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Building Collaborative Capacity: An Innovative Strategy for Homeland Security Preparedness

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BUILDING COLLABORATIVE CAPACITY: AN INNOVATIVE STRATEGY FOR HOMELAND SECURITY PREPAREDNESS

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ABSTRACT

Recent events such as the terrorist attacks of September 11, 2001 against the United States and the national disaster of Hurricane Katrina demonstrated the acute need for interagency collaboration. Using a semi-inductive method, we conducted two studies with senior homeland security leaders to learn more about organizations' collaborative capacity during the early planning stages. In study One, we used an interorganizational systems perspective to identify factors that create or deter effective collaboration. Study Two elicited vignettes from a second group of senior homeland security leaders to gain further insights into the ways in which their organizations are successfully building collaborative capacity.

While accounts of 9/11 are filled with examples of heroism and valor, reports also reveal that communication, coordination, and command failures

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cost hundreds of precious lives (National Commission on Terrorist Attacks upon the United States, 2004). We know, for example, that the New York Police and Fire Departments were aware of the need for a single radio frequency to share time critical information in the event of a disaster. In 1996 and 1997, dozens of new radios had been distributed to key police and fire commanders to address failures identified in the 1993 World Trade Center bombing. Nevertheless, coordination stalled when representatives of the two departments could not agree on who would be in control of the interagency frequency and who would decide when it would be used. As a result, the radios remained in the fire chiefs' car trunks and on the police chiefs' shelves on September 11th (Dwyer & Flynn, 2004). This is but one example of a disastrous consequence that resulted from a lack of collaboration among agencies as they prepared for terrorists' attacks.

After 9/11, the nation turned its attention to terrorism and the need to better collaborate among local, state, and federal agencies. In the spring of 2003, the Department of Homeland Security (DHS) was established, with 22 distinct agencies and bureaus and more than 180,000 employees. The formation of the DHS was a direct response to interagency shortcomings associated with 9/11. It was aimed at increasing interagency integration, preparation, and responsiveness in the increasingly uncertain, complex, and hostile context of terrorist threats.

Weaknesses in the newly formed Department became apparent during the interagency fiascoes of Hurricane Katrina that impacted nearly one-half million people in Louisiana, Mississippi, and Alabama. Once again the failures of local, state, and federal agencies' capacities to collaborate revealed acute weaknesses in preparation, alarming failures in translating preparation into action, and the inability to improvise in the face of life-threatening events. In short, reports now make it clear that the development of collaborative capacity in the preparedness stages would have reduced the devastating effects of this economic and human disaster (Comfort, 2005; United States Government Accountability Office, September 2005).

While the need for collaboration may seem obvious, Katrina and 9/11 are simply dramatic and visible examples revealing agencies' failure to develop adequate collaborative capacity. For our purposes, we define collaborative capacity as the ability of organizations to enter into, develop, and sustain interorganizational systems in pursuit of collective outcomes. Organizations fail at collaboration for many reasons: organizations have their own missions with goals and incentives that often conflict with one another; agencies often have histories of distrust that are hard to alter; leaders may not

actively support collaborative efforts; and coordination systems and structures that might support collaboration are often lacking (United States Government Accountability Office, December 2002).

After viewing these disasters, we became intrigued by the question of why collaboration is so difficult in the preparation phase and wanted to identify factors that might be leveraged to overcome these barriers. To this end, we conducted two studies with senior homeland security officials. We chose a semi-inductive approach to identify critical factors that create and deter effective interagency collaboration during the earliest planning stages when organizations prepare for potential disasters. In this chapter, we begin by briefly discussing the construct of collaborative capacity and then explain the need for collaboration in the preparation stages. Next, we present the research findings and point the way to next steps in designing measures for building collaborative capacity.

COLLABORATIVE CAPACITY FOR HOMELAND SECURITY

Collaborative capacity as it relates to interagency collaboration resonates in the work of a number of academics and practitioners (e.g., Bardach, 1998; Gray, 1989; Huxham, 1996; Mowery, Oxley, & Silverman, 1996; Seidman, 1970). Pelfrey (2005) defines collaboration for homeland security as ''agencies, organizations, and individuals from many tiers of public and private sectors, working, training, and exercising together for the common purpose of preventing terrorist threats to people and property'' (p. 7). For the purpose of this study, we also include activities related to natural disasters.[1] A *capacity* for collaboration enhances the probability of mission completion by leveraging dispersed resources. The benefits of developing collaborative capabilities include cost savings through the transfer of smart practices, better decision making as a result of advice and information obtained from colleagues, enhanced capacity for collective action by dispersed units, and innovation through the cross-pollination of ideas and recombination of scarce resources (Hansen & Nohria, 2004).

