

Sequencing, Layering, and Integration (SLI): Insights into Complex Programming from Bangladesh

A RESEARCH BRIEF

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This research brief examines the logic of complex programming for resilience in terms of sequencing, layering, and integration. It is based on a two-year study of change in women's empowerment and the social inclusion of ultra-poor, marginalized groups in the vulnerable char and haor regions of Bangladesh. The study sought evidence of long-term changes in power relations within households and communities and, where identified, the influence of these changes upon the ability of households and communities to manage climate-related risks. While the overall NGO presence in these regions has been significant and continuous over decades, this study focused on communities that have participated in the well-known SHOUHARDO program designed and implemented by CARE-Bangladesh. We consider SHOUHARDO to be a defining example of complex programming, a multi-year program that involves multiple sectors and interventions and engages multiple actors at multiple scales. This brief, then, examines the organizational logic of the sequencing, layering, and integration (SLI) of actors and activities programmed to achieve change objectives, particularly about women's empowerment and social inclusion.

Key Sequencing Layering and Integration Programming Findings

1. There are no SLI rules, but there is SLI logic. This SLI finding is that intended types of change occur in a step-wise fashion and must be appropriately sequenced in complex programming.
2. Synergy among interventions is a fundamental programming principle in the layering of interventions. The SLI finding is that the existence of underlying synergies is the core directive for layered interventions that produce interactive effects, so

SLI Defined

Sequencing, layering, and integration (SLI) refers to a theory of change logic that organizes project interventions, actors/stakeholders, and learning processes in such a way that achieves complementarity, synergy, and redundancy of project impact. USAID has defined SLI as follows: **sequencing** is the intentional organization and phasing of interventions and the way they are delivered, to coordinate the order in which activities are implemented and actors are engaged to maximize outcomes and sustainability.

Layering is the strategic coordination of geographically overlapping interventions across the different sectors and stakeholders that complement each other to achieve resilience objectives. Interventions can be designed to layer over and build on the completed interventions in the recent past or ongoing interventions within or across sectors, stakeholders, and different pillars of assistance. **Integration** of interventions is the intentional layering and sequencing of multisectoral interventions and the coordination of actors to address needs and prevent or reduce the drivers and effects of shocks and stresses that undermine long-term well-being (2022 Resilience Policy Revision, draft as of December 2022).

that the “whole becomes greater than the sum of parts.”

3. Complex programming requires a systems approach—and integration is a core component. The finding here is that complex programming for resilience outcomes requires the integrated participation of many actors, including those close to the targeted communities and those far away.
4. Effective community partnership is critical for successful SLI programming. This finding underscores a core tenet of SLI, which is that it should be built on detailed knowledge of local realities and with the active and informed participation of the residents.
5. SLI requires internal and external stakeholder engagement and a shared vision. The finding emphasizes that successful multi-level integration must assure that implementing units share a vision that allows for complementarity.

The SHOUHARDO Program

Over its more than 20 years and three separate sequential projects, SHOUHARDO is a well-documented example of complex programming for resilience. One of its major objectives was to improve the capacity of local households and communities to manage a risk environment characterized by extreme climate events, such as flooding, storms, and riverbank erosion. Focused on the most vulnerable communities of Bangladesh, the core elements of SHOUHARDO programming included food security through improved agricultural production, greater market integration, and diversification of rural income sources; improved nutrition through diet diversity and recommended child care practices; clean water and hygiene (WASH); enhanced women’s empowerment and the social inclusion of the ultra-poor and traditionally excluded community residents; and community-based disaster management and risk reduction. Each of these components was comprised of multiple intervention sets. One of the unique features of SHOUHARDO over the decades was its cross-sector approach to social justice and the effort to strengthen the agency and opportunities of women, the poor, and the marginalized. The foundation of the SHOUHARDO approach was the creation of local governance mechanisms in the form of groups that engage in collective action (e.g., village development committee, village savings and loans associations, disaster management committees, etc.). The second distinguishing feature of the SHOUHARDO approach was the integration of multiple actors and stakeholders. Along with the network of NGO implementing partners, the sectoral interventions designated key roles for private sector representatives, locally-elected officials, public service providers, project-trained local service providers, such as animal healthcare specialists, law enforcement officials, and social media and advocacy actors.

