CLIMATE RESILIENCE IN CONCEPT AND PRACTICE:
ISET WORKING PAPER 1

The Shared Learning Dialogue:

Building Stakeholder Capacity and Engagement for Resilience Action

INSTITUTE FOR SOCIAL AND ENVIRONMENTAL TRANSITION

The Shared Learning Dialogue:

Building Stakeholder Capacity and Engagement for Climate Resilience Action

Table of Contents

Executive Summary

Climate change represents a unique challenge as a global force with profoundly local consequences. Generating effective responses to climate change impacts requires understanding of emerging global scientific knowledge as well as the range of local factors that shape the nature of impacts on individuals, communities, and local ecosystems. It also requires overcoming the significant divisions that typically exist between sectors and disciplines within a locality. To that end, ISET, along with local and regional partners, have developed and piloted the Shared Learning Dialogue (SLD), a stakeholder engagement process born from strong roots in participatory action research.

This paper outlines the underpinnings and key characteristics of the SLD process. ISET has successfully applied the SLD process in a number of Asian contexts to facilitate learning and generate options for responding to current and future climate conditions. We offer a number of examples and key lessons from the Asian Cities Climate Change Resilience Network (ACCCRN) project, as well as more rurally focused examples from Pakistan and Nepal, to illustrate the utility and challenges of using a shared learning approach to building an understanding of climate change risks, impacts, and resilience.

The Shared Learning Dialogue (SLD) Process

Shared learning is an approach to participatory planning and problem solving in complex situations, characterized by non-extractive, mutual learning among participants. The concept of shared learning is straightforward: by fostering iterative deliberation, sharing of sector- or group- specific knowledge and knowledge from both local practitioners and external experts, the quality and effectiveness of decision-making will be improved. Shared learning processes, when iteratively and carefully enacted, can also help to break down established disciplinary and psychological divides that cause groups to reject or discount sources of information, insights, and perspectives that challenge their world views. This evolving understanding can assist decision-makers in public and private sectors, civil society, communities and households to identify possible interventions, target potential constraints, and set priorities.

An SLD, as practiced by ISET, has the following key attributes:

- **Information sharing is multi-directional:** Local stakeholders representing disparate sectors, scales, or perspectives should learn from each other. The development of understanding, therefore, is mutual.

- **The process involves stakeholders in an open manner:** Participants can contribute their views and experiences, and have time to absorb and think about the information and perspectives of different groups before they interact again.

- **The process crosses scales, communities, and organizational and disciplinary boundaries:** Shared learning dialogues bring together local, regional, national and global scientific perspectives and seek to overcome knowledge system divides typical of sectors.

- **The process is iterative:** Participants have multiple opportunities to share, generate, and understand new knowledge. Multiple iterative sessions allow for sequential growth in understanding and typically lead to increased levels of comfort and more meaningful dialogue among participants. Each iteration typically introduces new or enhanced knowledge into the process.

The SLD process is not simply a series of meetings but rather a semi-structured, dynamic, and strategically facilitated succession of interactions. The structure and composition of an SLD process can be highly adaptable to meet the needs of the organizers as well as the social context, and the facilitator may choose to use any number of tools and techniques to generate discussion and interaction. Depending on the ways in which they are designed, SLDs can at times challenge conventional power dynamics, confound existing and seemingly well-established doctrine and understanding, and induce interaction between institutions and actors in ways that can feel foreign and uncomfortable to the cultural expectations.

For the ACCCRN program, ISET designed a structured sequence of inputs and outputs into the SLD process, including vulnerability assessments, sector studies, and pilot projects, with a City Resilience Strategy as a key milestone at the end of an initial engagement process (see also *ISET Climate Resilience in Concept and Practice Series Working Paper 3*). The ACCCRN program has raised a number of key observations about the application of SLDs:

Structure

All partners confirmed the need for considerable planning and preparation in advance of SLDs and for clearly defined inputs and outputs. Most partners agreed strongly that planners should inject new information into each interaction, such that the process evolves at each stage and holds the attention of participants. In ACCCRN, the use of a multi-stakeholder meeting format demonstrated a number of advantages in promoting transparency, formation of partnerships, and multi-directional learning. They also provided useful project milestones both for planners and stakeholders. Conversely, these milestones injected a "must accomplish" timing that could disrupt the organic evolution of the city learning and capacity building process.

Timeframe

SLD processes require a long-term and flexible schedule to ensure sufficient time to build new relationships, absorb challenging concepts, conduct robust analysis, and generate planning for the future. In ACCCRN, partners were aware from initial stages that the program had quite ambitious scope and demands for a relatively limited engagement period. The timeframe in fact proved even more challenging than initially expected, with partners consistently postponing SLDs or extending process stages. Institutional obstacles such as contracts, scheduling, and various procedural requirements were responsible for some unexpected delays. In other cases, partners felt the need to slow down the process or host additional meetings to maintain stakeholder engagement and ensure absorption of unfamiliar concepts.

Communicating uncertainty and climate concepts

Related to the compressed time frame, partners stated that introducing climate change concepts and ideas about planning for uncertainty was challenging and time consuming (see also *ISET Climate Resilience in Concept and Practice Series Working Paper 2*). Partners applied a number of innovative methods for helping to express climate concepts. More work is needed to document these tools and develop others where gaps exist.

Engagement and Crossing Barriers

The SLD process has been effective for engaging groups that would otherwise not interact, building partnerships, and promoting joint implementation. For instance, Vietnamese partners noted that city and central level officials rarely meet with local level bodies, and similarly in Indonesia, NGOs do not usually work directly with government officials. In this way, partners felt that the multi-stakeholder SLDs created an unprecedented space for learning and interaction.

Engaging Vulnerable Groups

The ACCCRN experience indicates that learning with vulnerable groups requires a multi-layered approach, in which SLDs, vulnerability assessments, and pilot projects each play a role. In Vietnam, Thailand, and Indonesia, representatives of vulnerable communities participated in the large multi-stakeholder SLDs. This helped ensure that the experiences of these communities were included in the growing body of knowledge and understanding; that design of vulnerability assessments, sector studies, and pilot projects reflected their priorities; and that the community representatives themselves developed a greater understanding of their vulnerabilities to take back to their community constituencies.

Style of Engagement

SLD engagements benefit from highly skilled, active meeting facilitation. Partners have indicated the advantages of engaging facilitators with an adequate working knowledge of the subject matter—in this case, climate change—so that they feel comfortable presenting on the topic and do not risk misinforming or confusing the participants.

In sum, SLDs provide a mechanism for addressing the unfamiliar challenge of climate change, which can be addressed only in the presence of technical ("global") knowledge and with participation of those who will ultimately be responsible for devising, implementing, and (most importantly) sustaining resilience efforts. The ACCCRN experience demonstrates how SLDs can be used to frame and drive a local process of resilience planning, as documented in the following working papers of this series.

The Challenge

Climate change represents a unique challenge as a global force with profoundly local consequences. Whereas understandings of climate change have been largely determined at academic and national or international policy levels, its impacts are shaped at the local level where action must ultimately be taken. The ways in which people change, adapt, and respond to climate challenges will vary greatly depending on a variety of local factors including geography, economic opportunities, culture, and political and social constraints that may, in many instances, be poorly anticipated or understood in national or regional planning efforts. Effective adaptation requires processes that integrate global and local sources of information, assembles key actors from diverse backgrounds and arenas, and generates common understanding to address the complex primary and secondary impacts of changing climate regimes. Only through such crosscutting engagement can relevant actors identify and develop ownership over effective, practical climate adaptive actions.

Generating effective responses to climate change impacts requires understanding of emerging global scientific knowledge as well as the range of local factors that shape the nature of impacts on individuals, communities, and local ecosystems. Because the results of scientific research and modeling are often inaccessible, both logistically as well as conceptually to many local actors and institutions—and conversely, localized information is regularly unavailable to scientific entities at national or international levels—a mechanism is necessary to effectively parlay information into understanding and action at meaningful scales. To that end, ISET, along with local and regional partners, have developed and piloted the Shared Learning Dialogue (SLD), a stakeholder engagement process born from strong roots in participatory action research. The SLD process' specific objective is to cross this information divide and create shared learning and understanding of complex climate and natural resource scarcity issues among diverse actors and institutions in order to better enable sensible local responses.

The need for integrated, interdisciplinary processes to build climate change resilience is well-established (Tompkins and Adger 2004) and integrating local and scientific expertise has increasingly been seen as a key aspect of participatory processes for environmental management. As described by (Reed 2008):

> Participatory approaches were developed in part, as a response to the top-down, science-led transfer of technology paradigm (Section 4.2). By tapping into local knowledge, it was argued, more complete information could lead to more robust solutions to environmental problems. However, just as the participatory paradigm questioned the validity of technical approaches, so local knowledge cannot be unquestioningly accepted. Instead, there is a growing body of literature suggesting that a combination of local and scientific knowledge may empower local communities to monitor and manage environmental change easily and accurately (2425).

