impact should not be widely replicated without proper assessment—is frequently dismissed. Neither governments nor international development agencies typically generate or receive full and systematic information related to the production of intended project benefits [39], meaning that best practice learnings are rarely included in follow-up phases [55]. Furthermore, in the rare cases where ex-post assessments are conducted, a synthesized review by Brooks & Eckman [56] revealed such severe deficiencies that they were unable to provide a comprehensive analysis of individual projects. While international agreements such as the United Nations Monterrey Consensus (2002) aim to promote improved and intensified measurement of intervention results for better understanding of outcomes and impacts [54], improvements are required.

2.2. Spatial Scale Considerations

Project interventions contain distinct spatial boundaries within which they are to be applied (e.g., administrative districts, watersheds), the definition of which has profound effects on decision-making processes [57]. However, exchanges and movements of materials, energy, people, goods, and services occur across any arbitrarily defined boundaries [21,38] and multi-scale observation is required to reveal inter-relations and heterogeneity otherwise unapparent from just one perspective [42,58]. Spatial scales include biophysical and institutional dimensions [35].

With regard to IWM, whilst some recently successful experiences endorse the “*small is beautiful*” hypothesis (after [59]), many authors believe that ultimately interventions should be recognized for their scale of change [37]. For example, some authors state that there is a need to “expand the spatial scale of efforts” [20] small-scale often means “*insignificant*” [60], “*small is beautiful, but big is necessary*” [61] and that a common fate of small-scale development projects (and pilots) is a “*pebble in*

the pond effect” where projects benefit few people, and then, instead of expanding, remain small or even fade away [62]. Palmer [20] states that while many small projects may be easier to fund and implement, they may not be as effective as larger projects and public expectations may therefore go unmet.

Indeed, organizations such as the Food & Agricultural Organisation (FAO) [63] regard the major challenge for the new generation of IWM programs is for them to be effective over significant spatial scales. Many natural resources cannot be managed entirely at the local level, as all such efforts ultimately take place within larger political environments [64,65]. In fact, Nair & Howlett [66] find that the presence of political support and synergies with ongoing policies and programmes are necessary for effective scaling. Authors such as Palmer [20] identify an under-acknowledged principle being that regional scale processes often swamp local processes and that it is unlikely that small scale activities embedded in larger degraded systems can be restored in isolation. Consequently, some authors [63,67–69] call for greater emphasis of interventions spaced over landscapes and/or large watersheds at regional, national or even international scales [70,71]. Rotmans *et al.* [72] note that meaningful transitions require a “*continuous process of structural change spread over long timeframes, involve multiple actors and occur across multiple levels*”. The Worldwatch Institute [73] notes that recent “area development programs”—such as the case study projects in this paper—have achieved success across viable timeframes and extensive areas. These projects often set strategic objectives before targeting interventions to particular “hot spots” for close participation with local communities [19,74]. The FAO [63] and World Bank [75] describe the approach as comprising “federations” of site-specific micro-interventions within a common institutional, methodological, and operational framework and allowing intensive prioritisation of interventions at critical locations within a larger unit area. It also enables design and planning processes to deal with interactions that take place within and beyond designated boundaries [21], including understanding links between perceived externalities and their causal factors [75].

Swallow *et al.* [76] describe watersheds as providing a “*missing middle*” ground for management and research, where IWM strategies can include management of smaller watersheds oriented to issues within their jurisdiction and also coordinated within a larger river basin management framework [17,77,78]. Such approaches have the potential to achieve both large-scale and local objectives and attempt to (at least partly) reconcile top-down and bottom-up approaches.

Irrespective of an intervention’s scale, principles of integrated development also promote consideration of the effects (actual and potential) on adjacent areas outside project boundaries [79]. While authors such as Coxhead [80] emphasize the importance of considering such areas to help promote sustained impacts, little evidence of off-site IWM outcomes exists despite its fundamental role in the justification of such interventions [17]. For example, for a period at the Inter-American Development Bank, only 16% of all projects had reportedly collected data on beneficiaries, and only 3% had gathered data on non-participants—information fundamental for assessing impact [54]. Hence, this raises a distinction between “project” communities—specific individuals or organisations for whose benefit a development intervention is undertaken [1]—and “non-project” communities (sometimes called “*secondary stakeholders*” [81]) who are not specifically targeted for inclusion in project activities, but who are likely affected by externalities (both positive and negative) from project treatments [82]. Increasingly, IWM projects incorporate upstream-downstream spatial connections into project objectives, often because downstream asset protection requires changes in upstream management practices. However, positive and negative “spillover” effects into adjacent upland areas with similar socio-economic and biophysical conditions [82,83] are often not identified or considered, thereby potentially inadvertently increasing disparities and opportunities for conflict rather than consciously maximizing opportunities for collaboration and mutual benefit.

Beyond components of temporal and spatial “scale”, the interactions of “scaling” and sustainability are explored below.

3. Scaling of Interventions

3.1. A Review of Various Forms of Scaling

Irrespective of the scale of an original intervention, the fundamental goal of scaling is to spread impact [84].

A review of literature on scaling reveals that a wide variety of terminology is used and, as supported by Menter *et al.* [85], there appears to be some definitions that are not clearly understood or universally accepted. A synopsis of major terms is provided for clarification.

Scaling broadly represents the transcending concepts that link processes and actors at different levels in time and space, therefore entailing changes in the processes and actors, upward or downward, from a given scale of observation [86]. Key components in the concept of scaling are changes in spatial and temporal variability (building on the previous section), patterns of distribution, and sensitivity [86].

Marchione [87] describes a framework of “*scaling-down from the summit*” and “*scaling-up from the grassroots*”.

Scaling-down is described as the methods and capacities by which summit (higher level) organizations nurture and complement local grassroots development [87]. As local capacities are scaled up, summit control over decisions and functions is, ideally, scaled down and the accountability of the summit to the grassroots is strengthened. Beyond scaling-down being used to decentralize authority, resources and capacity; Gillespie [88] also associates it with enabling, supporting and/or facilitating functions whereby higher level organizations adopt modes of functioning that allow local communities and organizations to build conceptual, operational, and institutional capacities. While scaling-down does not mean that governments disengage from processes such as community driven development—it does, however, require it to be more flexible and responsive to locally generated demand to ensure the terrain is fertile for community organizations to emerge, learn, and grow [88]. It is often recognized that grassroots efforts depend on broader contexts, including the creation of an enabling environment that encourages local action.