In the case of Homeland Security, we argue that developing a capacity for interagency collaboration is critical both for efficiently conducting routine tasks and for innovatively responding and improvising in the face of terrorist threats or natural disasters. While collaboration may not be equally desirable in all cases or in all stages of interagency work, it is likely to be more critical as decision making and task interdependencies increase. Our

focus is on identifying this capacity during the preparation stage prior to the demands and incentives generated in the face of an actual crisis.

THE NEED FOR COLLABORATION IN THE PREPARATION STAGES

DHS has identified several phases that correspond to a terrorist threat or natural disaster: detection, prevention, response, recovery, and incident management. Coordination and collaboration are critical in all these phases, with agencies seemingly more capable of working together in the response phase. Experience tells us that agencies are less able to work together effectively as they prepare for a terrorist attack or national disaster.

Even though homeland security efforts typically focus on the response stage, scholars are now beginning to develop a strategic approach to preparedness. Pelfrey (2005) underscores the importance of preparedness and has developed a cycle of preparedness that places the greatest weight on prevention because effective preventative measures are assumed to deter, detect, prevent, or eliminate potential threats. According to Pelfrey (2005), collaboration and information sharing are the two most essential approaches to prevention. Further, she argues that collaboration requires collegiality, trust, flexibility, openness, mutual respect, social capital, and pathways of communication. While inflexibility and cultural restrictions create substantial barriers. Once collaboration is established, information sharing becomes more effective.

METHODS

Data reported in this chapter were gathered in two different ways and at two different points in time. All of the study's participants are experienced professionals working for civilian, government, or military organizations from around the U.S. who have on-going DHS responsibilities. Illustrative organizations and positions include: USNORTHCOM (mid- to senior-ranking officers), U.S. Coast Guard, Centers for Disease Control, Directors of Offices of Emergency Management, captains and chiefs of city-level police, and fire departments. All participants were enrolled in a master's degree program in Homeland Security at the Naval Postgraduate School.[2] The students are resident for two weeks each term and do distance education along with their full-time work commitments during the remainder of the program.

RESULTS

Study One was a workshop conducted by the authors (and one other colleague[3]) in 2004 and included 25 participants mentioned above. The purpose of the workshop was to identify factors that created conditions for successful interagency collaboration during the preparation phase. We also identified barriers to interagency collaboration. Study Two involved a second group of participants who were asked to provide critical incidents about successful interagency collaboration during the preparation phase. We report a summary of the critical factors as well as examples to illustrate key factors.

Study One: Thematic Analysis of Success Factors and Barriers

The workshop began with the following instructions to the participants: ''Think back to a specific DHS or other effort that included at least two other agencies or organizations that you consider to have been a successful collaboration in the preparation phase (not response phase) of DHS. Identify three key factors that contributed to this success.'' Participants were asked to record a brief description of each success factor and a word or short phrase to summarize the factor. They also identified the key participating organizations. This activity was repeated to identify three key barriers to collaboration as evident in a particular experience they had when interagency planning or prevention efforts were not successful.

Following the workshop, the data were transcribed into two spreadsheets for further analysis. Through an iterative process, the research team analyzed and consolidated the factors into common themes to create a more parsimonious and usable taxonomy. Ultimately, Galbraith's (2002) framework for organization design seemed most useful for organizing and communicating the themes derived from the DHS professionals. The five main elements adapted from Galbraith's ''Star'' model are Strategy, Structure, People, Incentives, and Lateral Mechanisms. We used this model because it offers a systematic diagnosis of organizational factors that both enhance and impede collaboration, while also guiding action toward improved collaborative capacity.

Table 1 presents the specific themes derived from the success factors and barriers identified by the homeland security professionals. These themes are organized by the five elements of the organization design model. Factors reported in Table 1 include all those identified by at least three individuals (i.e., 12 percent of participants). Those indicated in bold font were named by

Table 1. Factors Affecting Interorganizational Collaboration (Study One).