SHOUHARDO 3 and S3X (Extended) concentrated its activities in the *char* and *haor* regions in the north and northeastern regions of the country. These regions, considered

by many indicators the most vulnerable in Bangladesh, provide the context for our larger study and this brief. In light of the multiple sectors, interventions, and actors at multiple levels that make up SHOUHARDO 3, the brief presents our findings on the sequencing, layering, and integration effects derived from the analysis. It is important to note that the particular sector analyzed here is that of women’s empowerment and social inclusion; thus, the specific focus is upon the configurations and organization of activities within SHOUHARDO that have generated change among women and the traditionally excluded groups.

A Note on Method

In the study, eight communities—four in the haor and four in the char were selected, and most were visited on several occasions. At each site, the field teams (of two researchers) interacted with a range of local actors intended to represent the “social landscape” of the community. From informal interviews, observation, and participation, the field teams documented two decades of change in power relations, including among men and women, the elite and ultra-poor. These narratives of change were associated with the intense SHOUHARDO presence and its many interventions, thus providing initial insights into sequencing, layering, and integration. In total, the teams carried out 254 data collection episodes involving 758 participants across the eight communities. We then engaged NGO programming staff at both national and regional offices. Two sets of FGDs were conducted to directly address the strategies underlying complex programming. The regional FGD, held in the haor region, included community leaders (men and women) from the four sites and diverse SHOUHARDO staff; in Dhaka, the FGD included SHOUHARDO programming staff and representatives from three other NGOs. This brief is based on the information gathered from the fieldwork and the two FGDs.

A Note on Context: the Char and Haor Regions

Char: The chars are riverine islands formed by the river dynamics of bank erosion and soil deposition. In the north, they are spread along the flanks of the Brahmaputra and Teesta rivers fed by the Tibetan watershed in the Himalayas.¹ In the monsoon season,

¹ The Brahmaputra, which becomes the Jamuna River in Bangladesh, is the world’s 9th largest river by discharge and the 15th longest. Its waters flow into the Bay of Bengal in southern Bangladesh.



Figure 1. Examples of extensive riverbank erosion in Bangladesh. sources: (left) hasnat et al. 2018; (right) author.

the river system swells in volume and velocity, and its annual flooding is a key element of the agro-ecological system in Bangladesh. The river dynamics create significant amounts of bank erosion and deposition that at once destroys existing agricultural cropland and regenerates it as chars elsewhere. Where chars increase in size with each year's flooding, land-scarce households begin to occupy the island area and establish farming livelihoods. Periodically, the monsoon season ushers in particularly severe flooding, which destroys homesteads and damages agricultural fields, fishponds, and other livelihood resources. Thus, vulnerable households in the chars are subject to loss of valuable cropland (through riverbank erosion) but also to severe flooding in any given year (Figure 1).

Haor: The vast geological depression in the northeast region is comprised of large wetlands called haors. During the monsoon season a single haor can cover as much as 180 km² in area at a depth of several meters. The haors are fed by transboundary rivers flowing from India and monsoon rains. During the winter months (November to April), the haors are mostly dry and are intensely cultivated with paddy rice. With the onset of the annual monsoons, the haors transform into large, often turbulent, waterbodies. The local populations have adapted to the fluctuating water levels by mounding earth and clustering in tightly spaced communities (see Figure 2). Most transportation at this time is by boat—to school, health clinic, and market. In the haor, the nature of the annual shocks is related to the timing and volume of the flooding—if the monsoon arrives early while the rice crop is still in the fields, paddy production is severely damaged if not lost completely. There is also the risk of extreme flooding, which occurred as recently as June 2022.