Scaling-up is probably the most widely cited form of scaling (summaries are provided by [6,88,89]), and perhaps the most relevant given recent trends of reducing the scales and durations of contemporary aid interventions [6] (Vreugdenhill *et al.* [9] conceptualize diffusion patterns as dissemination and scaling-up. They define dissemination to include the replication of translated pilot projects to other pilot projects or to comparable management projects in other locations or at other times. Additionally, the same authors define institutionalization to occur where full-scale regional or national policies and regulations are initiated or adapted based on a pilot project). Scaling-up is defined as bringing “*more quality benefits to more people over a wider geographical area more quickly, more equitably, and more lastingly*” [90]. McDonald *et al.* [91] state that it introduces proven interventions into new settings with the goal of producing similarly positive effects in larger, more diverse populations. Uvin *et al.* [92] believe that it is about “*expanding impact*” rather than simply “*becoming large*” (the latter being one way to achieve the former) and comprises expansion, replication, adaptation, and sustainment of successful policies, programs or projects across space and time [93]. Linn [94] believes that scaling-up is “*an instrument to achieve the goal of improved lives for the greatest number of people, rather than an end in itself*”.

Authors tend to categorize scaling-up to take place “functionally” (broadening types of activities undertaken), “quantitatively” (increasing participation and scope), “organizationally” (increasing effectiveness and efficiency of operations), “politically” (engaging in political processes to benefit stakeholders), and “institutionally” (growing and strengthening public institutions) [95]. Organizational, political and institutional scaling-up are often collectively referred to as “vertical” scaling-up [2] and quantitative scaling-up is commonly referred to as “horizontal” scaling-up [2,90]. Sustainability often requires scaling-up in both horizontal and vertical contexts [96,97]. Horizontal scaling-up is often the initial goal for interventions and can be pursued in a number of ways—namely spread, replication, nurture, integration [88]—drawing on both communication and diffusion theory

to convey options and assist in adapting to changing contexts [98,99]. It is premised on the belief that common social problems extend across diverse communities and that replication with flexible and interactive adaptation and learning constitutes cost-effective solutions [100].

Other authors [62,101] consider scaling-up as part of a broader process of innovation and learning (Figure 1). The innovation-learning-scaling-up triad involves an iterative and interactive cycle of trialing an idea, model or approach as a pilot (at limited scale/impact), acquiring knowledge from the pilot through monitoring and evaluation, before finally scaling-up to create larger impacts [62]. The triad components are separate, albeit linked, processes [101] with feedback loops (Figure 1).

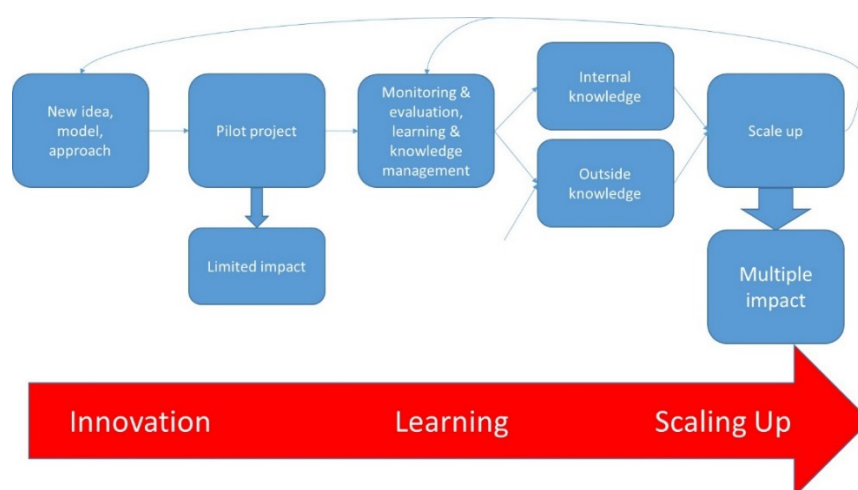


Figure 1. Innovation-learning-scaling-up triad (after IFAD [101]).

Such approaches may help to prevent investment in un-scalable models/projects [102], however, the process of scaling-up does not follow a blueprint and case studies from the literature [94] indicate that successful efforts may either be carefully planned from the outset, be more opportunistic, or a combination of both. Spicer *et al.* [103] argue that scaling-up is more a craft than a science, referring to its predominant political nature.

Translating from a somewhat uncertain theoretical basis to practice has seen few pilot projects take the steps needed to maximize their prospects for scaling-up [8]. In fact, Stoker [104] states that scaling-up pilot tests is not well understood in any sector. So, what is the status of scaling and what roles has it played in the development sector to date?

3.2. History, Status and the Development Sector

3.2.1. History and Status

Much of the literature on scaling in the development sector (see review by authors such as Hartmann & Linn [96]) refers to pilot activities being scaled-up, with less guidance for projects that require “in-filling”. Whilst Linn [62] provides some examples of successful scaling-up—from the Green Revolution in agriculture, to the microcredit schemes of the Grameen Bank, to the River Blindness Eradication Program in Western Africa—the same author recognises that more typically development interventions are limited in temporal and spatial scales.

Given that some national development objectives remain outstanding, particularly in relation to poverty reduction and rural and urban development [97], groups such as the International Fund for Agricultural Development (IFAD) (in [94]) describe scaling-up of impacts as “mission critical”. The recurring challenges of scaling have been recognized by influential world leaders, such as former United States President Bill Clinton, who stated that “nearly every problem has been solved by someone, somewhere. The frustration is that we can’t seem to replicate (those solutions) anywhere else” [105] and former

World Bank President James Wolfensohn, who stated that *“we have to discover how we move from our feel-good successes, how to scale up these initiatives to depth and a breadth where we can really have an impact on poverty...”* [106].

Scaling-up certainly involves risk-taking due to the experimental nature of the innovation process [107], and Linn [62] and IFAD [101] attribute much of the lack of success of scaling efforts to two types of errors: (i) Type 1 Errors—too little scaling-up; and (ii) Type 2 Errors—wrong scaling-up. Type 1 Errors are more widespread in local development interventions and given much attention in the literature (for example, see [7]), while Type 2 Errors are found more frequently in larger development organizations which can and often do aim to go to scale in their country strategies and programs.

3.2.2. Development Sector Experiences

Sania [108] highlights as one of the most glaring differences between the commercial and social worlds the constrained ability of the latter, in relative terms, to go to scale. Projects that are *“expensive boutiques”* with high unit costs and high management and human skill intensities may be successful on a limited scale, but generally cannot be and are not being replicated on a larger scale [97]. Cooley & Kohl [8] describe a *“relatively poor record of pilot and demonstration projects in successfully stimulating systemic change and reaching large populations”*. Hartmann & Linn [97] believe that such limited scale and impact of many interventions may explain why *“so many studies have found that external aid has had weak or no development impact in the aggregate, even though many individual interventions have been successful in terms of their project- or program-specific goal”*.