Organization Design Component	"Success" Factors	"Barrier" Factors
Purpose and strategy	• **"Felt need" to collaborate** • **Common goal or recognized interdependence** • Adaptable to interests of other organizations	• Divergent goals • Focus on local organization over cross-agency (e.g., regional) concerns • Lack of goal clarity • Not adaptable to interests of other organizations
Structure	• Formalized coordination committee or liaison roles • Sufficient authority of participants	• Impeding rules or policies • Inadequate authority of participants • Inadequate resources • Lack of accountability • Lack of formal roles or procedures for managing collaboration
Lateral mechanisms	• **Social capital** (i.e., interpersonal networks) • **Effective communication and information exchange** • Technical interoperability	• **Lack of familiarity with other organizations** • **Inadequate communication and information sharing** (distrust)
Incentives	• **Collaboration as a prerequisite for funding or resources** • **Leadership support and commitment** • Absence of competitive rivalries • Acknowledged benefits of collaboration (e.g., shared resources)	• **Competition for resources** • **Territoriality** • Organization-level distrust • Lack of mutual respect • Apathy
People	• Appreciation of others' perspectives • Competencies for collaboration • Trust • Commitment and motivation	• **Lack of competency** • Arrogance, hostility, animosity

Note: Items in bold were identified by at least 25 percent of the study participants.

at least six individuals (25 percent). The most frequently named factors are discussed below.

Success Factors. Overall, a vast majority of the participating professionals identified having a shared purpose as a critical success factor. Two of the

three success factors related to "purpose and strategy" were named by at least 25 percent of the participants. Purpose can be driven by a commonly perceived risk or threat ("felt need") or a common goal such as improving information sharing, coordinated training, or overall preparedness. Accomplishing a shared purpose is enabled by the third factor in this category – the willingness to adapt the collaborative effort to the needs and interests of other participating organizations.

"Lateral mechanisms" were also frequently mentioned as contributing to success. Specifically, social capital and effective communication were named by at least 25 percent of the participants. Social capital represents the interpersonal trust and exchange orientations that come from human interaction providing an important foundation for civic behavior (e.g., Adler & Kwon, 2002; Putnam, 2000). We classified social capital as a lateral mechanism within the organization design framework. Examples of this phenomenon include:

1. "[Our success was the] development of camaraderie/esprit de corps to carry the group through conflicts."
2. "[We had] a longtime history working together."

Effective communication was a related lateral mechanism that was also named with great frequency by study participants. While respondents often did not elaborate this factor, some characterizations of effective communication were offered, to include: timely dissemination of information, free flow of information, and the establishment of communications systems and processes across organizations. Effective communication, along with the increased familiarity that comes with interpersonal networks, provides an important means for collaboration.

"Incentives" was the third category of factors mentioned most frequently by the participants. In particular, government grant requirements were cited frequently as contributing to successful collaboration. Comments in the discussion at the workshop as well as the results of the analysis of "barriers" indicated that there is often a history of competition for resources among city, county, regional, and state-level service providers. The competition can be across agencies or within an agency but across jurisdictions. By establishing a requirement that grant proposals be developed with multiagency participation, an initial incentive to collaborate is established. While this does not guarantee success, it creates an opportunity to develop other important collaborative capabilities. Collaborating in the development of a grant proposal is a focused, time-limited activity with clearly identified "payoffs." The process of this effort can generate a better understanding of

other organizations' interests and capabilities, create social capital as interpersonal relationships are developed, and may result in the establishment of temporary or permanent structures for collaboration and processes for information exchange. Incentives to collaborate can be achieved through mandates or external requirements for funding (Cummings, 1984).

Another frequently mentioned incentive to collaborate was strong leadership. A leader who clearly expresses commitment to a vision of collaboration with other agencies can provide an important incentive for other organizational members to engage in this "new" activity. This is similar to the acknowledged role of leadership in effective change management (e.g., Kotter, 1990).

Barriers to Collaboration. The identified barriers to collaboration substantially reinforce the factors identified as contributing to success, even though they are not an exact replication of the capabilities described above. For example, "lack of familiarity with other organizations" and "inadequate communication and information sharing" represent missing enablers of collaboration. Some participants identified distrust as a cause of inadequate communication. Distrust was sometimes characterized at the organizational level, as in "the organizations have a history of distrust." Other times the participants attributed distrust to individuals; in this case, we categorized the factor into the design factor of People. Behaviors that are both instigators and symptoms of distrust included "arrogance, hostility, and animosity" in the People category and "lack of mutual respect" when attributed to organizations (in the Incentives category).

Two other frequently cited barriers were "competition for resources" and "territoriality and turf protection." These two factors were categorized as (dis)incentives. These factors are related to the Lateral Mechanisms and People factors described above. While the causal relationship is not definitive, a clear relationship exists among competition/territoriality and lack of familiarity, inadequate communication, and distrust. Together, these system dimensions can create a continuing cycle of dysfunction. When organizations are competitive, distrustful, or just unfamiliar, with each other, this can impede necessary communications. The inadequacy of communications, in turn, continues the lack of familiarity, or in the more extreme cases, can increase distrust. This suggests that specific interventions to disrupt this cycle and shift the alignment toward constructive interactions are necessary to build collaborative capacity.