In both the char and haor regions, the resilience challenge is to manage these climate-based risks. While livelihood systems have adapted to these seasonal patterns in a general sense, the climate/hydrology outcomes of any given year are difficult to predict



Figure 2. People elevate their homesteads to protect against annual flooding in the haor region. source: author.

and unevenly distributed. The char communities reported eight disaster years from 1988 to 2022; while the haor communities identified six disasters over the same period.

Evidence of SLI from SHOUHARDO

As with current resilience projects supported by USAID, SHOUHARDO’s design followed core programming principles that included “layering interventions across sectors and funding streams, integrating programming to address multidimensional challenges; and sequencing interventions to maximize long-term impact” (USAID, 2012). From its beginning in the early 2000s, SHOUHARDO has maintained a consistent programming thread. The program systematically targeted the poor and extreme poor in every community, with a strong focus on women’s status and participation. The program interventions pursued multi-sectoral improvements in food production, household income generation, improved family nutrition and child feeding practices, improved hygiene and safe water, and disaster risk reduction strategies. SHOUHARDO 3 increasingly sought to integrate its community-based interventions into broader systems, such as markets, financial institutions, private sector actors, public service providers, and formally-elected bodies.

There is an evident logic throughout SHOUHARDO that is discernible in the sequencing and layering of its multiple interventions. From 2016-23, specific interventions were introduced, continued over several years, and phased out. Other interventions were

initiated mid-project or towards the end. This strategy suggests the influence of several programming principles:

1. **Complementarity:** different interventions complement each other in addressing specific community needs. To achieve a food security goal, for example, food access interventions (increased production, income diversification) complement food utilization (improved child nutrition and WASH). Complementary interventions are usually introduced simultaneously.
2. **Synergistic effects:** there are cumulative benefits to be realized from different interventions implemented together. For example, the livelihood support for women and increased awareness of women's rights generate synergistic effects that reinforce one another and produce benefits greater than the sum of the individual interventions.
3. **“Learning curve” effects:** throughout the life of a program, specific interventions support the step-wise order of change, a learning curve, as it were. Initial interventions increase community capacity, female agency, collective action, etc., to a point that enables the introduction of other, more ambitious interventions. For example, as village savings and loan associations gain experience (and agency), it becomes possible to integrate them into outside financial systems.

From the FGDs with SHOUHARDO staff at the regional and national level, it was clear that these principles were integrated into the complex programming of the SHOUHARDO program. Further insights include the following:

Sequencing

The logic of sequencing was evident in multiple programming strategies. There was general consensus that complex programming must first introduce a framework for project governance through which program interventions can be implemented. Thus SHOUHARDO (and other NGOs in the region) initiate project activities with the formation of community groups that will be 1) representative and inclusive, 2) have the skills to coordinate the multitude of project activities, and 3) function as a mechanism that promotes a pro-poor agenda with community leaders and mediates between residents and the formally-elected power structure.² According to the focus groups, this collective institutional structure is a necessary logistical step in implementing multiple interventions. Evidence from the study also shows that the “group identity” provides an effective pathway to rights awareness and collective action.

² The primary SHOUHARDO group was the “village development committee” (VDC), but others were organized to represent sectors, specific stakeholders, and occupations. Thus, a mothers’ group, youth group, fishers’ group, farmers’ group, husband-wife group, women’s group, and the village savings and loan group (VSLA).

In SHOUHARDO's programming logic, the formation of group identity was followed by a comprehensive strategy of capacity building in terms of both specific skill sets (e.g., farming technologies) and collective decision-making. A subsequent component to this sequencing was to "jump-start" the application of the newly-acquired knowledge and skills through asset and resource support for those trained. For example, our study provided multiple examples of skill-building sessions designed to expand women's livelihood options (for example, in running a tailoring shop). Post-training the participants received the tools or a cash transfer to set up the business, followed by regular technical support.