The infrequency of scaling is considered by authors such as Carlson [109] and Summerville & Raley [100] to stem from a strongly recurring tendency to focus on *“project minutia rather than the big picture”* [62], as well as from funders and coordinators often preferring to initiate new projects; not ensuring adequate structures for scaling; and lack of willingness to commit time and resources to rigorous evaluation of post-project effectiveness. Despite progress in reaching high level agreements to better coordinate aid delivery and improve aid effectiveness (such as the 2005 Paris Declaration on Aid Effectiveness), concerted efforts to support systematic scaling-up on the ground are often still absent [62]. For example, a 2011 High Level Forum on Aid Effectiveness concluded by recognizing *“that progress has been uneven and neither fast nor far-reaching enough . . . We reaffirm our commitment to scale up development cooperation . . . scaling-up our support for development results . . . ”* [6]. Compounding this, Linn [62] and Hartmann & Linn [97] believe that the international aid architecture is becoming increasingly fragmented and difficult to scale more broadly as the number of projects supported by donors and NGOs becomes larger and the average project size becomes smaller.

Linn [94] recommends that all scaling-up interventions should adhere to the 2005 Paris Declaration principles of ownership, alignment, harmonization, results, and mutual accountability and, where applicable, consider broader sectoral and cross-sectoral linkages. Hence, given the challenges outlined for the current development sector landscape, scaling-up is the responsibility of multiple stakeholders, such as government, business, civil society, communities, and individuals [62,94], where external donors have the ability to help or hinder this process. A systematic focus on scaling-up in strategies, operational processes and internal incentives is needed [110]. At the operational level, evidence from the literature shows that successful scaling-up can take 10–15 years during which time locally effective and appropriate technologies and processes are refined [7,28,97,111]. The reliance of such social process innovations on political processes and public-sector bureaucracies, coupled with some degree of participatory, bottom-up community engagement, means that they generally do not spread instantaneously or spontaneously [97]. Hence, commitment to extended time horizons necessitates a shift in donor and NGO priorities, as well as an ability to negotiate periods of governmental transition and the often-associated personnel transience and discontinuity [97].

Finally, Cooley & Kohl [8] believe that there is pressure on donors and governments to reduce costs, improve social outcomes and explain why it has proven so difficult to accelerate the spread of best practices. Such challenges warrant exploration of new approaches to improve scaling.

4. Scaling-within: A New Concept for Consideration

As illustrated by the review in the previous section—and also supported by authors such as Hartmann & Linn [96]—there is: (i) not a substantive quantity of literature on scaling, and (ii) the bulk of the literature that does exist is focused on scaling-up (typically pilot activities), with scant guidance for working on intervention continuity, infilling and other forms of scaling. Hence, the review has reinforced the need for greater impetus and coordination around scaling.

In particular, the unique nature of the scaling challenge for the case study projects has led the researchers to define a new scaling sub-category: “**scaling-within**”. (Note that Carter & Currie-Alder [112] use the term “scaling-in” to refer to challenges that non-local stakeholders must address in order to work effectively with local variability. However, scaling-within, as outlined below, differs significantly).

Scaling-within is proposed to work in harmony within the existing development diaspora, by acknowledging the predomination of interventions as preferred development vehicles and seeking to promote greater continuity for them. The authors welcome feedback on how it could best be integrated into existing project structures. While tested empirically against large-scale case study interventions, the authors believe that the concept has the capacity to be applied to other types of interventions and to use administrative units other than watersheds.

As a caveat, it is important to note that the concept of scaling-within is based on the assumption that spreading positive development interventions is inherently beneficial. The concept aims to place the decision about whether to embrace opportunities promoted by scaling-within in the control of local stakeholders (e.g., governments and communities). However, the authors acknowledge that, philosophically, some readers may not endorse scaling-within and may also express concern about how scaling-within may proceed if implemented. The authors acknowledge these perspectives and challenges associated with trialing a new idea and hence propose the concept for exploration, criticism, refinement and even dismissal if appropriate. The following section lays out the opportunities and challenges of the concept of scaling-within.

4.1. A Brief Overview of the Concept

Specific characteristics of scaling-within—the combination of which the authors believe to be unique in comparison to other forms of scaling—include:

- The promotion of continuity between the closing stages of a formal full-scale development intervention and the introduction of scaling-within activities (scaling-within activities commence as a previous intervention’s activities are winding down).
- Requiring that the intervention be in a space where there are gaps to be filled at lower hierarchical levels and there is demand for them to be filled. This may constitute no planned expansion into “new” areas but instead promotes in-filling within the quantitative, organisational, political, and institutional boundaries defined by the preceding project (ultimately the watershed (river basin)) as illustrated in Figure 2. This avoids the problem of “scale forcing”, where boundaries need to be expanded to take account of higher level processes. Infilling may occur from multiple nuclei (multiple micro-watersheds as illustrated in Figure 2), as opposed to typical “scaling-out” which is often perceived to be an “*outwards-focused spread from a small nucleus of activity*” [90].
- The process could be demand-driven by the adopting communities. This would include an objective “simplification” [8] of activities to only include those elements of the original intervention which are requested by communities and are cost-effective for producing the desired results (*i.e.*, acceptance of some activities/components and rejection of others). At the same time, space for functional scaling could be possible as adopting communities evolve in their knowledge and needs. This utilises the theory of imitation, where replication with adaptation to specific contexts and situations occurs beyond a time-bound intervention [37].

Community driven development should occur within the broader framework established during the initial intervention.

- Scaling-within contains some similarities to scaling-down as well as to forms of scaling-up including spread, diffusion and spillover. However, social process innovations targeted by scaling-within may require a more supported approach. Case study evidence and literature review suggest that without guidance and impetus to promote ex-post continuity, little diffusion and spillover typically occurs. Informal networking, in partnership with existing or new collaborators, could occur within a broader scaling-within framework.