ISET views this hybrid scientific-local knowledge interaction as essential for climate change adaptation. Addressing climate change requires knowledge from many scales and by individuals with different expertise. In order to address climate risks, planners must seek information about vulnerabilities from local stakeholders like water and energy sector representatives, local communities, and private sector actors. Shared learning targets not only the gaps between local and global / scientific, but also the significant divisions that typically exist between sectors and disciplines. It can, for instance, help stimulate interaction and innovation between communities of practice, such as water and energy sectors, health services, industry, and transportation, the benefits of which may transcend the primary climate or environmental issue into other development goals. In addition, the history of planning and development demonstrates that however well external "experts" understand issues, effective responses depend on the

ownership of those who will be responsible for taking action (Stiglitz 1998). Ownership over actions and decisions, in this sense, is as important as understanding.

This paper outlines the underpinnings and key characteristics of the Shared Learning Dialogue process and uses some emerging examples from the Asian Cities Climate Change Resilience Network (ACCCRN) project, as well as more rurally focused examples from Pakistan and Nepal, to illustrate the utility and challenges of using a shared learning approach to building an understanding of climate change risks, impacts, and resilience.

The Shared Learning Dialogue (SLD) Process

Shared learning is an approach to participatory planning and problem solving in complex situations for which mutual learning is a defining feature in determining a positive outcome of the engagement. The concept of shared learning is straightforward: by fostering iterative deliberation, sharing of sector or group specific knowledge and experience, and knowledge from both local practitioners and from external experts, the quality and effectiveness of decision-making will be improved. Both decision-makers and those with a stake in outcomes will understand a fuller spectrum of factual conditions and operational constraints and will better recognize the available sources of information and its quality. Shared learning processes, when iteratively and carefully enacted, can also help to break down established disciplinary and psychological divides that cause groups to reject or discount sources of information, insights, and perspectives that challenge their world views (see Kahan 2010 for examples in the climate change debate). This evolving understanding can assist decision-makers in public and private sectors, civil society, communities and households to identify possible interventions, target potential constraints, and set priorities.

A shared learning dialogue process is useful for addressing climate adaptation and environmental or resource management issues in which no single source of knowledge is complete or sufficient as the basis for making strategic decisions. In these cases, processes are required that generate "hybrid knowledge," (Murdoch and Clark 1994) that is shared, understood, and can be operationalized by diverse local stakeholders (government departments, private sector actors, communities, NGOs) and technical experts (climatologists, hydrologists, health specialists, etc.). Shared learning processes bridge divides across sectors and scales, and promote inclusiveness by engaging marginalized groups and poor communities. In this way, shared learning responds to the call for environmental management and climate adaptation approaches that integrate different types of knowledge across scales, sectors, and disciplines (Murdoch and Clark 1994; Forsyth 1996; Tompkins and Adger 2004; Morse 2008).

Shared learning frameworks build on a large body of social science and interdisciplinary research and practice in the management of socio-ecological systems (Berkes, Colding et al. 2003). The following brief introduction shows how the concepts and practice of shared learning derive from participatory and community-based natural resource management experience, from social learning and from theoretical and practical frameworks for deliberation in collective choice.

Knowledge of local ecosystems (including agricultural systems) has always been essential to successful and sustainable exploitation of these systems, so users have put a premium on practical knowledge. But with growing population, commercial pressures, and competition for scarce land and resources, historical choices of extensive production and management systems are no longer possible, and there is a growing need for innovation (new knowledge) to assure productivity and sustainability (Sayer 2004; IAASTD 2009). Decades of experience have demonstrated that expert-generated technical knowledge, while important, is not sufficient for poor farmers to be able to improve their practices. Recognizing the innovative capacities and knowledge of poor farmers themselves is vital to technical innovation in managing complex agro-ecosystems (Chambers, Pacey et al. 1989; Sayer 2004).[1] Management of productive agro-ecosystems also requires recognition that property rights are inherently tied to technology choice and to potential management interventions (Knox, Meinzen-Dick et al. 1998). In particular, many valuable and productive ecosystems can only be managed through collective action, necessitating institutions for supporting collective

---

[1]   Indeed, most technical innovation is faster and more effective if it includes mechanisms for users to contribute to the learning and innovation process Douthwaite, B. (2002). Enabling Innovation: a practical guide to understanding and fostering technological change. London, Zed Books.

rights and the social and political interaction needed to innovate and choose resource management technologies and strategies (Ostrom 1990; Ostrom, Dietz et al. 2002). Improving sustainability and productivity in degraded ecosystems therefore requires both technical and institutional innovation, neither of which are likely to succeed without strong engagement from the people most affected (Chambers 1997; Dietz, Ostrom et al. 2003; Pound, Snapp et al. 2003; Sayer 2004; Tyler 2006a; Fabricius, Folke et al. 2007).

The kinds of participatory inquiry needed to respond to this challenge were, until recently, unfamiliar to scientists and development workers. They required not only interdisciplinary research, but also high levels of dialogue, communication, and mutual respect between technical experts and user groups. These were time-consuming and outcomes had low predictability. Methods such as PRA were developed to help address these concerns (Chambers 1994a, b). PRA tools engage local knowledge holders in sharing information and group learning, but are typically oriented to capturing and catalyzing local priorities rather than building relationships and knowledge from diverse sources and levels. Taking this process further, community-based natural resource management (CBNRM) experiences have systematically combined multi-disciplinary scientific and technical innovations with participatory action research and shared learning to generate local resource management gains, poverty reduction and policy changes (Tyler 2006b). One of the insights of CBNRM was that participatory action research involved iterative sharing and assessment of knowledge linked to action, elaborating on early social science action research frameworks by emphasizing the participatory and social learning aspects of the process (Lewin 1946; O'Hara 2006; Tyler 2006a). See Figure 1.
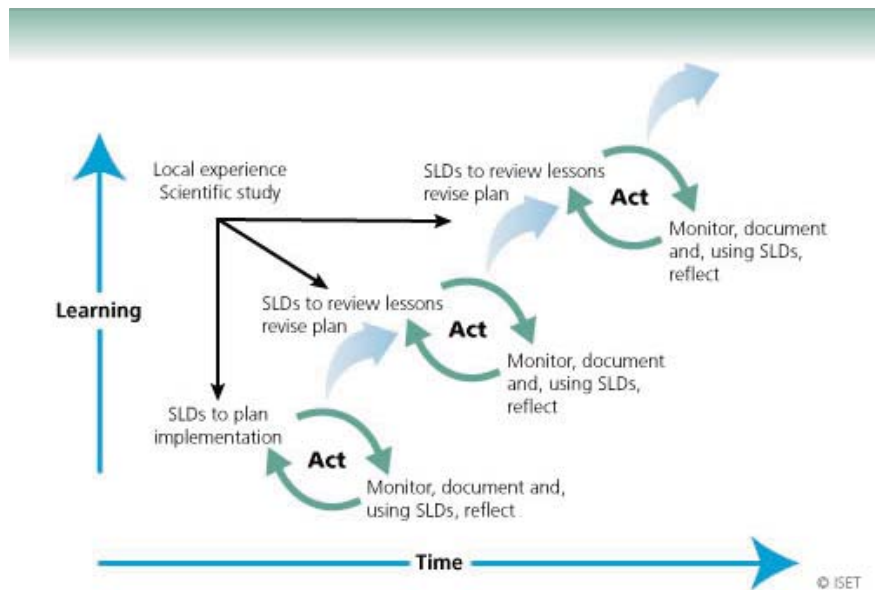
Figure 1: Iterative Learning and Action Research
Adapted from Lewin 1946: "Action research and minority problems"

Shared learning processes contrast with more conventional development or research processes, in which external actors base plans or recommendations on information extracted from local partners, or in which external facilitators seek to catalyze into action the existing development priorities of local partners without introducing new information that would materially affect those priorities. Shared learning processes focus particularly on *social* learning.

The term "social learning" has been employed in a wide range of disciplines and theoretical perspectives, and lacks a shared definition. Its proponents may understand social learning to be learning by individuals as conditioned by social interaction; or learning by social aggregates such as organizations or communities (Parson and Clark 1995). "The key to social learning is not analytical method, but organizational process…" (Korten 1981). By focusing on social learning in climate resilience, we highlight the processes of communication, human interaction, and shared experience. While natural science has an important role in contributing and validating information to these processes, the learning outcomes arise not from hypothesis testing, nor from PowerPoint

presentations, but from deliberation and engagement (Korten 1981; Forester 1999; Schusler, Decker et al. 2003).

Social learning has strong roots in both social science theory and professional practice across a number of disciplines. The notion builds partly on the work of the iconic early 20th century American sociologist and educator John Dewey, who viewed knowledge as a function of the interaction between cognitive humans and the material world. But while Dewey promoted the (normative) study of the role of individuals and society in creating and validating knowledge, he simultaneously advocated for the application of expert authority in decision-making, undermining the application of learning by a creative and deliberative public (Friedmann 1987).