While mentioned less frequently, other barriers to effective interorganizational collaboration were classified as Structural. Specific examples include: procedural prohibitions such as security classifications, lack of formal

roles and procedures to enable collaboration, inadequate authority of participants to engage in negotiation or decision making on behalf of their organization, and lack of accountability. Most of these are indicators of problems that can exist in ''under-designed'' systems (Cummings, 1984). Because well-established, institutional mechanisms for coordination are unlikely to exist or are likely to be underdeveloped in extra-organizational relationships, the importance of leadership, followership, and colleagueship (i.e., the capacity for mutual adjustment) is increased.

Study Two: Thematic Analysis of Success Factors

We undertook the second study approximately 18 months following the first to both validate and elaborate the findings described above. This study involved a different group of students in the same Homeland Security master's program. They were from similar organizations with similar mid- to upper-level management positions. The design for the second study was different, because we were interested in eliciting more detail about the factors and the relationships among the success factors for interagency collaboration. Since most of the students' master's program is conducted using distance learning while the professionals maintain their full-time jobs, discussion questions are often posted by their faculty on an electronic blackboard. We posed a discussion question to which 26 students responded; these postings could be viewed by other class members and were ultimately used as part of their course discussions. The data solicitation question was worded as follows:

> One of the few consistent findings in homeland security is that effective collaboration is the foundation of successful prevention. There is a need, however, to understand how we can get better at collaboration. Think about a specific homeland security (or related) effort that included at least two other agencies or organizations that you consider to have been a successful collaboration. Whenever possible, use an effort that was oriented to preparedness or prevention, not to response.
>
> (a) Briefly (one or two sentences) describe the event including the names of the primary organizations that were involved in the collaboration.
> (b) Rank order the three key factors that contributed to the success of the collaboration (1 = most critical success factor).
> (c) Finally, provide a brief explanation of why the most critical success factor (your #1 factor) mattered.

Table 2 presents the thematic analysis derived from the success factors identified by this group of professionals. As in Table 1, at least three

Table 2. Success Factors in Interagency Collaboration (Study Two).

Organization Design Component	"Success" Factors
Purpose and strategy	• **"Felt need" to collaborate** • **Common goal** • **Willingness to address other agency's interests or cross-agency goals versus local organizational goals**
Structure	• **Formalized structure for coordination (e.g., committee or liaison roles)** • Formalized processes (meetings, deadlines, agendas) • Sufficient authority of participants • Role clarity • Dedicated assets (people, resources) for collaboration
Lateral mechanisms	• **Social Capital** (i.e., interpersonal networks) • Effective communication and information exchange • Technical interoperability • Combined training events
Incentives	• **Collaboration as a prerequisite for funding or resources**
People	• **Respect for other parties' interests, expertise, roles, perspectives** • Perseverance/commitment

Note: Items in bold were identified by at least 25 percent of the study participants.

individuals named all items presented, and those in bold font were identified by at least six individuals (i.e., 25 percent of participants). There is substantial reinforcement of the thematic factors derived from Study One, with a couple of new additions. Of significant note is the fact that the three factors under the organization design element of Purpose and Strategy are the same as the three factors identified in Study One: (1) felt need to collaborate; (2) common goal; and (3) willingness to address other agency's interests or cross-agency goals versus local organizational goals. However, in this study, each factor was named by at least 25 percent of the respondents; thus, this domain was seen as providing a critical success factor for at least a majority of the participants in this study. While similar to each other, these three factors show a somewhat different emphasis that provides important descriptive value in terms of understanding the dimensions of shared purpose that can be developed to improve collaboration.

Two other factors that were frequently named in Study One are again reinforced in Study Two. First, an important Incentive is created when interagency collaboration is a prerequisite for grant funding or other resources. Second, the social capital available through personal relationships creates a Lateral Mechanism for collaboration. Some participants cited this

factor as foundational to the initiation of collaborative activities. Others described the value of developing personal relationships in early phases of collaborative activities. As relationships develop, social capital accumulates in the form of increased respect, trust, information exchange, and mutual understanding, all of which contribute to increased success in collaboration and an increase in what we call collaborative capacity. A new finding in this study was the identification of combined training events, which we categorized as a Lateral Mechanism, that contributed to successful collaboration.