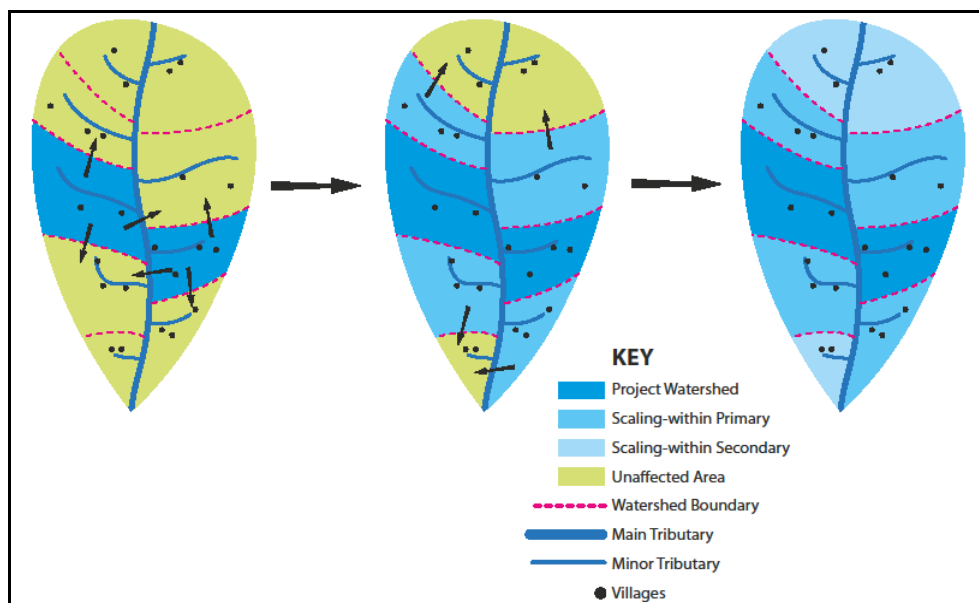


Figure 2. Scaling-within process: theoretical project, adjacent & control micro-watersheds.

4.2. Why Scaling-within?

Three motivations for scaling-within are outlined below.

4.2.1. Outstanding Need

The scale of environmental degradation and (particularly) rural poverty entrenchment and inequality is immense and unresolved in many global regions [113]. Issues such as food security, disaster mitigation, climate mitigation and adaptation and environmental migration are often also linked. Hence, if it is assumed that development needs remain outstanding, then there may be merit in ensuring that development projects do not just remain “isolated, one-time interventions, like unconnected dots on a white page” [93] or “islands of salvation” [114]. With regard to the case study countries, in Turkey, despite the relatively large-scale nature of the Anatolia Watershed Rehabilitation Project, less than 4% of provincial villages in Sivas and Corum provinces were included in project activities, highlighting the need for extension beyond project sites to influence broader development objectives [115]. Furthermore, measured case study project indicators explicitly recognised disparity changes between project and non-project areas, such as “increased income ... and increased vegetation cover ... in project villages compared to non-project villages” [116]. Whilst project documentation commonly conveys an expectation that some process of spread will occur ex-post, it rarely does [113], despite strong ex-post case-study evidence of stakeholder requests for further development opportunities. For example, in China, ex-post case study research confirmed findings from Nolan *et al.* [117] and GEF-ADB [79] that most farmers in the Loess Plateau region wanted to continue to improve their farming systems but barriers included lack of capital, poor market access, and price volatility.

4.2.2. Limited Literary Discourse and Empirical Evidence

There is generally scattered and disjointed literature on ex-post performance of development interventions, sustainability and scaling. Only scant literature tangentially related to the concept of scaling-within has been sourced. Kucukkaya [118] recognized the need to examine impact beyond project areas, whilst [2,85,119] endorsed projects embracing concepts of spread from their pre-implementation stages. However, in those cases, where spillover was considered it was treated as separate rather than linked to project activities and no mechanisms were described for its assimilation.

Case-study evidence revealed empirical and anecdotal ambition for scaling of activities ex-post. However, initiation of the required processes or practices was not genuinely pursued by development organizations nor national governments. The absence of reference to scaling in documented project objectives and on-the-ground in the ex-post is common and this deficiency was confirmed by case study stakeholders at all governance levels.

4.2.3. Strong Potential, Tempered by Barriers

Given the scale of activities already implemented in the case study projects—including the presence of the development intervention in the area for a significant period (5–10 years in the case study projects) beforehand and the associated policy influence and vertical scaling-up (political, institutional, organisational)—there is significant potential for scaling-within based on case study evidence. Figure 3 shows the hierarchical temporal and spatial scale established by the intervention, which may be a framework conducive for scaling-within. The strong economic logic of scaling [109,120], coupled with the project momentum supported by its inherent technical and management capacities, provides a solid foundation for scaling-within. Critically, community demand for scaling-within was strong in case-study projects in the ex-post, perhaps warranting an effective project decentralization or de-concentration agenda (after [7]).

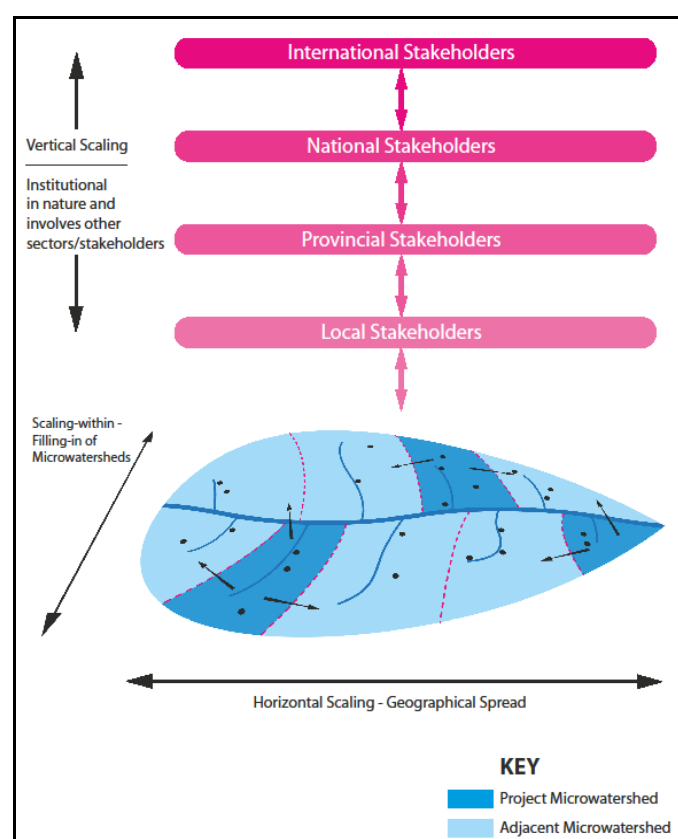


Figure 3. Vertical and horizontal linkages and scaling-within.

Some of the major platforms for scaling-within created by the preceding project interventions include: strong momentum existing from the initial intervention; major policies, legal and regulatory frameworks already in place; institutional and human capacities developed; some project assets and structures remain; non-project area awareness/enthusiasm may exist; knowledge of successful/unsuccessful project components facilitates more efficient scaling-within (authors such as Palmer [20] note that documenting failure is as important as successes and will help accelerate learnings); government and other stakeholders are aware and more likely supportive of tried and tested concepts; large project scale may mean that packages are already devised for differing conditions, hence technical foundations in place; and provides strategic perspective coupled with local actions. Potential barriers include: individual communities unable to replicate project activities/components themselves due to high construction costs, technical design skills required, and general lack of access to financial resources/loans; difficulty in striking balance between comprehensiveness and high unit costs of internationally funded projects and under-funded domestic projects; typically very little private sector involvement in such projects; and encouraging local level ownership and agreement by government agencies to decentralise power could be challenging in some countries [55,64,77,89,115,121–124].