Learning is of course partly an individual, cognitive activity whose outcome can only be observed independently by changes in behavior. But in many professions, including science, individual learning and advancement of knowledge depends on processes that require group participation such as discourse, collaboration, imitation, and mentoring (Kuhn 1970; Argyris and Schon 1978). While these processes are commonplace, they become more difficult when applied to contexts of heterogeneous groups and divergent interests. In natural resource management, for example, the social learning task has been described as moving from multiple cognition and agency of groups of individual actors towards "collective cognition" (Röling 2002). The existence of a multi-stakeholder platform on which such interactions can develop is an important initial step, but is far from being sufficient. Social learning requires building trust and legitimacy, through incentives for engagement and ongoing facilitation.

This process involves building relationships through networks, organizations, consultative bodies, monitoring processes and collective action, as much as it does generating new knowledge (Pinkerton 1989). Relationships lead to insight or acceptance of the insight of others: building empathy, clarification of values, and collaborative creation of new structures and processes of interaction. All of these are important sources of innovation and learning (Argyris and Schon 1978; Forester 1999; Armitage, Marschke et al. 2008). But participatory processes, while often advocated, are plagued by the biases of organizers or the political barriers of marginalization. A central challenge of a social learning approach is therefore the application of participatory methods and communications skills in the face of social and political power differences (Arnstein 1969; Friedmann 1987; Forester 1999; Beck and Fajber 2006; Armitage, Marschke et al. 2008).

Social and natural scientists are important players in social learning, but they should not *drive* the process. Their task is to validate and share various kinds of knowledge, expose assumptions, help to structure experiments capable of generating useful new information, and apply data collection, management and analysis tools in support of questions that arise from various players in the process (e.g. see *ISET Climate Resilience in Concept and Practice Working Paper 2* for a discussion of how climate information has been applied to planning). The unique aspects of social learning foster innovation through deliberation, relationship-building, better communications and shared power; through greater empathy, recognition of mutual interest, and collaborative investigation. Deliberative processes are particularly helpful in learning about what others' concerns are, sharing and agreeing on facts, identification of common purpose and potential opportunity for action (Schusler, Decker et al. 2003).

Public deliberation processes have a long history in European political tradition, originating in ancient Greece, and are generally seen as building civic confidence, participation and legitimacy of representative governance in a context of changing conditions (Roberts 1997; Delli Carpini, Cook et al. 2004; Roberts 2004). Note however that because of their roots and application in cultural traditions of pluralism and liberal democracy the processes may sometimes require adaptation in quite different cultural and political contexts. Mechanisms for open deliberation among groups of diverse stakeholders form a key part of shared learning dialogues. Deliberative processes are particularly useful in building resilience because they not only assure broader interpretation of knowledge from diverse

perspectives, but they also build shared understanding of values underlying positions and interests, and they help construct consensus and capacity for collective action (Forester 1999). These attributes build the capacity of decision makers to understand context and alternatives as conditions change and decisions need to be revisited (Tyler 2009).

Deliberative processes require careful structuring and facilitation in order to avoid exacerbating conflicts or further isolating marginal groups (Delli Carpini, Cook et al. 2004; Ryfe 2005). The need for inclusiveness may justify special provisions for supporting the engagement of specific groups who might otherwise not be able to participate, or for structuring interaction in a way that enables such participation (Arnstein 1969; Beck and Fajber 2006). Deliberative processes are structured to respect and value plural perspectives, even if this can be challenging in some cultures (Roberts 2004). Participation should be voluntary, but should be structured by explicit rules and procedures of interaction. Deliberation is most effective when conducted face-to-face, because it can better communicate emotional content and build trust, which has implications on the size of group that can effectively interact. Groups larger than about 20 need to be re-organized to avoid losing this effectiveness (Delli Carpini, Cook et al. 2004; Roberts 2004).

Successful deliberative processes lead to changes in participants' perspectives. Arguments are de-personalized, and assumptions or evidence held up for critical assessment. Positions and perceptions change with reconsideration and learning, although this can also provoke discomfort and anxiety (Daniels and Walker 1996; Ryfe 2005). Deliberation is not about problem-solving as much as it is about exploring new approaches, fostering shared learning and building consensus (Roberts 1997). Deliberative processes require effective communications, but communications skills are seldom taught to professionals or scientists, and all participants probably could use coaching in key communications skills such as listening, non-threatening questioning and clarification, feedback and respectful dialogue (Daniels and Walker 1996). Deliberative processes foster social learning, placing diverse participants in an equal position as co-learners and partners in strategic decision-making (Daniels and Walker 1996; Roberts 2004).

Shared learning dialogues build on these lessons in social science theory and in professional practice. They have been used by ISET in South Asia to explore climate adaptation and resilience practices at a micro level under a wide range of diverse field contexts (Risk to Resilience Study Team 2009). The approach has proven highly applicable in urban, rural, and peri-urban or *desakota* (Desakota Study Team 2008) contexts, at a variety of scales with stakeholders from the village to national levels. ISET has termed these gatherings Shared Learning Dialogues (SLDs) to distinguish them from other types of meetings in which mutual learning is not the main purpose and participants may be more homogenous. For example, many "workshop" events are intended either primarily to transmit information from a trainer to participants, or conversely to collect information from participants by a researcher, while other meetings of peer groups are intended to make decisions. Genuine dialogue and deliberation between and among stakeholder participants is the defining characteristic of SLD engagement. SLDs can vary in size, composition, format, and structure depending on the context, objectives, and strategic decisions of the facilitator.

An SLD, as practiced by ISET, has the following key attributes:

- **Information sharing is multi-directional:** Local stakeholders representing disparate sectors, scales, or perspectives should learn from each other; local stakeholders should learn from international knowledge presented by external experts, and external experts should learn from local stakeholders. The development of understanding, therefore, is mutual.

- **The process involves stakeholders in an open manner:** Participants from diverse groups, interests and

official responsibilities can contribute their views and experiences. They have time to absorb and think about the information and perspectives of different groups before they interact again and work towards the development of specific mechanisms for responding to climate change risks.

- ■ **The process crosses scale, community, organizational and disciplinary boundaries:** Shared learning dialogues bring together local, regional, national and global scientific perspectives and seek to overcome knowledge systems divides typical of sectors. The dialogues will occur at multiple levels where engagement is necessary to catalyze effective action.

- ■ **The process is iterative:** Participants have multiple opportunities to share, generate, and understand new knowledge.

These characteristics may be achieved through a variety of formats, methods, and sequencing. For this reason, a critical aspect is that the shared learning process should be planned strategically to contribute to project objectives by nodal facilitators with strong understanding of the local context. In the case of ACCCRN, for example, the project objectives in Phase 2 were to engage local stakeholders and to generate a city-based Resilience Strategy that would prioritize specific proposals for resilience action at the city level.

In addition to strategic preparation and planning, ISET experience suggests that successful shared learning processes require a substantial time commitment—a minimum of several months to several years depending on the project scale and the degree to which stakeholders differ initially in their level of understanding and openness to new knowledge. The wider the initial divides, the more time will probably be required. Substantial time allocations are also essential to ensure that process leaders have time to reach the full spectrum of stakeholders, absorb and contextualize new concepts, conduct relevant research robustly, and incorporate new knowledge into planning processes. ISET has learned that these process components must also be highly iterative, consistently reassembling stakeholders, revising understandings of vulnerabilities, and testing and evaluating possible actions. Finally, the presence of a core group of stakeholders whose engagement is crucial to action, as well as highly skilled meeting facilitation, are seen as critical.

The SLD process is not simply a series of meetings but rather a semi-structured and strategically facilitated succession of interactions that must include significant opportunity for all stakeholders to participate and dynamically interact. This can prove challenging and, in some contexts, frustrating for organizers and participants alike. Depending on the ways in which they are designed, SLDs can challenge conventional power dynamics, confound existing and seemingly well-established doctrine and understanding, and induce interaction between institutions and actors in ways that can feel foreign and uncomfortable to the cultural expectations. Because the structure and composition of an SLD process can be highly adaptable and malleable to meet the needs of the organizers as well as the social context, the facilitator may choose to use any number of tools and techniques to generate discussion and interaction. However, the organization convening the SLD process can enhance success of the engagement process by clearly understanding before beginning the process how the integration of global and local knowledge can further the project objectives and by engaging a skilled facilitator familiar with local issues, power structures, and sensitivities.

Multiple iterative sessions allow for sequential growth in understanding and typically lead to increased levels of comfort and more meaningful dialogue among participants. Early meetings can be intensive discussions used to develop baseline appreciation for the need of the dialogue process, development of some measure of trust and respect among diverse actors, and a common understanding of the issue being addressed. Later iterations may focus

on incorporating cooperatively generated information, such as assessments of local vulnerability and risk, into the pool of common knowledge and by creating further opportunities to understand the complexities and nuance of how global trends such as climate change and urbanization will interact together in nonlinear ways to affect local response opportunities and priorities. The spacing of the SLD gatherings is also flexible and driven by the need to balance momentum in the process and the time needed to absorb new information, appreciate new relationships among actors and institutions, and generate meaningful new knowledge inputs into the dialogue. Finally, because iteration in the SLD process is central to the sequential development of understanding, a core group of regular participants is required, although not all participants need attend every gathering and new participants should be welcomed for their fresh perspectives and contributions.