The role of some formalized structure for collaboration (e.g., interagency committee, liaison roles) was a stronger outcome in Study Two than in Study One. While mentioned less frequently, other specific structural dimensions were identified including role clarity, dedicated assets (e.g., time, people), and formalized processes (e.g., deadlines, agendas) that increase accountability for collaboration. Assuring that people with adequate authority for decision making or resource allocation are involved in the interagency effort also was reinforced in Study Two.

Study Two: Narrative Examples of Success Factors

Many respondents provided much more detail than requested by the data solicitation instructions above. Samples of responses are presented below to provide some increased richness to the themes identified and offer further clarification to the conceptual model. In addition, the vignettes provide insights about the relationships among factors that can improve collaboration. The quotes come directly from the participant responses, but, to protect their anonymity, specific organizations and locales are not given.

Purpose: ''Felt Need to Collaborate.'' The following quote illustrates the fragility of relying solely on threat response as the aligning factor for interagency collaboration.

> The most critical success factor is the recognition of the need to engage in prevention activities by all partners. The U.S. Department of Homeland Security designed the ''Buffer Zone Protection'' training course and the [State] Department of Public Safety hosted the course. [Our city] sent officers to attend the course. The [county] Emergency Management Agency engaged in vulnerability assessments, and private sector partners were cooperative and receptive to working with [police] officers. This window of opportunity may slip by soon. Once people no longer believe terrorism is a real threat they will be less willing to cooperate in this type of activity.

This quote also suggests the value of the training event as a lateral mechanism for bringing parties together and the consequent initiation of personal

connections among police officers, emergency management workers, and private sector representatives. However, the final statement can be taken to imply that powerful institutional barriers to collaboration could easily overtake the current shared purpose of responding to terrorist threats as the sense of imminent threat recedes.

Collaborative Structure. As noted in the thematic analysis above, several participants identified the establishment of a formal structure for collaboration as a key factor to success. The following vignette is an example:

> What had [the most] beneficial impact on collaboration was the formation of a multi-agency team .... It involved creating a Community Defense Unit (CDU) that not only encompassed the Joint Terrorism Task Force, but also included officers/agents from the 11 different state, federal, county, and municipal agencies. This collective effort focused on everyone's joint mission of countering terrorism by conducting criminal investigations and surveillance.

This police officer clearly stipulates that the establishment of a structure that brought together representatives of different agencies and jurisdictions enabled a secondary factor that was the determination of a "joint mission." The statement also implies that the nature of this joint mission (criminal investigations and surveillance) requires information sharing across agencies (i.e., lateral mechanisms).

In another example, the chief of a large, urban fire department described the role of collaborative structures as a mechanism for enabling other factors that, in turn, further increased effectiveness of collaboration. In these examples, formal structure initially enabled the collaborative development of response plans. As part of these plans, joint training and exercises were conducted, which in turn led to the development of personal relationships. "Each member then has a better understanding of each other's needs .... The common goal, safety of civilians, can be achieved through the exchange of information and knowledge. Collaboration is attained through a personal touch, a handshake and a smile."

Incentives to Collaborate. The participants had several examples of the impact of an externally driven financial opportunity that required collaboration. One example follows:

> The initial development of the group [resulted from having] to determine how to spend around $7 million. While this amount will not provide ample funding for security for all agencies, the coming together and development of a single vision of what homeland security should be in the region was developed.

This quote indicates that the external incentive and requirement initiates the collaboration. In successful situations, this initial interaction generates a

shared purpose or common goal beyond the initial requirements of a grant application. Another participant made explicit the extent to which these incentives were causing a new way of thinking and new innovative behaviors:

> For several years, there was so much dissent and resentfulness between the county and the city …. The grants seem to migrate to the city, leaving the county feeling like a stepchild. For FY05, the rules changed. When it was stipulated that all grant proposals had to be a ''regional'' effort, the tables turned. Suddenly, competing for the grant was out of the question because winning the proposal would benefit all counties in the region … This was a big change and we had more cooperation and collaboration than at any other time. I believe it is simply because the element of competition was removed from the process.

This quote, while generated to describe a success factor, also illustrates a barrier to collaboration that was frequently identified in Study One: ''competition for resources'' and ''territoriality.'' This response and others like it provide further evidence that the challenges of effective collaboration are qualitatively different in the phases of DHS planning and prevention than in the situation of crisis response (Bellavita, 2005). In a crisis situation, the issue of competition is less present; agency rivalries are more likely to become secondary to time critical response requirements. However, in planning and prevention, bureaucratic processes and historical relationships embedded in competition over resources, decision authority, power, and visibility prevail and create inhibitions to cooperation. These can be overcome in the short term by mandating collaboration or creating incentives that foster cooperation (e.g., regional grant proposals).