4.3. Scaling-within—The What and How

The scaling-within process may promote the transfer of basic principles to other areas but with ample room for the establishment of context-specific decisions and interactions among community members (after [88]). A framework to consider for scaling-within is Dixit *et al.*'s [125] model comprising “nucleus” (project) and “satellite” (non-project) micro-watersheds for adaptation to scaling-within (Figure 2 outlines the conceptual process of scaling from project to non-project micro-watersheds). Landholders in nucleus micro-watersheds could be trained and supported during the project by project personnel. They could then train landholders in satellite micro-watersheds, before the process is repeated again. The concept is centred on participatory concepts promoted by authors such as Gregesen *et al.* [22] or Sreedevi *et al.* [126] and maintains local stakeholders (e.g., rural inhabitants, farmers as in the case study context) as the focal point through promotion of peer-to-peer learning [100]. It permits adaptability and evolution of processes to specific circumstances and may better encourage farmers to commit their own resources to improvements. It would help transition from an “externally understood and supported theory to an internally understood and supported theory-based practice” [127] in the hope of promoting “self-generative reform” [128].

In recognition of both the platforms and barriers created by the preceding intervention, Table 1 illustrates how scope for scaling-within could be embedded into project structures without significantly impacting implementation schedules and budgets. Elements of design, enterprise, training, finance and technical are outlined for consideration.

Further to the enterprise activity outlined in Table 1 (state or non-state operated), key conditions to consider for support during an intervention period include:

- Facilitation of community access to business/personal loans. Sonntag *et al.* [129] found that inadequate rural banking systems generally limit development and, more specifically, Nolan *et al.* [117] and GEF-ADB [79] found that in China many rural households were ineligible for bank loans and no formalised micro-finance loans were available.
- Promotion of regional subsidies/incentives for livelihood improvement. Create conditions conducive for small enterprises to be established and engage in livelihood improvement service provision beyond project zones.
- Establishment of marketing channels. Case-study projects provided the potential to link local communities with regional industries/private sector for value-adding activities. If activated, this may help address the over-reliance on primary industry found in many rural areas and promote income diversification [121].

Table 1. Laying foundations for scaling-within during intervention.

Project-Period	Proposals-for-Incorporating-Scaling-within-Opportunities
Ex-Ante-&-During-Project	<p>Design</p> <ul style="list-style-type: none"> • Scaling-within strategy recognised and budgeted for from project inception. • Consider including NGOs in project for engagement with project and non-project communities. • Encourage scaling-within principles through partnerships, networking, awareness-raising, and policy dialogue. • Allowance for a “scaling-within division” to be initiated within project management/government agency structure close to project closure. <p>Combine project closure/exit strategy with scaling-within strategy.</p>
	<p>Training</p> <ul style="list-style-type: none"> • Towards end of project, train ambassadors in nucleus micro watersheds for subsequent training of satellite watershed farmers. • Involve some non-project personnel in project training activities where possible.
	<p>Enterprise</p> <ul style="list-style-type: none"> • Encourage and facilitate relevant local enterprise development (The possibility and scope of enterprise activity is subject to the rules of the state.) and help link local entrepreneurs with businesses/potential markets. Enterprise activities can help to promote continuity of activities after project is completed. This could include rehabilitation activities and livelihood improvement activities.
	<p>Finance</p> <ul style="list-style-type: none"> • Include “transition to ex-post scaling-within budget” in project (where possible). • Promote incentives/subsidies for establishment of related local enterprises, improved farming inputs and financial and marketing services. • Help establish/strengthen reliable local credit service for communities to access for activities during and after project.
Ex-Post	<p>Training</p> <ul style="list-style-type: none"> • Training continues from nucleus to satellite watersheds, and from satellite watersheds beyond (incentives needed).
	<p>Enterprise</p> <ul style="list-style-type: none"> • Utilizing the nucleus-to-satellite farmer training model, enterprises may be able to sell services and products to satellite farmer groups.
	<p>Finance</p> <ul style="list-style-type: none"> • Access to financial and credit arrangements need to be maintained for communities and enterprises.
	<p>Technical</p> <ul style="list-style-type: none"> • Government agencies retain technical capacities and remain a source of expertise for consultation. • NGOs remain involved and provide support as necessary. • Monitor and evaluate impacts of scaling-within as it proceeds.

Figure 4 illustrates that working at the regional scale permitted the case study projects to effect institutional change and have wide reaching impact across expansive areas, both of which led to

regional / national policy influence. A further step would be the infilling of areas that are beyond the “hotspots” prioritized in the regional approach initially.

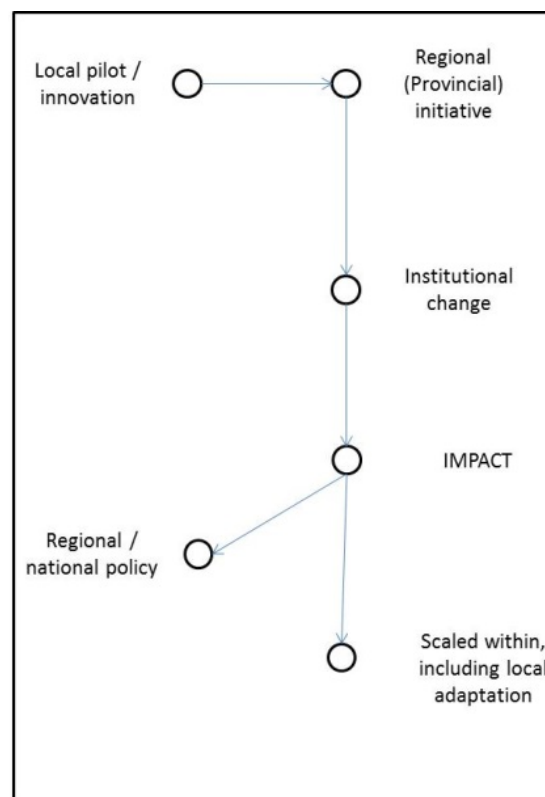


Figure 4. Scaling-within pathway.