The lessons learned from these sequencing strategies are:

1. **Sequencing is critical when a given development outcome involves a stepwise learning process.** Learning a new skill or expanding knowledge (e.g., of improved nutrition) is inherently sequential. People learn in steps and become more confident and sophisticated in their understanding through time. The successful sequencing of interventions must acknowledge this process and support learning at different steps.
2. **The process of change is itself sequential.** SHOUHARDO has demonstrated the necessity to lay an operational groundwork before rolling out subsequent interventions. Also, in the pursuit of a specific development outcome, such as the reduction of child marriage, the first step is the formation of an appropriate collectivity (in this case, the EKATA group or the youth group), followed by activities of messaging and leadership-building, followed by awareness-building among police and other formal institutions, followed by a strategy for monitoring girls in risk of early marriage. Most program objectives that envision these kinds of desired change have this time-depth, and the change process informs the sequencing of interventions and activities.
3. **Sequencing of interventions also integrates stakeholders at multiple scales.** While the initial interventions of the program focus on community members (as with the capacity strengthening of specific groups), later interventions will target a range of external stakeholders such as technical experts, government service providers, market agents, journalists, and others. How additional actors are integrated into the program is also a sequencing strategy.
4. **The sequencing of interventions is not uniform across communities.** In the SHOUHARDO experience, the ordering of interventions adjusts to learning gleaned from the community in the course of implementation. As the program progresses, certain interventions may not be "ready" for a specific community, and the sequencing strategy requires adjustments. The sequencing logic may be subject to change and must be grounded in solid knowledge of the local reality and community power dynamics.

Layering

According to NGO staff level discussions, layering is built upon the inherent complementarities of interventions that address different dimensions of a complex development problem. The assumption is that targeting one aspect of a problem is not adequate, and a comprehensive, complementary set of interventions must address multiple aspects simultaneously. Another assumption is derived from a layering logic—that interventions are also synergistic and the set of overlapped interventions provide a greater value than the sum of the individual interventions. Thus, layering addresses the multiple constraints to change found in any community and profits from the known synergies among sectors (food production, income, nutrition, hygiene and water, and disaster management) For example, it is widely assumed that enhanced child nutrition cannot be achieved without improved availability and access to quality foods. Thus, interventions designed to increase agricultural production and promote homestead vegetable gardens are layered with trainings to mothers' groups on improved diet, breast feeding and weaning practices, and access to clean water (and hygiene) because each one addresses a related dimension of the same food security problem in a synergistic relationship. Increases in food production, however, requires not only training (and seeds, etc.) but also regular access to technical assistance. In a prior SHOUHARDO version, complementary interventions focused on improving the formal service delivery system (e.g., agricultural extension) to meet that constraint. And in the current version, SHOUHARDO trains local service providers who, as private entrepreneurs, support agricultural and livestock producers on a fee basis. The technical assistance activity is complementary to the overall food security goal.

The layering logic of SHOUHARDO is also demonstrated in the quest for women's empowerment. Toward this program objective, one intervention set is aimed at reducing control over women (e.g., early marriage, dowry, gender-based violence) through collective awareness-building, but also layered with interventions that encourage enhanced enforcement of gender violence laws (through advocacy activities). At the same time, the program introduces complementary interventions to increase women's access to livelihood opportunities. While the programming focus group did not concur on the sequencing of women's empowerment interventions, all agreed that these layered interventions were necessary and reinforced each other.

SHOUHARDO programming further acknowledged the looming risks associated with flooding, riverbank erosion, and other hydro-climatological shocks and the constraints they pose for food security progress. Multiple sets of interventions were designed to manage these risks, including disaster risk management committees, disaster response strategies, multiple trainings, and linkages to public disaster management resources.

The lessons learned from layering strategies:

1. **Effective layering of interventions must be guided by comprehensive on-the-ground understanding of the constraints to change.** Complex problems suffer multiple constraints

such as resource-based (not enough land, capital), technology-based (not enough information, inadequate skills), institution-based (inadequate markets) but also the lack of voice and participation for segments of the community. Layering strategies are best built upon a strong assessment of this range of constraints.