The preliminary evidence from the stories shared by these professionals suggests that both collaborative structures and external incentives can enable personal interactions. Thus they provide a forum, but they do not assure successful collaboration. They offer technical vehicles that can – but do not necessarily – generate increased familiarity across organizations, an appreciation of the capabilities and requirements of other agencies, and opportunities for participating individuals to build social capital. All of these factors, in turn, improve collaborative capacity.

Social Capital as a Lateral Mechanism. As noted in the discussion of social capital in Study One, this factor derives significantly from networks of human interaction. The quote ending the section on ''collaborative structures'' gave a simple illustration of how social capital is developed: ''Collaboration is attained through a personal touch, a handshake and a smile.''

Another study participant gave a more detailed explanation of the value of this concept in developing collaborative capacity.

> For a time-constrained professional, one way to screen work/opportunities/tasks is by evaluating the messenger. This task force only got off the ground when members of the task force, all of whom have known each other for a number of years, agreed to pursue this joint venture. A shared respect by the involved parties provided the impetus to push pre-existing priorities aside in order to make room for this new effort. These relationships ensure that phone calls are answered, e-mails replied to in a timely manner, and, generally speaking, that we stay on task. Without these relationships, this project would have been just another thing to do "some day."

This quote also provides a significant contrast to the approach of top–down or externally driven mandates or incentives for collaboration. In this vignette (and others identifying the key value of social capital), the initiative came from inside the organization and was based on the lateral network of social and professional relationships. We hypothesize that interagency interactions that are based solely on external incentives will not develop a sustainable collaborative orientation or necessary collaborative capacity unless participating organizations are able to successfully develop the social networks illustrated by the example above.

Another participant in Study Two provides an additional perspective on the need for social capital:

> I wonder, probably because our state is reorganizing and many key players in homeland security are losing their positions, how do we keep up with our collaborative efforts without losing momentum in times of change for political and other reasons? It seems that if we do not have relationships with the individuals in middle management in partnering organizations, we will always be starting over and never get past the first stages of collaboration and, therefore, unable to build solid preparedness, prevention, and response systems.

This quote identifies the problem of relying on social capital that may only exist at the top of government agencies. Because these positions are political appointments, and may turnover frequently, it is important to build stable social networks at the mid-level and operating core of the organization. Also implicit in this quote is an acknowledgment of the developmental nature of collaboration. Building collaborative capacity is a multifaceted endeavor requiring systemic attention, resources, commitment, and opportunities for interaction.

People: Mutual Respect. Several participants mentioned positive and respectful interpersonal interactions as important to the success of interagency collaboration. For example, "treating all players with dignity and honor enabled the project to have a unified front." A medical professional working

on bioterrorism preparedness identified mutual respect and acknowledgment of expertise: ''We respected everyone's role; let each discipline do what they do best.'' It might be argued that the factors that were summarized above as social capital under Lateral Mechanisms should be placed in the category of People in the systems taxonomy. We acknowledge that social capital is grounded in individual-level networks and rely on individual lateral skills (Mankin, Cohen, & Fitzgerald, 2004). However, we judged that the importance of this factor, in the context of interagency collaboration, is better characterized by emphasizing the role of social capital as a lateral mechanism than as an individual-level phenomenon.

DEVELOPING ORGANIZATION DESIGN DYNAMICS TO IMPROVE COLLABORATIVE CAPACITY: AN INNOVATIVE STRATEGY FOR DHS

The data from Study Two provide important insights about the interrelationships among the factors that contribute to successful interorganizational collaboration in the context of homeland security. Most of the quotes above, while used to illustrate a single factor, also elaborate how one factor either contributed to or derived from other factors. For example, a perceived threat or high-risk situation (felt need) might lead to the establishment of an interagency committee or task force (collaborative structure) to address the concern. This might generate joint procedures (formalized structure) or an interagency training event (lateral mechanism). Through the interaction resulting from planning joint procedures or conducting joint training, social capital can be developed.