5. Assessing Scaling-within Against a Framework Drawn from Literature

Authors such as Palmer [20] emphasize the need for predictive frameworks to assist policymakers, managers and practitioners to identify feedbacks and provide information to support decisions of where and how to achieve the largest gains during the implementation of projects. An assessment of scaling-within against a “best” practice scaling framework from the 2012 IFAD paper series [94] is provided. The framework builds on models developed by Hartmann & Linn [97]—which identify both context-specific and universal elements and help ensure general elements are maintained while scope for context-specific changes through adaptation and learning are possible—and is based on defining scaling pathways, drivers and spaces. The assessment of scaling-within is based on the case study research while comparisons to scaling-up draw on contemporary literature (e.g., [35,62,89,94,96,97,101,102,111,130]).

5.1. Pathways for Scaling-within

Pathways are sequences of steps to guide scaling through its initial and subsequent stages to the scale ultimately judged to be appropriate [94]. The ultimate spatial scale of scaling-within activity may be defined by the extent of the river basin or watershed, however, an agreed vision should be incorporated into the initial project intervention or at least confirmed by local stakeholders in the ex-post period. A suitable and realistic estimate of a time horizon should be outlined and agreed by stakeholders. Scaling pathways can follow different dimensions and while horizontal and functional scaling opportunities would be encouraged during scaling-within, the process is likely to be strongly catalyzed by the vertical alignments established *a priori* and benefit from the innovation and learning achieved during the project period. However, a scaling-within process should also actively promote the continuation of learnings driven by communities, local governments and the private sector. In

contrast to scaling-up, which is often experimental and inherently risky [105], pathways may be more predictable for scaling-within which, although is exposed to its own unique set of risks, may be easier to define and agree upon given that many of the drivers and spaces for scaling-within should already have been facilitated based on the previous intervention (discussed below).

5.2. Drivers for Scaling-within

Drivers push the scaling process forward [94] and are typically required for social process innovations which do not spread instantaneously or spontaneously [96]. The most common drivers (italicized below) identified by Linn [94] for scaling-up are assessed for scaling-within.

Scaling-within relies on the preceding intervention as the basis for its idea/model and which can be adapted as the process progresses. In terms of vision and leadership, while scaling-up must demonstrate its necessity, desirability and feasibility [131] and at the same time seek out visionary leaders/champions, scaling-within should have this already established given the preceding intervention. Leaders in waiting from communities, and local and regional governments may also be ready and willing to take up from where the intervention left off, if it is perceived to have been successful. While external catalysts, such as political or economic crises or pressure from outside actors may particularly benefit scaling-up initiatives (which need a trigger), scaling-within may function comparatively better under more stable macro-conditions (because of its promotion of continuity principles). The incentives for scaling-within are to increase development impacts based upon follow-up demand from communities themselves—incentives for self-improvement based on having experienced and/or observed progress during the prior intervention means that the communities, in conjunction with local and regional governments, can be the main process drivers. Accountability techniques used in scaling-up, such as political pressure, peer reviews and independent evaluations, remain relevant for scaling-within [94].

5.3. Spaces for Scaling-within

Spaces, or enabling environments, provide room within which initiatives can grow (or scaling within). While the nine enabling environments defined in the framework—fiscal/financial, policy, market, institutional capacity, political, natural resource/environmental, cultural, partnership and learning—will have been influenced by the previous intervention to some degree, some will have been highly enabled and others may require significant efforts. However, given that scaling-within could be less experimental than scaling-up, there may be less risk in creating sufficient spaces for growth.

Fiscal/financial space—even if scaling-within is incorporated into project design and budget allowances—resources need to be mobilized once funding for the initial intervention has closed. Scaling-within permits longer-term planning for the mobilisation of financial resources compared to scaling-up which may suffer from an “inability to redistribute human and financial resources to new priorities on short notice” [8]. Given that scaling-within benefits from the experiences of the previous intervention loan, risks for tried and tested activities should be lower and community willingness to pay may be greater.

The prime financial barriers to scaling-within relate to the unit costs of project activities, which are compounded by a lack of appropriate credit agencies in rural areas and a limited understanding in communities of how to access and manage potential loans. High project investment costs, calculated as US\$2000 per household in the Eastern Anatolia Watershed Rehabilitation Project in Turkey [115], draw criticism from authors such as Chen *et al.* [132] and Schreier & Brown [133] for their costliness to scale. The biggest financial challenge may be sufficiently reducing the costs of components of the original intervention to match the available fiscal/financial space. For example, the economic rates of return (ERRs) of individual Loess Plateau Watershed Rehabilitation Project II items were greater than 20% for certain project components such as greenhouses, terracing, shrubbery, irrigated lands, orchards and fruit storage [116]. Such ERRs are higher than the long-term interest rates of commercial banks [82] and hence scaling-within of such activities could be undertaken if appropriate loan mechanisms were

in place (or interested organisations/private investors could be engaged). However, up-front capital demands would require reliable and innovative financing schemes, which were not available in the case study areas during implementation.

Hartmann & Linn [96] believe that whilst financial support may be accessible for large, politically-backed projects at one extreme and small micro-credit schemes at the other (see Grameen Foundation [134]), a severe deficiency exists between the two extremes.

Hence, in an attempt to address the gap in mid-size financing—and given the relatively attractive ERRs of some case study project activities—a number of possible financial sources combining public and private initiatives could be mobilized, as outlined in Table 2.

Table 2. Potential financing options for scaling-within.

Organization/Scheme	Description-of-Potential
International Donors	<ul style="list-style-type: none"> Continued financial support from the public sector and/or international community to combat large scale challenges may be justified [29]. Reliance on donor funding may be tempting, but could undermine local sustainability if not well integrated [135].
Regional Enterprise Development Organizations	<ul style="list-style-type: none"> These organizations could help improve the capacity of communities to access loans via local banks and encourage local banks to create innovative loan arrangements.
National Commercial/Agricultural Banks	<ul style="list-style-type: none"> National banks, either in conjunction with regional enterprise development groups or independently, could provide specific small-to-medium sized loans for the rural poor through rural branches. Alternatively, cooperative banks (if existent) could fulfil this role.
Watershed Trust Funds	<ul style="list-style-type: none"> Watershed trust funds are capital asset funds established by central governments that invest in financial markets to ensure a steady source of funds for watershed management programs. Institutions receive the interest generated by the fund [63].
Micro-finance Schemes	<ul style="list-style-type: none"> Micro-finance institutions are typically small, locally operated schemes and could contribute to micro-enterprises and market links for rural produce [136]. They could also be utilised as alternatives to hand-outs/payments during project activities [67].
Private Sector Encouragement	<ul style="list-style-type: none"> Christian-Smith & Merelender [137] note a strong trend in the United States that with increased funding for rehabilitation activities, participants have transitioned from government agency focus to increasing proportions of private sector participants. Social business activities are also emerging and similar stakeholder evolution may be expected in case-study countries.
Government Incentives/Subsidies	<ul style="list-style-type: none"> Specific incentives and/or subsidies could be provided by government to encourage certain activities and discourage others. These could be incorporated into any of the above outlined schemes.