As discussed in a forthcoming paper on a framework for urban resilience by ISET and Arup, shared learning processes are central to building urban climate resilience. On one hand, the diagnostic processes of vulnerability assessment require interaction between climate scientists, local experts knowledgeable in the function of urban systems, decision-making agents and marginalized social groups whose vulnerability might not be recognized by others. The iterative interaction of these groups and their different knowledge domains is crucial to build a clear analysis and common understanding of potential urban vulnerabilities to climate change. On the other hand, design of resilience-building actions also requires iterative engagement between technical experts, system users, and marginalized groups who need access to those systems in order to actualize their resilience capacities (more detailed discussion will be available in the forthcoming paper by ISET and Arup (See *Urban Resilience Framework:* da Silva et. al).

Monitoring of the results of resilience-building actions similarly requires the scientific experts, local system operators or managers, users and intended beneficiaries to reach a shared interpretation of outcomes. Below are some examples of how the SLD process was used in different social contexts through the Rockefeller Foundation-funded ACCCRN project.

SLDs in Practice: The Asian Cities Climate Change Resilience Network

Since 2008, ISET has been the regional coordinator and technical advisor for the Rockefeller Foundation supported Asian Cities Climate Change Resilience Network (ACCCRN), which aims to build resilience to climate change in ten cities across India, Vietnam, Indonesia, and Thailand. ISET worked with local partners TARU Leading Edge (TARU) and Gorakhpur Environmental Action Group (GEAG) in India, the National Institute for Science and Technology Policy and Strategy Studies (NISTPASS) and Challenge to Change (CtC) in Vietnam, Mercy Corps in Indonesia, and the Thailand Environment Institute (TEI) to facilitate a climate resilience planning and implementation program through which local city partners would increase their understanding of climate change, situate climate risks within their local contexts, and plan and prioritize interventions. In all cities, the SLD process was employed as the primary stakeholder engagement tool and the backbone on which to hang other inputs to resilience planning. The SLD process was chosen over other methods of engagement because of ISET's previous successes in Pakistan and Nepal (described briefly below) in bridging the global science and local knowledge divide on related issues and because of its structural and contextual flexibility.

The Phase 2 "Engagement" stage of ACCCRN is currently drawing to a close and countries will transition in early 2011 into Phase 3 "Implementation" activities. Although engagement activities will continue as the project and city resilience planning moves forward, the diversity of experience in different social and national contexts in the application of the SLD process in Phase 2 provides interesting lessons. The flexibility of the SLD process, which can be designed by local organizations to meet the specific needs and goals within their own social, cultural, and political

boundaries, means that the SLDs in practice were conducted in a broad variety of formats, methods, and sequencing. Broad lessons and some best practices from the breadth of the ACCCRN experience provide illustrative detail on how to more successfully engage diverse stakeholders in developing shared understanding of the challenges of climate change and in the design and prioritization of locally adaptive interventions.

ISET initially prescribed a general sequence of knowledge inputs for the SLD events, which included a vulnerability assessment (encompassing hazards and social vulnerability), sector studies focusing on particular issues of concern, and pilot projects to test potential interventions on a small scale—but the nature and content of the inputs was ultimately driven by the engagement of stakeholders. The vulnerability assessments, studies, and pilot projects provided new knowledge for deliberation and shared understanding as an input to planning and action, and in many cases engaged key partners in relevant activities. These inputs were intended to proceed in a roughly chronological sequence prior to formulating resilience strategies or intervention proposals. In reality, however, collapsing timelines due to logistical delays and firm funding deadlines often required that these stages overlap. It is also important to note that Indonesian and Thai cities began their resilience planning processes later than Vietnamese and India cities and as a consequence remain at a different stage in the overall project.

As originally outlined to partners, the objectives of shared learning in ACCCRN were to:

■ Engage key actors, identify critical climate risks and evolving potential responses that build resilience;

■ Build ownership among stakeholders necessary for successful implementation;

■ Overcome knowledge systems divides and coordinate across scales and sectors;

■ Engage vulnerable groups;

■ Build understanding of divergent interests of stakeholders;

■ Compile and make accessible relevant local information sources[2]

In practice, objectives and emphases for the shared learning process varied between cities and partners.

In general, the citywide scope of ACCCRN shared learning meant engaging a very broad group of stakeholders. Participants included government departments and officials, social and environmental NGOs, university faculty and researchers, vulnerable communities (through focus groups or community representatives), members of the private sector, and external climate resource people. Notably, these participant groups involved governmental and agency decision makers, to increase the possibility that tangible action would be taken as a result of the ACCCRN interactions.

Shared learning processes in Vietnam, Indonesia, and Thailand were structured around three to five large, multi-stakeholder SLDs held over the period of 10 months to 1 ½ years (the timeline varied between countries). These assembled 40-60 attendees and used a combination of plenary presentations, question-answer sessions, and small group breakout discussions. These were fairly formal gatherings held in government buildings or professional conference venues, and were generally kicked off by opening remarks from the government; in many of the engagements, high ranking government officials such as the mayor attended the first SLD and welcomed participants. The meetings were highly structured and facilitated, normally lasting an entire workday, and convened both local stakeholders and national technical resource people such as climate scientists. Each of the cities formed a "working

---

2   ISET: ACCCRN Phase 2 proposal

group" composed of core stakeholders who meet regularly to collate information generated from the process and conduct analysis for resilience planning (see *ISET Climate Resilience in Concept and Practice Series Working Paper 3* for a description of the entire resilience planning process in each country).

In India, in contrast, shared learning was accomplished mainly through country partners (GEAG and TARU) transmitting knowledge among a large and diverse set of stakeholders, rather than through large multi-stakeholder gatherings. As such, it employed a series of one-on-one and small group meetings, and larger multi-stakeholder gatherings of which only a subset would fit the above definition of an SLD. In India too, a core group was formed in each city that was known as the City Advisory Committee (CAC – Indore and Surat) or City Steering Committee (Gorakhpur). ACCCRN country partners – TARU and GEAG – played a strong role in driving the process with these groups, although the degree of ownership and participation from the city stakeholders between cities.

In Thailand and Indonesia, professional facilitators were employed to lead the meeting, with country partners participating in breakout sessions. Country partners in Vietnam and India facilitated meetings themselves. In both of these latter countries, partners expressed their intention that city stakeholders involved in the shared learning process acquire facilitation skills such that they will be poised to lead interactions in the future. Within meetings, a variety of tools were employed by facilitators to stimulate discussion and knowledge exchange. These included:

- **Facilitated breakout discussion groups**, usually with a prescribed set of questions depending on the specific context– for instance, "What are the most vulnerable groups or districts in the city?" "Do you agree or disagree with the conclusions of studies presented?"

- **Matrices** within breakout sessions were to help participants identify vulnerable populations, areas and sectors.

- **Ranking exercises:** During breakout sessions, groups were in some cases asked to provide rankings, for instance a priority vulnerability, project or proposed activity, based on criteria provided by facilitators. This was the manner in which participants provided input for the selection of pilot projects and sector studies, as well.

- **Note cards:** Participants in some cases were encouraged to write comments and questions on note cards, as a means of providing feedback when time was limited or for ensuring participation of those less comfortable presenting their views publically.

- **Scenario development** has been used at various stages of the process as a visioning exercise or to inform resilience planning. In Thailand, during SLD 1 facilitators presented and requested participant input for envisioning three future climate and development scenarios describing "Business as Usual", "No Holds Barred Development," and "Sustainable 'Green' Growth." A similar exercise was conducted in Indian cities during group SLDs at the beginning of the resilience planning stage.

SLDs in Indonesia, Thailand, and Vietnam followed a similarly structured sequence of meetings and inputs. Between official SLD interactions, stakeholders were engaged through the vulnerability assessments, sector studies, pilot projects, and resilience planning activities. Vulnerability assessments, pilot projects, and sectors studies have provided a means through which to engage particular populations deemed vulnerable. In particular, partners conducted focus group sessions or community surveys for the vulnerability assessments to inform the shared learning process. These interactions were not always SLDs, as facilitators did not always exchange information with the participants but sought to elicit their perspectives and experiences. In India, and particularly in Gorakhpur, partners held community level SLDs in which they aimed also to raise the groups' awareness of climate change. The CAC/CSC and Working Groups in most cases met regularly to review these inputs (vulnerability assessments, sec-

tor studies, pilots) and advance planning efforts. In practice, however, the ability of Working Groups to meet regularly and the consistency of their members varied considerably.

Specific features of the four country processes are described in detail in the Appendix. *Working Paper 3* in this series discusses the structure and content of resilience planning in greater detail.