2. **Layering needs to determine where synergies and complementarities are found in the range of interventions.** Multiple interventions are not necessarily complementary or synergistic, and such an assessment should be grounded in an understanding of the local reality.
3. **Layered packages of interventions are often implemented by different stakeholders who may not be accustomed to collaboration and teamwork.** One set of interventions might involve farmers, a marketing firm, an input supplier, an elected official, and NGO field staff. It is important that each implementer is aware of the quest for synergies and complementarities. Thus, effective coordination is critical.
4. **Often the logic of layering is not well perceived by beneficiary groups in the community.** From the community reports and focus group meetings, community residents, including informal leaders, are able to list the range of NGO activities in their communities, but do not articulate how these activities (interventions) are layered and complementary. For example, the “hardware” interventions (cash, assets, livelihood training) are readily associated with the NGO presence, but awareness-building interventions appear less prominent in local perceptions of the beneficiaries. They are not seen as part of a larger NGO layered package. Effective community participation at early programming stages would improve the beneficial effects of layering (and sequencing).

Integration

While sequencing and layering obey a logic inherent in the ordering of interventions, integration shifts the focus to the coordination of stakeholders and implementers. In a complex program like SHOUHARDO, the call for integration occurs at multiple levels:

1. ***Intra-program Integration:*** In multi-sectoral programs which include intervention sets in agriculture, nutrition, WASH, DRR, gender, advocacy, and so on, the in-house organization of the implementer is commonly divided into “teams,” each usually clustered in its own space, staffed by individuals with a specific expertise, and each with its own operational plan. The risk of isolating these sectors and respective activities into their individual “silos” can reduce the necessary interaction across sectors. It is necessary, as SHOUHARDO demonstrated, to build mechanisms of integration across teams in such a way that an integrated, holistic approach is maintained.
2. ***Implementing Partner Integration:*** Large complex programs engage numerous implementing partners. Early SHOUHARDO versions contracted dozens of NGOs responsible for project activities in different parts of the country. Successful integration at this level is required to assure that each implementing partner shares the vision of the program and has the required skill set to carry out project interventions with uniform effectiveness. Once again, this is a difficult task when so

many individuals are involved at so many levels, and implementing partners bring variable levels of experience.

3. **Integration of External Actors:** The third dimension of integration is the coordination of actors that lie outside the direct control of project management yet whose participation is fundamentally critical to project goals. In the case of SHOUHARDO, such actors have included government counterparts at the Union Parishad and Upazilla levels, public service providers such as agricultural extensionists, public health specialists, local police and law enforcement, marketing agents and associations, banks and financial institutions, private sector input enterprises, and journalists (advocacy). In the logic of the program, each of these actors has a role to play, usually cemented by formal contracts, MOUs, and other instruments of engagement. The challenge of integration is to propose a shared vision that all can adhere to. For example, SHOUHARDO has shown (and confirmed in the community reports) that to achieve women's empowerment and social inclusion, government institutional commitment to pro-poor policies and practices is a key condition.
4. **Integration of Other Development Actors:** A complex project is implemented with a larger institutional context. For example, there are multiple NGOs operating independently in the study region, each with a specific agenda and program. In any given community several development actors overlap. Effective integration calls for coordination among these actors in order to achieve maximum efficiency at the community and higher administrative levels.