Binswanger-Mkhize & de Regt [111] highlight the challenge of promoting livelihood and income priorities which may require advisory services, input supply, access to credit, and marketing systems generally beyond the control of the community and necessitate specialized skills and/or special organizations. For financing of public interest components (e.g., continuation of rehabilitation activities and management of ecological areas), additional avenues such as environmental markets, carbon finance and/or payment for ecosystem services could be considered where relevant. However, Palmer & Filoso [138] warn against the allure of such market-based solutions overshadowing shortcomings in science and practice of restoration and scaling activities.

Policy space—Any type of scaling requires some degree of policy, legal and/or regulatory reforms to promote broad compliance, access to resources and the fostering of public legitimacy [8]. With regard to scaling-within, such reforms will likely be influenced by the preceding intervention (particularly

large-scale interventions) and should help to guide the ex-post process. For example, in the Loess Plateau projects, reforms of land tenure and grazing policies were significant in influencing longer-term rural practices inside and outside project areas. Conversely, such reforms need to be adapted synchronously (difficult to achieve before value has been demonstrated at scale) to support scaling-up, and hence this often represents a difficult space for scaling-up activities.

Market space—While some local and regional industries benefited in the China and Turkey projects (e.g., fruit/crop harvesting), potential market constraints associated with scaling-within could include an over-supply of products, which could negatively affect sales prices and wages. Greater focus on marketing value chains may be warranted during project implementation and/or scaling-within to help avoid such market distortions.

Institutional capacity space—Scaling-up faces specific challenges of strengthening and expanding the reach of the original delivery institution(s) (assuming that the institution is willing) and/or to transform the culture and capabilities of higher level government agencies (who need to be receptive and willing) [94]. The case studies from China and Turkey demonstrated institutional engagement at all relevant levels in the prior intervention. Government support and enthusiasm for the projects was high, but lack of decision-making autonomy appeared to be one of the biggest barriers for continuity of activities outside project areas. Based on project subsidiarity and participatory principles, scaling-within management should be devolved to the local level (local authorities and local communities) to allow communities and individuals to filter out irrelevant practices (after [74]) and encourage adaptation and evolution of activities which are of greatest perceived livelihood benefit. This would all take place within the broader strategic objectives of the initial intervention.

The most important of the previously involved stakeholders should be encouraged to continue to engage in a scaling-within process, building on their enhanced human, social and institutional capacities. Hence, the scaling-within process should combine top-down and bottom-up approaches—facilitated by higher authorities but driven by local stakeholders. Institutional support is needed to facilitate horizontal, vertical and functional scaling, the foundations of which would have been incorporated into the preceding intervention. For example, vertical alignment across relevant government agencies, especially in decentralized or federal governance systems, would have previously been negotiated by the preceding intervention, whilst for scaling-up this presents numerous challenges. It is also more likely that, if the preceding intervention contained community-driven development (CDD) components, then the relevant government institutions should be more familiar with this approach for scaling-within. Incentives and accountability for involved institutions will be important to devise to maintain their interest in the scaling-within process.

Political space—Political constituencies generally do not emerge by themselves—they need to be created—and the China case study, in particular, exhibited strong political will at national, regional and local levels in support of the initial projects. This resulted in the adoption of certain principles from the initial intervention region-wide and ensured a high profile for the completed interventions. In that same case study, the strong political will to achieve the strategic goals (reducing downstream sediment loads in the Yellow River) may be interpreted as coming at a cost to local upstream community interests [25]. Leaders need to be more accountable to the communities that are being affected, and scaling-within could be an approach to help achieve this. Continued political support must be garnered for the scaling-within process and, as for any change process, scaling-within may disrupt or threaten established interest groups, and hence constituency building will be important to understand and appease such groups wherever possible. The Chinese integrated 5-Year Plan approach may be more conducive for continual political support over extended time horizons than societies subject to election cycles, however longer-term visions embracing a scaling-within type approach could potentially prove just as effective. Conversely, the major challenges for scaling-up are to get the issue on the agenda of key decision-makers, aligning constituencies to support the needed changes, and securing the required resources [8]. This involves building legitimacy and constituencies to mobilise action, both of which are time and resource intensive. Furthermore, while scaling-up runs the risk that the initial

project objectives and outcomes become less appropriate or relevant in new contexts [66], conversely, scaling-within is likely to experience the opposite.

Natural resource/environmental space—A strong driver of the case study projects was large-scale environmental rehabilitation to improve the state of nationally important downstream watercourses. Large areas of land, both inside and outside project areas, were designated for ecological, agricultural or mixed use rehabilitation through policy enforcement based on physical attributes (e.g., proneness to erosion). The holistic basin/watershed approach provides a landscape and ecosystem scale perspective and a framework from which scaling-within could be applied to promote both greater compliance with that approach and greater socioeconomic benefits outside intervention project areas.

Cultural space—A significant advantage of scaling-within is that communities who either participated in, or observed, the original intervention can play a role in determining whether or not they want to continue engaging in the development process. Not all interventions can and should be scaled up, and scaling-within may only be promoted where the initial intervention is considered successful by involved stakeholders who can help drive further development. Additionally, if the decision is made to pursue scaling-within, then communities—based on their participation/observation—could determine which of the intervention’s livelihood improvement components they wish to pursue/adapt in the ex-post period (and which to discontinue). The prior intervention provides an excellent case study for communities to observe what works and does not work for them. Ample room for the establishment of context-specific decisions and interactions among community members should be promoted. A challenge for scaling-within would be to include marginalized groups in the process—particularly if entrenched interests carrying over from the project intervention are not advocating on their behalf.

Partnership space—Scaling-within benefits from a starting position of engagement with a multiplicity of actors and demonstrated learning and success from the prior intervention. Social process innovations, such as scaling-within, rely on political processes; public-sector bureaucracies; and, often, participatory, bottom-up community engagement will require active partners. For scaling-up, the challenge is to identify and mobilise potential partners for what is often an uncertain process ahead. Conversely, for scaling-within, greater emphasis on determining whether external and internal partners from the intervention would continue their involvement in the ex-post would be more critical.

Simmons & Shifman [139] define roles for (i) those organizations involved in initiating and developing a model for scaling; and (ii) adopting organizations who take up the model. For scaling-within, it would be expected that the originating organisation(s) (typically donors and national government) would play a minimal role following project closure and transition to the scaling-within activities. Experience and theory from successful scaling-up suggests that a neutral third party or intermediary organisation charged specifically with assisting the process is beneficial. Cooley & Kohl [8] note that there are few intermediary organisations in developing countries with sufficient capacities to support scaling-up and funding may also be difficult to source for such a role. In cases where scaling-within follows on from projects coordinated by international donors and/or national governments, those stakeholders could help support the establishment and function of such an intermediary. In fact, assuming such groups have ambitions to maximise the impact of their own interventions, it may be in their interests to help an intermediary get established.