Shared Learning Dialogue Process in Nepal and Pakistan

Examples from previous ISET work demonstrate the way in which SLD processes can be tailored to the specific needs and objectives of a project. ISET and its partner organizations applied SLD processes extensively in the "From Risk to Resilience" project, a cost-benefit analysis of disaster risk reduction and climate change adaptation measures in specific rural, peri-urban, and urban sites in India, Nepal, and Pakistan. As in ACCCRN, From Risk to Resilience was an action research program designed to catalyze new relationships and action on a local level and test research methods (vulnerability assessments, climate downscaling techniques, climate and hydrological modeling, and cost benefit analysis). Qualitative and quantitative results were used as input for in-depth evaluations of flood, storm, and drought risk reduction measures. Beyond this, the team evaluated the robustness of cost-benefit itself as a tool for decision-making (Risk to Resilience Study Team, 2008).

The process applied in Nepal and Pakistan resembled more closely the style of engagement in India through ACCCRN than Vietnam, Thailand, or Indonesia, with facilitators from the Risk to Resilience study teams conducting a combination of individual meetings, multi-stakeholder meetings, homogenous group meetings and focus groups rather than holding several large multi-stakeholder meetings. In general, iterations with each group or individual occurred three to four times. The Risk to Resilience research team functioned as the core group for retaining and transmitting knowledge generated throughout the process. Though the project spanned a similar time frame as ACCCRN, it was able to hold many more SLDs in comparison.

The Risk to Resilience research teams conducted SLDs on national, regional, and local levels. They sought involvement from institutions, agencies, and organizations involved with disaster response, management, and development, as well as communities identified as vulnerable. Meetings were deliberately designed and structured with specific inputs and outputs. Individual meetings were generally preferred when meeting with national level actors or experts to create a comfortable environment for representatives to share policy details and insights about institutional operations, and/or to prepare individuals for larger multi-stakeholder gatherings. Through sharing knowledge between research team representative and stakeholder, these meetings sought to promote cross-fertilization, build awareness and capacity within those institutions, and create opportunities for relationship building and coordination.

In contrast, small homogenous groups meetings were utilized in community contexts, similarly to the application during vulnerability assessments in ACCCRN. These group meetings employed a variety of PRA tools to generate discussion of hazards and responses. In Pakistan, for instance, facilitators applied historical mapping, hazard matrixes and map, problem tree, preference ranking, problem/solution preference ranking, cost benefit matrices, funding matrix (to assess financial needs and burdens during and after disasters), and climate and weather matrices. In Nepal, community focus groups lasted as long as two and a half days.

As an example, the Nepal SLD process can be summarized in five main steps, described below:

1. **Scoping, initial engagement, and secondary review** to identify areas affected by and vulnerable to floods, along with local perceptions regarding existing governmental and community or individual strategies for responding to them.

2. **Intensive shared learning dialogues with local communities and key actors to identify key risks and the array of potential response strategies through SLDs.** This included a) discussions on the nature, condition and location of flood mitigation measures that had been implemented by the government (embankments), b) identification of autonomous responses (what people actually "do" in flood contexts and the measures they take to meet key needs), and c) introduced and evaluated the ways in which climate projections affected perceptions of risk and major challenges.

3. **Intervention specific evaluations and technical studies:** Team members identified key risk management measures, both the more centralized structural intervention of embankments and softer, dispersed responses. Benefits and negative outcomes of both were evaluated with communities through group SLDs.

4. **Ranking and related techniques to allocate relative magnitudes or "weights" to perceived benefits and cost elements:** In SLDs, facilitators used ranking tools to access perspectives/insights from local communities, and additionally to present external information previously unavailable to the communities.

5. **Identification of changes in perceived benefits and costs as climate and other change processes proceed:** Dialogues focused on the robustness of disaster management strategies under projected climate change scenarios and the direct and indirect costs associated with the types of strategies.

The analysis undertaken from SLDs through the project produced a systematic inventory of hazards, response strategies, cost and benefit areas associated with each strategy and a relative weighting of those costs and benefits. Unlike conventional cost-benefit analysis, the methodology strongly incorporated less quantifiable benefits such as livelihood resilience, social equity, and environmental quality.

ACCCRN: Lessons and challenges

At the conclusion of Phase 2, ISET staff interviewed ACCCRN country level partners about their experience with the SLD process for building understanding of climate change and urban resilience. Overall, ACCCRN partners have expressed positive experiences using SLDs. In Vietnam and Indonesia in particular, the types of interactions held through SLDs were ground breaking, as the kinds of groups and stakeholders participating in SLDs do not frequently meet or share ideas under normal circumstances. Partners generally cited the importance of active and knowledgeable facilitators and deliberate meeting structure with planned inputs and outputs. Meeting ACCCRN mandated timelines proved challenging across all cities, especially in Indonesia where shared learning processes began several months after India and Vietnam but outputs into the larger resilience planning process were expected along a similar timeline. The capacities, leadership skills, availability, and enthusiasm of Working Group and CAC members have demonstrably influenced the nature of SLDs and resilience planning in each city. A number of key lessons are cited below:

Structure

Most partners felt positively about the process of sequencing new knowledge inputs for SLD discussions. They agreed strongly that planners should inject *new* information into each interaction, such that the process evolves at each stage and holds the attention of participants. All partners confirmed the need for considerable planning and preparation in advance of SLDs and for clearly defined inputs and outputs.

In the ACCCRN experience, the multi-stakeholder meeting format demonstrated a number of advantages in promoting transparency, formation of partnerships, and multi-directional learning. They also provided useful project milestones both for planners and stakeholders, but also often providing a "must accomplish" timing that could disrupt the organic evolution of the city learning and capacity building process. It was also noted that these types of large stakeholder meetings are more difficult to facilitate and ensure participation from more reticent members of the group.

Timeframe

Partners were aware from initial stages of ACCCRN that the program had quite ambitious scope and demands for a relatively limited engagement period. The timeframe in fact proved even more challenging than initially expected, with partners consistently postponing SLDs or extending process stages. Due to time pressures there was limited opportunity for sector studies and pilot project experience to strongly inform city Resilience Strategies (nominally the planning goal of Phase 2 for cities). Institutional obstacles such as contracts, scheduling, and various procedural requirements were responsible for some unexpected delays. In other cases, partners felt the need to slow down the process or host additional meetings to maintain stakeholder engagement and ensure absorption of unfamiliar concepts. The Indonesian cities felt the timeline challenge most acutely, as deadlines forced the pilot projects to begin before completion of vulnerability assessments and submission of intervention proposals long before completion of Resilience Strategies, which would otherwise have informed the prioritization of intervention concepts.

Communicating uncertainty and climate concepts

Related to the compressed time frame, partners stated that introducing climate change concepts and ideas about planning for uncertainty was challenging and time consuming (see also *ISET Climate Resilience in Concept and Practice Series Working Paper 2*). Partners fear that without establishing shared understanding, participants with a higher level of understanding move forward without others, who then continue to focus on existing rather than

future problems. In addition, Vietnamese and Thai partners both expressed the need to "check" participants' under-standing of key concepts through side discussions in break-out sessions. Thai partners accomplished this through their early Climate Workshop in advance of, as well as during, the SLDs. Indian partners found that diagrams showing causal loops provided a useful tool both for explaining vulnerabilities and eliciting inputs.

Engagement and Crossing Barriers

The Shared Learning Dialogue process has been effective for engaging groups that would otherwise not interact, building partnerships, and promoting joint implementation. In Vietnam, partners noted that city and central level officials rarely meet with local level bodies; similarly in Indonesia, NGOs do not usually work directly with govern-ment officials. In this way, partners felt that the multi-stakeholder SLDs created an unprecedented space for learn-ing and interaction. Crossing these barriers holds particular attraction for groups with traditionally less voice and representation in government processes (for instance, community representatives in Vietnam and NGOS in In-donesia). Groups that could normally exercise unilateral decision-making power often showed enthusiasm for the SLDs but were more likely to become confounded or impatient when the process moved slowly, appeared unwieldy, or required conceding to the perspectives of other groups in conflict with their own interests. On the other hand, instances in which decision-makers did eventually concede or compromise demonstrate a great deal of progress in facilitating more inclusive participatory processes. Cross learning and participation in some cities was hindered by sensitivity about releasing documents (sector studies, for instance) before they were "finalized," thus reducing op-portunities for feedback and revision from other stakeholders.

As described above, the variety of groups represented in the SLDs varied between cities for a number of reasons. With the exception of the Indian cities, involvement with formal private sector actors and industry representatives was minimal and was identified as a weakness in the resilience planning process. Vietnamese and Thai partners also highlighted the need to involve youth and students in order to build new attitudes and awareness among the next generation of professionals. Along with strategic planning, composition of the participant group also reflected the self-selection of individuals or groups. Aside from drawing on the natural interest among the NGOs for work re-lated to poverty reduction and urban environmental issues, ACCCRN also represented an unprecedented opportu-nity in Indonesian cities for NGOs to work on an equal basis with city government.

The involvement of high-ranking officials such as City Mayors (India, Thailand and Indonesia), Municipal Com-missioners (India), and Vice Chairman of City People's Committee (Vietnam) helped attract participation from government departments and other organizations.