Complex Programming and SLI: Key Findings

In the larger picture, our study focused on resilience, that is, the capacity of communities and households to manage frequent risks and shocks. Resilience is a *systems* concept, and this research is designed to test the assertion that changes in slow-moving variables, such as cultural norms, values, and patterns of social interaction, are systems of factors that condition resilience. In recognizing the complexity of development change, the analysis of SLI in this study intends to inform a larger resilience question. Based on focus group outcomes, it can be said that the complex programming that designed SHOUHARDO, while purposively multi-dimensional, was not guided by any specific SLI formula. Nevertheless, the principles that underlie that SLI, such as the synergistic and complementary effects of multiple interventions, were major drivers of the programming logic. As this study has gathered empirical field data regarding the relationship between change in these power variables and resilience outcomes, the derived implications for resilience-centered SLI programming are as follows:

1. **There are no SLI rules, but there is SLI logic.** From discussions with SHOUHARDO (and other NGO) programming staff, there was an underlying sequential logic of the roll out of intervention sets. In SHOUHARDO, for example,

there were several initial interventions designed to “prepare the terrain” for sequential sets of interventions. The introduction of governance mechanisms through which program interventions could be channeled, like the VDC and other beneficiary groups, constituted a necessary first step for introducing other interventions. It also helped mobilize common interests and identities. For creating new business opportunities, skill-building interventions preceded asset and cash transfers that enabled the application of newly-acquired skills followed by regular technical support. The SLI finding is that intended types of change occur in a step-wise fashion and must be accommodated in complex programming.

2. ***Synergy among interventions is a fundamental programming principle in layering of interventions.*** The evidence from SHOUHARDO provides multiple examples. While programming staff disagreed over which approach to women’s empowerment—awareness building or expanding livelihood options—should be addressed in what specific order, there is a consensus that the two types of interventions together create a synergistic effect toward the intended goal. The SLI finding is that the existence of underlying synergies is the core directive for layered interventions that produce interactive effects, so that the “whole becomes greater than the sum of parts.” The insight is that the programming of layered interventions requires a dynamic understanding of how change works within a community.
3. ***Complex programming requires a systems approach—and integration is a core component.*** While a complex program manages many interventions, sectors, and development actors simultaneously, and as the defining characteristic of any system, if one component part is flawed or missing, the entire system (and its intended purpose) is threatened. Based on the community research, sequencing and layering refer primarily to interventions that integrated different sectors; but in complex programming, integration refers to the complementary roles of different development actors, including government, private sector interlocutors, financial institutions, and other NGOs present in the same physical space. The finding here is that complex programming for resilience outcomes must be multistranded and requires the integrated participation of many actors, including those close to the targeted communities and those far away.
4. ***Effective community partnership is critical for successful SLI programming.*** In focus groups with community representatives, corroborated by individual conversations in the community, it was clear that local residents do not perceive the multi-dimensional systems approach that has informed the NGO presence in their communities. They perceive development activities as piecemeal and have difficulty articulating how these interventions fit together or why these and not others. That is because community members do not adequately participate in the design of the SLI logic, and they do not assume ownership of this dynamic of change. Creating a shared vision and identity appears central goals for the VDC and other forms of building community governance. The fact that community members do not see the “sum of the parts” suggests that opportunities to create more tailored SLI designs

have been missed. This undermines a core tenet of SLI, which is that it should be built on detailed knowledge of local realities and with the active and informed participation of the residents.

5. ***SLI requires internal and external stakeholder engagement and buy-in.***

Effective integration calls for coordination among diverse implementers and among different teams within an implementing organization in order to improve efficiency and efficacy at the community and higher administrative levels. Successful integration at these levels is to assure that implementing units express a vision that allows for complementarity, if not a shared vision. Importantly, the main risk to the complex structure of resilience programming is that goals within sub-implementer units (e.g., a WASH team or a DRR team) supersede those of the whole project. At a minimum, disjunctive approaches will suppress synergistic benefits, while in the worst-case situations, disjunction will undermine the project.

In sum, complex programs such as SHOUHARDO are designed to achieve well-being outcomes where the local context is itself highly complex. The constraints to change are entangled in social, cultural, economic, political, and environmental systems that comprise the local reality. The SLI framework imposes a logical order on how to navigate these constraints; but as this brief argues, successful programming is directly conditioned by the understanding of this local complexity and the effective participation of the local population in the change process.