While scaling-up may often be driven by external actors, such as donors, the nature and success of scaling-within should be determined mostly by the communities themselves with continued support from meso- and macro-level stakeholders (see a list of potential stakeholders and their roles in Table 3). Scaling-within should include and build the capacity of representatives from the private sector, civil society and other sectors—particularly in remote areas, where some such groups may not have a strong presence. The private sector could function as an effective alternative provider of some services through the promotion of efficiency, innovation and input of financial resources [140]. Values-based NGOs, where present, could provide development expertise and social and public advocacy skills. In combination, both private and civil society groups could help promote a comprehensive approach to enhance the scope for sustainability [39].

Table 3. Potential roles for organizations in scaling-within. Concept adapted from Carter & Currie Alder [112].

Administrative Level	Organizations	Potential Roles & Responsibilities
International/ National	<ul style="list-style-type: none"> • National government • Associations • Donor agencies • Citizens groups and lobbies • International NGOs 	<ul style="list-style-type: none"> • Maintain, enhance and initiate appropriate legislation and policy to facilitate scaling-within (<i>i.e.</i>, relating to participatory approaches, incentives/subsidies, water and land, and tenure security) • Provide high level support and guidance • Apply learnings in other areas as appropriate
Regional	<ul style="list-style-type: none"> • Private sector • Research institutions • NGOs • Regional government • Universities 	<ul style="list-style-type: none"> • Monitor regional progress and land use planning • Link private sector to local farming communities • Link NGOs and tertiary institutions to local regions
Local	<ul style="list-style-type: none"> • Local businesses • Local government • Neighborhood, village or local associations • Farmer organisations 	<ul style="list-style-type: none"> • Facilitate dialogue and planning • Utilise learnings from project • Coordinate activities • Cultivate entrepreneurial activities • Provide technical support • Monitor and evaluate processes

Learning space—Scaling-within benefits from the technical, human, institutional and social capacities built during the prior intervention. The more comprehensive the monitoring and evaluation (M&E) of the original intervention—and the availability of this information—the better informed any scaling-within efforts would be. By building upon and adapting the project M&E system, a continual process of consensus building for stakeholders at all levels could be established. Stakeholders would benefit from the foundations built during the intervention and continue to determine what works and what does not work as the process evolves. Such consensus building could be a continual process for stakeholders at all levels. Stakeholders from within the project areas could share their knowledge and experiences with stakeholders outside project areas. Like scaling-up, scaling-within would benefit from setting intermediate results to allow for testing and adaptation of the approach, including impacts on the poor and marginalised, for its optimisation.

Overall, scaling-within performs well against the IFAD 2012 framework. It appears to have advantages over scaling-up due largely to the facilitation of pathways, drivers and spaces having been created and influenced by the preceding intervention and from which scaling-within processes could build upon. The framework assessment indicates that case-study pathways and drivers were strong but that a focus on developing more space, particularly in the financial, institutional and partnership realms, would be required. Reviewing scaling-within against a framework has helped refine the theoretical approach and also outlined some challenges for putting it into practice.

6. Caveats and Limitations

The authors acknowledge that the concept of scaling-within needs to be critiqued by other development professionals and trialed to gain a solid understanding of its potential application. This approach should involve identifying current donor and government interventions for engagement and collaboration before scaling-within is introduced when the initial development intervention scales down its operations.

The following limitations related to scaling-within are recognised by the authors:

- Chandy *et al.* [6] describe three critical characteristics of contemporary international aid architecture: (i) typically, aid interventions are very small and official data point to a steady fall in the average size of activities over time; (ii) interventions tend to have a short duration (for a sample of OECD and multilateral agency projects in 2010, mean length was 20 months, with half occurring within a single year); and (iii) interventions are largely discrete and disconnected from each other both within and across time. Whilst on one hand these increasingly fragmented development trends may justify scaling-within as one option to promote integration of continuity in the sector, they also pose a challenge if the concept needs to be effective at smaller scales (where the concept has not been tested theoretically nor practically).
- Incorporating a scaling-within plan into an initial intervention may take some convincing of project proponents and additional pre-planning. Alternatively, if such provisions are not incorporated into the initial intervention, scaling-within can still occur but may require a confirmation of institutional and governance arrangements and more training and support for communities and local authorities.
- Scaling-within is not proposed as a substitute for other forms of scaling-up or scaling-down—in fact it incorporates components of both. In particular, the authors recognise that the large-scale case studies reviewed involved some initial pilot testing and confirmation of concepts in practice prior to being applied at scale.
- To avoid Type 2 scaling errors (as described earlier in this paper), scaling-within may only be recommended where the initial intervention has been deemed “successful”. The authors acknowledge the potential subjectivity of success and that metrics or some other form of stakeholder agreement mechanism could be developed to judge whether or not an intervention should be scaled-within. There are unavoidable linkages to the approach, structure and outputs/outcomes of the initial intervention and ideally, the scaling-within stage should be planned as a possibility for continuation of the initial intervention.
- Related to a determination of “success”, scaling-within is dependent upon the comprehensiveness of the M&E conducted prior to and during the initial intervention. The more information that is available about the intervention and the communities, the more targeted the scaling-within can be.

7. Conclusions

A significant challenge in the development sector is to get a project initiated, accepted by stakeholders and completed “successfully”. In cases where this hard work has reaped rewards—and relative to initiating another completely independent intervention—there may be some cases where it is more efficient and effective to capitalise on those already established foundations and make continued (ex-post) development available to those who seek it. Scaling-within is introduced as a concept specifically related to the ex-post in-filling of intervention opportunities to project and non-project communities alike within a given management unit (it also has scope to include functional scaling). By doing so, scaling-within could help address disparities arising between communities, promote greater continuity of development to a wider range of stakeholders and provide donors with “more bang for their buck”. Scaling-within is proposed as an additional scaling option for project designers and managers to consider and may be most effective in the ex-post when it is integrated into project planning, design and implementation.

Assessment of scaling-within against a contemporary scaling-up framework produced encouraging results but highlighted a need to focus on creating space in the financial, institutional and partnership realms. The assessment helped refine the theoretical approach to scaling-within and also outlined some challenges for putting it into practice.

While this paper has drawn on research from case studies of large-scale integrated watershed rehabilitation projects and the concept has been tested with watersheds as the administrative unit, the authors believe that it could be applied to other project management units. The authors believe that the approach has strong potential for development sector application.

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