Engaging Vulnerable Groups

A key desired outcome of ACCCRN was to build the resilience of vulnerable groups to urban climate change im-pacts. To achieve this, key objectives were to identify these groups in each city and facilitate knowledge exchange be-tween them and other relevant stakeholders. The ACCCRN experience suggests that reaching and learning with vulnerable groups requires a multi-layered approach, in which SLDs, vulnerability assessments, and pilot projects each play a role. In Vietnam, Thailand, and Indonesia, representatives of vulnerable communities participated in the large multi-stakeholder SLDs. This helped ensure that the experiences of these communities were included in the growing body of knowledge and understanding; that design of vulnerability assessments, sector studies, and pilot projects reflected their priorities; and that the community representatives themselves developed a greater un-derstanding of their vulnerabilities to take back to their community constituencies.

However, many partners were conscious from the beginning of the limitations of multi-stakeholder meetings for engaging populations that are poor and/or marginalized. Partners identified the significance of unequal power dynamics during the interactions that leads to dominance of certain perspectives and marginalization of others. Unequal power dynamics can be mitigated to certain degree by skilled facilitation and alternative communication tools (mapping exercises, note cards, small break-out sessions, etc.). Large meetings promote multi-directional knowledge sharing by gathering all parties in one place—yet they may also constrain knowledge sharing of certain partners who cannot attend these meetings or feel uncomfortable in that setting (i.e. many women, marginalized groups, and representatives of poor communities).

The ACCCRN experience and the history of participatory processes in development more largely demonstrate a need for alternative methods of engaging poor populations in shared learning processes. In all cities, community-based surveys and focus groups conducted through vulnerability assessments allowed for much greater insight and participation for these groups. As noted above, Indian partners ISET, TARU and GEAG led SLDs with slum communities identified as vulnerable, which generated interest in climate change within the communities and provided input for the CAC. Such interactions were especially extensive and successful in Gorakhpur, where GEAG has a long-term presence and connection in those communities and was therefore able to engage at a deeper level. Partners describe that the interactions were helpful not only for GEAG and the CAC's analysis of climate vulnerabilities in the city, but for stimulating long-term community engagement (evinced by the appearance of participants months later at GEAG offices for follow up conversations) and assisting community members to approach elected officials as informed citizens.

Style of Engagement

The ACCCRN experience also suggests that multi-stakeholder SLDs benefit from highly skilled, active meeting facilitation. Partners have indicated the advantages of engaging facilitators with an adequate working knowledge of the subject matter—in this case, climate change—so that they feel comfortable presenting on the topic and do not risk misinforming or confusing the participants. Thai partners describe that their facilitator's lack of familiarity with climate change presented an obstacle at the first SLD, while the initial round of Indonesian SLDs suffered from overly passive facilitation.

Conclusions

As the ACCCRN experience has shown, the Shared Learning Dialogue approach to stakeholder engagement can successfully bring together diverse stakeholders, develop among them a common understanding of a complex and multifaceted issue, build local capacity, and bridge divides between "global" science and local knowledge. SLD processes are flexible, which allows organizers to modify engagement techniques, accommodate institutional or cultural boundaries, and space the sequencing of the gathering to meet local timetables.

ISET's experience demonstrates the value of SLD processes for climate adaptation and resilience planning processes, unfamiliar challenges that can be addressed only in the presence of appropriate technical ("global") knowledge and with participation of those who will ultimately be responsible for devising, implementing, and (most importantly) sustaining resilience efforts and knowledge generation. Shared learning is particularly essential in circumstances where levels of uncertainty are high regarding future conditions and, as a result, the development of effective responses requires changes in the concepts, strategies and techniques conventionally used within sectors. SLDs can be planned with numerous desired outcomes and objectives in mind. ISET experiences, as outlined above, suggest a number of key elements—such as group composition, style of meetings, a mechanisms for knowledge sharing and engaging vulnerable groups, and timeframe—which require strategic consideration and can help the user to achieve their desired outcomes.

The ACCCRN program clearly documents how such an approach has led to tangible outcomes (resilience strategies, implementation proposals), new partnerships, highly enhanced capacities among small groups and greater awareness among larger groups, and stages processes of institutionalizing climate change in city governments. ACCCRN partners have expressed the innovative nature of this process to overcome functional boundaries, whether through NGOs working with city governments in Indonesia, local level officials meeting with national experts and senior government officials in Vietnam, or disparate sectoral representatives communicating regularly in India.

In this way, ACCCRN has functioned as a laboratory for a number of methodologies for addressing the challenges associated with climate change in urban areas. Two other key elements of the process used during ACCCRN—the use of climate information and the process of resilience planning—are described in *Working Papers 2* and *3* of this series.

Bibliography

Argyris, C. and D. A. Schon (1978). *Organizational Learning: A Theory of Action Perspective.* Reading, Mass., Addison-Wesley.

Armitage, D., M. Marschke, et al. (2008). "Adaptive co-management and the paradox of learning." *Global Environmental Change* 18(1): 86-98.

Arnstein, S. (1969). "A Ladder of Citizen Participation." *Journal of the American Planning Association* 35(4): 216-224.

Beck, T. and E. Fajber (2006). Exclusive, moi? Natural resource management, poverty, inequality and gender in Asia. *Communities, Livelihoods and Natural Resources: Action Research and Policy Change in Asia.* S. Tyler. Reading and Ottawa, ITDG and International Development Research Centre: 297-320.

Berkes, F., J. Colding, et al., Eds. (2003). *Navigating Social-Ecological Systems.* Cambridge, U.K., Cambridge University Press.

Chambers, R. (1994a). "The Origins and Practice of Participatory Rural Appraisal." *World Development* 22(7): 953-969.

Chambers, R. (1994b). "Participatory Rural Appraisal (PRA): Challenges, Potentials and Paradigms." *World Development* 22(10): 1437-1454.

Chambers, R. (1997). *Whose reality counts? Putting the first last.* London, Intermediate Technology Publications.

Chambers, R., A. Pacey, et al., Eds. (1989). *Farmer First: Farmer Innovation and Agricultural Research.* London, Intermediate Technology Publications.

da Silva, J., M. Moench, S. Tyler and S. Kernaghan (2010). "Urban Resilience Framework." Arup / ISET working document for ACCCRN program. *Forthcoming*

Daniels, S. and G. Walker (1996). "Collaborative Learning: Improving Public Deliberation in Ecosystem-Based Management." *Environmental Impact Assesment Review* 16: 71-102.

Delli Carpini, M., F. Cook, et al. (2004). "Public Deliberation, Discursive participation, and Citizen Engagement: A review of the empirical literature." *Annual Review of Political Science* 7: 315 - 344.

Dietz, T., E. Ostrom, et al. (2003). "The Struggle to Govern the Commons." *Science* 303: 1907-1911.

Douthwaite, B. (2002). *Enabling Innovation: a practical guide to understanding and fostering technological change.* London, Zed Books.

DST (2008): Re-imagining the Rural-Urban Continuum: Understanding the role ecosystem service play in the livelihoods of the poor in desakota regions undergoing rapid change. Research Gap Analysis prepared by the Desakota Study Team (DST) for the Ecosystems Services for Poverty Alleviation (ESPA) Program of Natural Environmental Research Council (NERC), Department for International Development (DfID) and Economic and Social Research Council (ESRC) of the United Kingdom. Published by Institute for Social and Environmental Transition-Nepal (ISEt0N), Kathmandu, Nepal.

Fabricius, C., C. Folke, et al. (2007). "Powerless Spectators, Coping Actors, and Adaptive Co-managers: a Synthesis of the Role of Communities in Ecosystem Management." *Ecology and Society* 12(1): 29.

Forester, J. (1999). *The Deliberative Practitioner: encouraging participatory planning processes.* Cambridge Mass., MIT Press.

Forsyth, T. (1996). "Science, myth and knowledge: Testing himalayan environmental degradation in Thailand." *Geoforum* 27(3): 375-392.

Friedmann, J. (1987). *Planning in the public domain: from knowledge to action,* Princeton University Press.

IAASTD (2009). Agriculture at a Crossroads: Synthesis Report. Washington, D.C., International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD).

Kahan, D. (2010) "Fixing the communications failure." *Nature* 463(21): 296-297

Knox, A., R. Meinzen-Dick, et al. (1998). Property rights, collective action and technologies for natural resource management: a conceptual framework. *CAPRi Working Paper.* Washington, D.C., International Food Policy Research Institute.

Korten, D. C. (1981). "The Management of Social Transformation." *Public Administration Review* 41(6): 609-618.

Kuhn, T. (1970). *The Structure of Scientific Revolutions*, University of Chicago Press.

Lewin, K. (1964). Action Research and Minority Problems. *Journal of Social Issues* 2(4): 34-46.

Morse, S. (2008). "Post-Sustainable Development." *Sustainable Development* 16(5): 341-352.

Murdoch, J. and J. Clark (1994). "Sustainable knowledge." *Geoforum* 25(2): 115-132.

O'Hara, P. (2006). Shaping the key to fit the lock: participatory action research and community forestry in the Philippines. *Communities, Livelihoods and Natural Resources: Action Research and Policy Change in Asia.* S. Tyler. Ottawa, ITDG and IDRC: 253-273.