Alternatively, the initiation of collaboration might come from an external grant opportunity (incentive) that requires multiple agency participation. The process of accomplishing this task likely depends on establishing a task force or liaison roles (collaborative structures). At the organizational level, working together to meet the proposal requirements requires identifying a common goal or a willingness to address other agencies' interests (purpose and strategy). This planning process can increase familiarity and appreciation for the interests and capabilities of participating organizations and build social capital through strengthened professional networks (lateral mechanisms); it can contribute to the development of trust and understanding at the level of individual representatives (people).

A quote from a research scientist in Study Two nicely illustrates one example of how the organizational systems components interact in building

collaborative capacity:

> Four agencies were to investigate the vulnerabilities of a metropolitan water distribution network …. Unless you have worked with these groups, it is difficult to appreciate how much non-cooperation occurs. Quite a bit of turf protection goes on because of walls built through time and lack of communication between managers. We discovered that by defining each agency's responsibilities, both communication and teamwork effort progressed well; cooperation between agencies was enhanced. Early in the process we realized that … one specific agency did not have the expertise necessary to address the matter at hand; it would require the expertise of numerous personnel from the various groups …. By delineating responsibilities between agencies and groups, the effectiveness of interagency communication and teamwork was enhanced. As a result of this process, plans are underway to develop a training scenario that will involve local hazmat teams, fire, police, and the EMS along with the four agencies. Finally, in my opinion, the relationships fostered from this [vulnerability assessment] have gone a long way in knocking down the barriers between agencies (at least locally), which should greatly improve future cooperation and collaboration.

This example begins by stipulating the context of "non-cooperation." Clearly, an innovation in interagency interaction was required to address a problem that exceeded the capacity of any single organization. This acknowledged interdependence created a shared purpose. Role clarity provided structure and improved communication (lateral mechanism). The initial effort has led to plans for a joint training scenario (lateral mechanism) that will bring together personnel from four different agencies. The more immediate result of the work to date has been in the development of interpersonal relationships. All of these elements, together, have contributed to the improved collaborative capacity of the system of agencies facing a common problem of homeland security.

We try to capture the dynamic interaction among all of these factors in the image presented in Fig. 1. This diagram shows two organizations (A and B) facing a homeland security problem in which they have some interdependent interest or responsibility. Each organization can be represented in terms of the five organization design components derived from Galbraith (2002). The arrows indicate the dynamic interaction among the system elements both *within and between* organizations as they contribute to the collaborative capability to meet the homeland security problem.

The dynamic interactions occur in at least three domains. First, effective collaborative capacity requires that the five system elements (Strategy, Structure, Incentives, Lateral Mechanisms, and People) for each participating organization be aligned with each other and with the environmental requirement or challenge (cf. Nadler & Tushman, 1980). This is reflected in the arrows within each of the three pentagons. However, because the

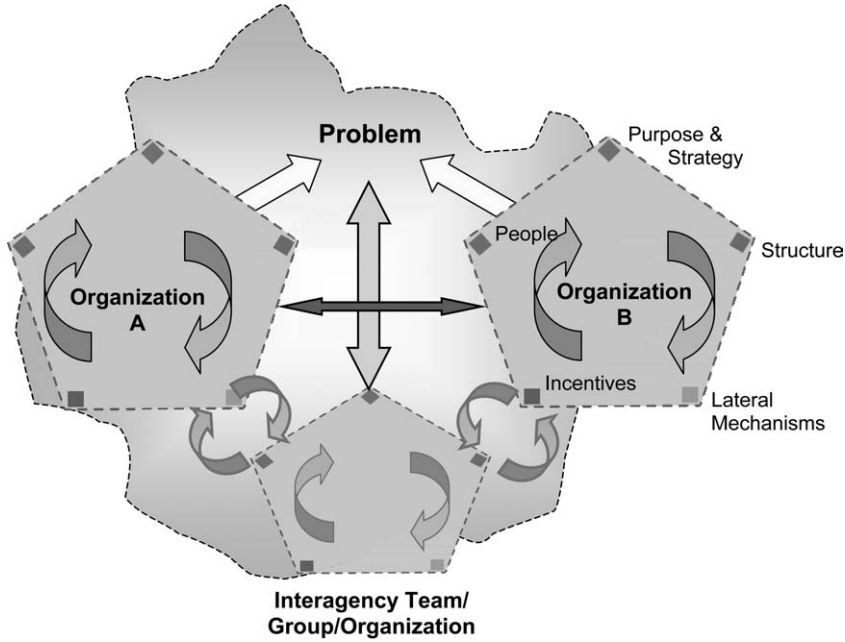

Fig. 1. Developing Organization Design Dynamics to Improve Collaborative Capacity: An Innovative Strategy for DHS.

homeland security problem assumes interdependence among multiple organizations, developing collaborative capacity cannot be accomplished by focusing solely on the dynamics within each organization. There also needs to be alignment of the system elements *across* organizations. Finally, as illustrated by the data reported above, temporary or permanent interagency structures are frequently established to better enable the collaborative response to the DHS problem. In such a case, a third domain of interaction needs to be developed so that the design characteristics of the interagency task force or team are not only internally consistent, but also are aligned with the primary organizations that it represents.