Ostrom, E. (1990). *Governing the commons: the evolution of institutions for collective action.* Cambridge, Cambridge University Press.

Ostrom, E., T. Dietz, et al., Eds. (2002). *The Drama of the Commons.* Washington, D.C., National Academy Press.

Parson, E. A. and W. C. Clark (1995). Sustainable Development as Social Learning: Theoretical Perspectives and Practical Challenges for the Design of a Research Program. *Barriers and Bridges to the Renewal of Ecosystems and Institutions.* L. H. Gunderson, C. S. Holling and S. S. Light. New York, Columbia University Press: 428-460.

Pinkerton, E., Ed. (1989). *Cooperative management of local fisheries: new directions for improved management and community development.* Vancouver, University of British Columbia Press.

Pound, B., S. Snapp, et al., Eds. (2003). *Managing Natural Resources for Sustainable Development: Uniting Science and Participation.* London, Earthscan.

Reed, M. S. (2008). "Stakeholder participation for environmental management: A literature review." *Biological Conservation* 141: 2417-2431.

Risk to Resilience Study Team (2009). Catalyzing Climate and Disaster Resilience: Provesses for Identifying Tangible and Economically Robust Strategies. *Final Report of the Risk to Resilience Study.* M. Moench, E. Fajber, A. Dixit, E. Caspari and A. Pokhrel. Kathmandu: 328.

Roberts, N. (1997). "Public Deliberation: An Alternative Approach to Crafting Policy and Setting Direction." *Public Administration Review* 57(2): 124-132.

Roberts, N. (2004). "Public Deliberation in an Age of Direct Citizen Participation." *American Review of Public Administration* 34(4): 315-353.

Röling, N. (2002). Moving from multiple to distributed cognition in resource dilemmas. *Wheelbarrows Full of Frogs: Social Learning in Rural Resource Management.* C. Leeuwis and R. Pyburn. Assen, Netherlands, Koninklijke Van Gorcum: 25-48.

Ryfe, D. M. (2005). "Does Deliberative Democracy Work?" *Annual Review of Political Science* 8: 49-71.

Sayer, J., and Campbell, B. (2004). *The Science of Sustainable Development: Local Livelihoods and the Global Environment,* Cambridge University Press.

Schusler, T. M., D. J. Decker, et al. (2003). "Social Learning for Collaborative Natural Resource Management." *Society and Natural Resources* 15: 309-326.

Stiglitze, J. (1998) "Towards a New Paradigm for Development: Strategies, Policies, and Proceses." United Nations Conference on Trade and Development, Geneva. October 19.

Tompkins, E. L. and W. N. Adger (2004). "Does Adaptive Management of Natural Resources Enhance Resilience to Climate Change." *Ecology and Society* 9(2).

Tyler, S., Ed. (2006a). *Communities, Livelihoods and Natural Resources.* Rugby and Ottawa, ITDG and IDRC.

Tyler, S. (2006b). *Natural Resource Co-management: Local Learning for Poverty Reduction.* Ottawa, IDRC.

Tyler, S. (2009). Multi-Stakeholder Deliberation. Chapter 4 in: *Creating Adaptive Policies: a guide for policy-making in an uncertain world.* D. Swanson and S. Bhadwal (eds). New Delhi and Ottawa, SAGE publications and IDRC.

ANNEX

Below, we provide a more detailed narrative for the SLD process in the four counties in the ACCCRN project. These descriptions provide further insight as to how various partners have received and executed the SLD concept, how an SLD process might be planned, the constraints and challenges they often face (although many of these are unique to the city and context in which they are being enacted).

Vietnam: Cities of Can Tho, Da Nang, and Quy Nhon

The Vietnamese cities have held three SLDs to date with 50-60 participants in attendance, including the City Steering Committees, technical partners and national level experts, representatives of city departments, local People's Committees, mass organizations (i.e. Women's Union, Youth Union, Farmer's Association) and representatives from NIST-PASS, CtC, and ISET. Local communities in vulnerable areas were represented by the lowest level of government structure (commune or ward), as well as the local women's groups and fishermen associations. Initially, the meetings struggled to attract government officials, especially senior staff whose time is extremely limited. By SLD 2 and 3 most departments were represented, but in many instances these continued to be low or mid-level officials rather than senior decision-makers. The composition and consistency of government leadership varied between the three cities.

Meetings were initially planned by ISET and NISTPASS, but with declining ISET involvement over time. In each city, the local government organized SLD 3. CtC staff with facilitation expertise led the meetings in Vietnamese and have assisted in coordinating the SLDs. Locally, leadership and decision-making power rested with a single local government agency (in most cases, the Department of Natural Resources and Environment—DoNRE) under the guidance of a Climate Change Steering Committee composed of senior staff from multiple government departments. The Vice Chairman of the People's Committee (equivalent to a Deputy Mayor) chairs and exercises direct control over the Steering Committee. Throughout the process, the Steering Committee has approved decisions and provided specific executive direction for the actions of government agencies in relation to the work plan, including the participation of technical staff in SLDs.

The Steering Committees in each city also directed the city-level Climate Working Groups, formed following SLD 2 and responsible for technical coordination such as interpreting analytical inputs and drafting the resilience plans. The working groups included representatives of multiple local government agencies and local disaster response organizations.

In Vietnam, the SLD process and associated consultations were highly unusual, with partners responding positively to the innovation of convening diverse departments and stakeholders to share on an equal basis. Participants have assessed the process as largely successful in sharing knowledge, building collaboration, reaching consensus and engaging multiple local government departments. The SLD process in Vietnam also resulted in the development of new relationships between local governments and technical experts, for instance in Can Tho where there had been little engagement between the city and Can Tho University's DRAGON Institute prior to the ACCCRN project.

The approach challenged the conventional top-down Vietnamese planning processes, such that discomfort and instances of tension emerged due to lack of bureaucratic control (see Working Paper 3 for more on this). Securing the continued involvement of vulnerable groups emerged as an additional key challenge. Officials from vulnerable communes and wards and members of mass organizations were strongly reflected in the composition of SLDs 1 and 2, but their participation declined as the process shifted into the resilience planning stage. Local engagement of vulner-

able groups was maintained principally through pilot projects, community based disaster risk management trainings, and other community engagement work supported by CtC in parallel to the SLD process.

Indonesia (ACCCRN): Cities of Semarang and Bandar Lampung

The Indonesian SLDs have assembled a diverse group consisting of technical and research partners, heads of vulnerable sub-districts, local water supply companies, NGOs, Provincial Planning Boards and other relevant organizations, and representatives from Mercy Corps and ISET. In Semarang, representatives from social responsibility departments of two local private businesses have also attended the SLDs. Approximately 50-60 participants have been present at each SLD.

Mercy Corps, with assistance from ISET and input from city stakeholders, has planned and created the agendas for the SLDs, bringing external facilitators to lead the meetings. Two Mercy Corps staff members are based in each city, with senior staff visiting the cities and meeting with the working groups regularly to provide programmatic and technical support. Locally, city networks consist of a diverse range of local partners and have been recognized officially by the city mayors. Working groups within the city network formed during the second SLDs and are composed of three to four members, representing NGOs, academic institutions, and city government.

Indonesian partners have described the SLD as a useful tool, due particularly to its flexible nature and ability to generate active participation. In particular, the style of engagement has led to collaboration between city government, NGOs, and academic institutions that are unusual in the Indonesian city context. The ACCCRN process in Indonesia also has been highly successful in engaging the local planning boards in considering climate vulnerabilities for the city midterm development plans, being finalized in October and November 2010.

The experience demonstrates two key, related challenges. The ACCCRN process in Indonesia commenced significantly later in Indonesia than in India and Vietnam, but was constrained by the same deliverable timeline as the other two countries. For this reason, the cities rushed to complete each step of the process, resulting in a lack of adequate time to digest and absorb assessments. The sequence of inputs and outputs thus collapsed, such that pilot projects began prior to completion of the vulnerability assessment and concept notes for intervention proposals were drafted well in advance of the resilience strategies. In addition, the cities have struggled with understanding and integrating into the planning the results of vulnerability assessments undertaken by external agencies, due to disagreements and strained communications regarding data and analysis. These issues are described in greater detail in Working Papers 2 and 3.

Thailand: Cities of Hat Yai and Chiang Rai

Partners have held three SLDs in the Thai cities, which began later in the process than the Indian, Vietnamese, or Indonesian cities. Unlike in the other cities, Thai partners held a Climate Workshop in each city prior to the first SLD. These large events convened a wider group of city stakeholders than the SLDs, as well as officials and community leaders from other areas and technical speakers presenting on climate change. TEI led break-out group discussions on concepts such as vulnerability and adaptation, aiming to assess the level of climate knowledge of participants to provide targeted information inputs for SLD 1.