CONCLUSION

Collaboration is required in partnerships, teams, and organizations, but our focus is on developing collaborative capacity between and among

organizations. Collaboration for homeland security is occurring in the context of under-designed institutional relationships. Leaders and interagency collaborative teams must therefore work to create novel processes, systems, protocols, and networks. They are faced with tasks of overcoming likely institutional barriers resulting from unique and partially conflicting missions, goals and incentives, and they need to facilitate and enable organizational collaboration through processes that we have categorized in an interagency design framework. The alternative to design is organization "by default," which is likely to be inadequate, as recent cases reveal.

Organizational responses to hostile, complex, uncertain events – to crises – are always likely to require intelligent improvisation. But planning and preparation become critical in setting the stage for such successful reactions. In the absence of adequate preparation, collaborative capacity is likely to be low, plans are unlikely to be translated into action, and actions are likely to be delayed, inefficient, and ineffective.

Proactive preparation and design can be conceptualized in terms of an interorganizational systems perspective. As in the literature on organizational change and intercultural learning, "felt need" is likely to be a prerequisite for building collaborative relationships. Common goals and recognition of interdependence – we succeed or fail together – provide a sense of purpose for individual actors to move toward the new paradigm of working as a larger team. Divergent goals, goal ambiguity, parochialism, and organizational rigidity are barriers that will block the larger purpose of collaboration.

Some individuals may not appreciate the importance of the larger structural context. However, formalizing relationships (e.g., coordination committees and liaison roles) and attending to issues of legitimacy and authority (e.g., making sure those on an interagency task force are representative of the organization and are capable of making decisions) are potential success factors. Conversely, inadequate authority, conflicting rules, and inadequate role clarity create a context for frustration and failure.

Lateral mechanisms need to be developed that correspond to the requisite interdependence of the intergovernmental agencies. Where agencies depend on each other for resources or have sequential and reciprocal task interdependence, leaders must spend time and energy to develop and institutionalize lateral mechanisms. Of special importance in this context are social capital and opportunities and incentives for information exchange and social relationships. In the absence of familiarity and a history of information sharing, collaborative capacity is likely to be low.

Rewards must be aligned to support collaboration. As Kerr (1975) reminds us, it is foolish to expect collaboration when incentives for

collaboration are negative or non-existence. If collaboration is a prerequisite for funding and resources, and if leadership rewards the time and energy spent developing interorganizational relationships and clarifying roles and processes, then the collaborative capacity might be developed. If leadership rewards accomplishing localized, competitive objectives and goals, redesigning structures will not be sufficient to generate collaborative capacity.

Finally, people who lack the ability and motivation (i.e., a lack of collaborative competency or arrogance and animosity for the other agencies) drain teams of the potential for collaborative capacity. Collaboration is interpersonally and managerially challenging and requires commitment and motivation, competence, trust, and an appreciation of how others do business.

FUTURE DIRECTIONS

Collaborative capacity is an intuitively appealing construct but currently lacks clear operationalization. This deficiency is problematic for homeland security leaders and practitioners who want to identify the collaborative capacity of their agencies. The absence of measurement models also is problematic for the advancement of the social science of interagency collaboration. The factors in Studies One and Two above were inductively generated in the hope of identifying dimensions that need to be measured to operationalize the construct. Thus, the next challenge researchers must face is how to diagnose or audit the collaborative capacity of organizations that are expected to be in effective collaborative relationships.

NOTES

1. The Department of Homeland Security's mission includes the prevention and detection of terrorist threats as well as coordinating national responses to natural disasters, or other emergencies.
2. The Center for Homeland Defense and Security (CHDS) is located at the Naval Postgraduate School (www.nps.edu) in Monterey, CA. Since 2002, CHDS has conducted a wide range of programs focused on assisting current and future homeland security leaders to develop the policies, strategies, programs, and organizational elements needed to defeat terrorism in the United States. The programs are developed in partnership with and are sponsored by the DHS's office for Domestic Preparedness.
3. Stu Winby, founder and managing partner of The Sapience Group, assisted in the design and delivery of the workshop.

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