Core participants in the Thai SLDs have included members of the city working groups, district and sub-district officials and the TEI project team. The Thai SLDs also included representatives of observer cities that are seeking to replicate the ACCCRN process in their cities. However, participants varied among the three SLDs. Key speakers

from SEA-START, Oxfam, Compuplan Institute of the Netherlands, ADPC and other academic institutes were present in the SLD 1.

During SLD 1, TEI facilitators employed scenarios to help participants envision future climate and development pathways: specifically, "Business as Usual", "No Holds Barred Development", and "Sustainable 'Green' Growth". These discussions helped to determine the scope of the vulnerability assessments, as well as the focus areas of thematic sub-groups within the larger working groups. In the second SLD, participants included local NGOs and researchers from local institutions, who carried out vulnerability assessments and sector studies, and local communities, who took part in focus group meetings, interviews and surveys as part of the vulnerability assessments. In these meetings, researchers conveyed the findings of the vulnerability assessments and sector studies and provided recommendations on adaptation measures to the city working groups and government officials. In addition, the local NGO representatives presented inputs and insights on community needs and priorities. The city working groups were able to discuss vulnerabilities and existing adaptive capacities, and determine options for adaptation and resilience plans. This included a discussion of potential pilot projects in each city.

The primary participants of SLD 3 were members of the city working groups and key members of the executive groups, including the provincial governors, mayors of Hat Yai, Chiang Rai and selected sub-district municipalities, and directors of selected government agencies. The discussions, facilitated by TEI, focused on development of urban climate resilience strategies, collaboration between municipalities across administrative boundaries, and involvement of key officials in implementing activities linked to strategies. This led to planning of possible intervention projects for ACCCRN Phase 3. Additional meetings were also arranged for further discussions on development of intervention concepts.

Whereas the Hat Yai SLDs have included city stakeholders outside of the working group, the working group members have been the main SLD participants in Chiang Rai. In contrast, the Climate Workshops assembled a larger stakeholder group in both cities. Between SLDs, TEI meets regularly with the working groups to provide additional support. Although SLDs and meetings with the city working groups were initiated by TEI, both city working groups were able to arrange additional meetings on their own without TEI's presence. This indicates that diverse members of the city working groups have established a good working relationship among themselves and with the municipalities and other government agencies. A central challenge described by TEI was the ability for partners to absorb, understand, and ultimately act on climate concepts and ideas surrounding uncertainty presented to them. TEI felt the need to hold a follow-up to SLD 1 in Chiang Rai ("SLD 1.5"), as partners felt that topics had not been adequately covered or understood during the initial SLD.

India: Cities of Surat, Indore, Gorakhpur

In India, as mentioned earlier, the SLD process differed from those of the other ACCCRN countries. The initial period of Phase 2 was used for discussions with a cross section of stakeholders in each city, including the city government, NGOs, institutions, private sector bodies and others. Subsequently, the lead organizations (TARU and GEAG) conducted stakeholder mapping to better understand the characteristics of organizations and institutions in the city, their mandates, constraints and opportunities for the project processes. This kind of institutional analysis led to the formation of a City Advisory Committee (CAC—Indore and Surat) and City Steering Committee (Gorakhpur) comprising representatives from the ULBs[3], NGOs, academic institutions and the private sector in each city.

---

3   Urban Local Bodies (ULBs) are constitutionally provided administrative units that provide basic infrastructure and services in cities and towns across the country. Such ULBs in large cities are designated as the Municipal Corporations. All the three cities under the ACCCRN program – Surat, Indore and Gorakhpur - are governed by their respective Municipal Corporations.

The consultations with the CAC / CSCs occurred at regular intervals and are described in greater detail below:

Gorakhpur:

In Gorakhpur, the shared learning process facilitated secondary data collection with key stakeholders such as Gorakhpur Municipal Corporation, Jal Nigam (water works), the electricity department, Gorakhpur Development Authority (GDA), Gorakhpur University and the Gorakhpur Medical College. Individual, bilateral consultations were conducted during the initial period of February-March 2009 with the City Mayor, City members of legislative assemblies, the Municipal Commissioner, and former engineers from water and electricity Departments. Group consultations were subsequently held between March and April with key stakeholders including academics, engineers, NGOs, journalists, and informed citizens. In March 2009, the City Steering Committee (CSC) was formed with 12 members from government departments, research institutions, and the medical college, along with other key stakeholders.

Following CSC formation, an SLD was conducted with a larger group (including CSC members, elected representatives from many municipal wards, private sector, among others) to identify and prioritize the vulnerabilities in Gorakhpur city as well as identify the most vulnerable areas/communities in the city. This consultation was facilitated by an external consultant and involved small breakout group exercises (similar to SLDs in the other countries). As part of the vulnerability assessment from March-April 2009, GEAG engaged with communities in 20% of the city's wards through participatory learning and action (PLA) in single sessions, using techniques such as social and resource mapping, as well visual tools like maps/aerial photographs. In July 2009, the second SLD consultation was conducted with the CSC and other key citizens from Gorakhpur city, where the results of the vulnerability assessment were shared along with climate projections and their implications for Gorakhpur city. During this SLD, sector studies and pilot projects were shortlisted by stakeholders. These were later validated and approved in the CSC meeting.

Engagement continued with the CSC through regular meetings, and in October 2009 GEAG organized a large consultation during which other stakeholders from the city administrative authorities, citizens, institutions and media were invited to discuss and share information on city vulnerabilities and project progress, including preliminary results from the sector studies and pilot project.

The most recent SLD was organized in March-April 2010, during which GEAG convened a series of half-day consultations with the specific agenda of developing future climate scenarios, urban development scenarios, and identifying & prioritizing resilience options for the city. The first two consultations on future climate scenario and future urban development trends were attended by specific stakeholders from the city; for example, a representative from meteorological department and from Gorakhpur Development Agency. The third consultation was a larger group SLD where participants from the CSC and from the earlier two consultations reconvened to identify and prioritize present and future vulnerabilities for the two most plausible development scenarios given the likely climate change impacts in the city. Following this, the group identified specific resilience actions / projects.

Surat and Indore

The process of engagement with city stakeholders in both Indore and Surat cities followed a similar pattern. Following the round of discussions various city stakeholders in early parts of 2009, the respective CACs were formed in June/July 2009. The groups comprised the Municipal Corporations, the City Development Agency, NGOs, academic institutions, private sector representatives, TARU, and ISET. In Surat, the first round of SLDs was conducted as two consultations on June 22 and July 23 2009. During these two meetings, TARU and ISET briefed the CAC on projected climate impacts, program objectives, timelines and activities, and initial results from the VA household survey. Participants in this SLD deliberated upon the vulnerabilities of Surat city – its vulnerable areas and communities. The CAC further discussed the areas for sector study that would provide a better understanding of the inter-linkages and inter-dependencies between various sectors with recommendations on how to conduct these and who would undertake these studies. In the second consultation held on July 23rd 2009, the sector studies were finalized with specific guidelines for each study. The detailed surveys (household and community) and the sector studies continued to be informed by periodic consultations with the CAC that met almost every other month in the initial period.

In addition to community surveys in both the cities, additional consultations with communities from low income groups were organized in Indore where participants identified and prioritized problems and mapped the root causes of each of the identified hazards: water scarcity, drainage/waterlogging, solid waste disposal, and sanitation. The findings were shared in a meeting with the Municipal Corporation attended by community representatives. These sessions required strong facilitation to maintain focus as participants sought to use this relatively rare opportunity to air grievances to municipal officials.

The second round of SLDs in Surat and Indore was undertaken in the months of April and May 2010, as a series of consultations to develop a set of climate and urban development scenarios, construct the City Resilience Strategy and prioritize a set of actions that would help in reducing the vulnerability of the city. These consultations were termed as 'Risk to Resilience' workshops, in which participants included the members and additional city persons with specific expertise or role in the resilience planning and/or pilot studies. During the initial consultation, participants developed future urban development scenarios. The subsequent meeting sought to identify of a set of scenarios through an Issue Matrix (a combination of the urban development trends and future climate scenarios), and at the third meeting, TARU and ISET shared the draft resilience strategy for Surat City and a short-list of intervention proposals.

The process of creating a core stakeholder group in the city and working with them through the program duration, though successful in this instance, did have its shortcomings. The level of involvement of stakeholders varied between the three cities, with the Surat CAC being extremely involved the process, Indore to a much lesser extent, and in Gorakhpur the ULB being the least interested among the three cities. This can be attributed to different degrees of leadership in each city – especially from the ULB, which is the key authority responsible for development. Secondly, the change of leadership in the middle of the process (Gorakhpur had a change of Municipal Commissioners in the month of February 2010) also hampered the involvement and dialogue process in the city.

Another shortcoming was non-representation of the poor and marginalized groups in most of the consultations. This, to some extent, was addressed by having the elected representatives from the wards in the large SLDs in Gorakhpur – especially while mapping vulnerable areas and communities in the city; and in Indore, a separate consultation was held with low income community group.

Time constraints on part of the key stakeholders like the Municipal Corporations for a longer meeting presented one of the challenges faced by the city and national partners in organizing these consultations. As such, several of these interacted were minimized to two or more meetings.