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**An Integrated Planning System:
Commander and Staff Handbook**

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Fort Leavenworth Research Unit

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for the Behavioral and Social Sciences**

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An Integrated Planning System: Commander and Staff Handbook

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Successful planning requires the integration of both conceptual and detailed thinking. Army leaders employ three methodologies for planning, determining the appropriate mix based on the scope of the problem, their familiarity with it, the time available, and the availability of a staff. Methodologies that assist commanders and staffs with planning include: Army Design Methodology (ADM), Military Decision-making Process (MDMP), and Troop Leading Procedures (TLP). (ADRP 5.0, The Operations Process)

Section 1 – Introduction

In March of 2010 the Army published its first doctrine for a planning system that comprehensively integrates conceptual and detailed planning. The Operations Process described in ADRP 5.0ⁱ integrates the Army Design Methodology (ADM) as the conceptual component of the integrated planning system with the Military Decision Making Process (MDMP) and Troop Leading Procedures (TLP) as the detailed components of planning. ADM informs the detailed planning that will result in the conduct of operations and activities to accomplish the mission or secure objectives. The ADM products are the linkage between design and detailed planning. The ADM products include graphics and narratives that depict the organizations understanding of the environmental frame, problem frame, and the operational approach. ADM products also include the explicit assumptions used to develop the products, and metrics for determining the validity of those assumptions. ADM products provide the information and understanding resulting from design to the MDMP planning teams and leaders engaged in TLP. The understanding informs the problem statement, commander’s initial intent and planning guidance, and mission narrative.

Army Design Methodology (ADM) - *Design* is a methodology for applying critical and creative thinking to understand, visualize, and describe problems and approaches to solve them.

Military Decision Making Process (MDMP) - The *Military Decision Making Process* is an iterative planning methodology to understand the situation and mission, develop courses of action, and produce an operation plan or order.

Troop Leading Procedures (TLP) - *Troop Leading Procedures* are a dynamic process used by small-unit leaders to analyze a mission, develop a plan, and prepare for an operation.

Figure 1: Planning Definitions

Although doctrine describes a comprehensive system, the doctrine does not adequately explain how to integrate ADM, MDMP, and TLP. Therefore, the U.S. Army Research Institute (ARI) collected examples of the best practices in the integration of conceptual and detailed planning. This handbook captures the results of that research and provides best practices for integrated planning by Army units in the field and at the Combat Training Centers. The intent is to assist units throughout the Army and the broader Joint Force to be able to incorporate these best practices into their operations processes at every echelon and across the force. Recognizing that the MDMP and TLP have existed in their current form for decades and the ADM is less than five years old, the focus of this handbook is on how commanders and staffs can employ ADM, as the conceptual component of planning, to inform the MDMP and TLP as the detailed components of planning. To provide a basis for the discussion of best practices, the definitions of ADM, MDMP and TLP are drawn from ADRP 5-0, *The Operations Process* and provided in Figure 1 for reference.

The Army Design Methodology (ADM)

The ADM is the Army’s doctrine for conceptual planning. There are three doctrinal components of ADM: the environmental frame in which the operational environment and context is understood; the problem frame, in which the system of problems that prevent accomplishing mission or objectives is derived; and the operational approach, which is designed to overcome the problems within the environment.

In the **environmental frame**, ADM enables the commander, staff, and organization to understand their current environment, including the operational and mission variables. They analyze such aspects as geography, infrastructure, population including societal and cultural factors, enemies and opponents to our goals, friendly forces including partners and ourselves, neutral and uncommitted actors in the area of operations, governance, economics, security, information structures, and the relationships between all these components of the

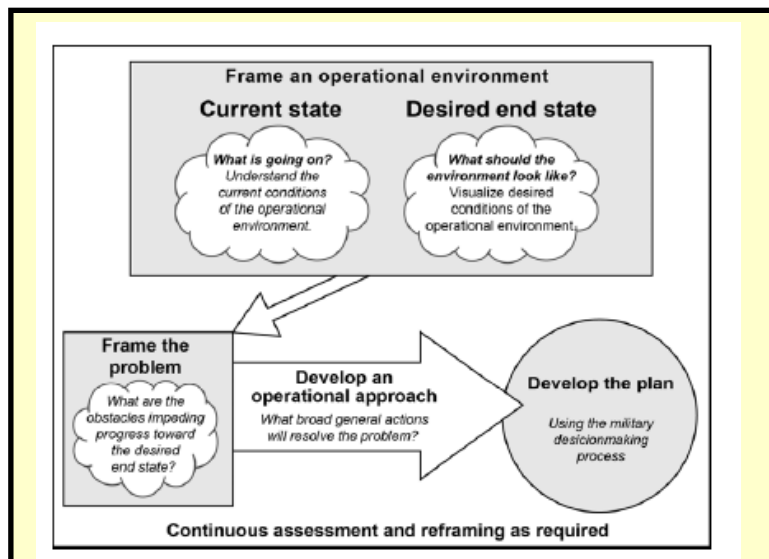


Figure 2: The Army Design Methodology

physical and human environment in a systems thinking framework. Design further enables envisioning the desired, future end state to the same level of understanding as the current situation. This results in a collective commander, staff, and organizational understanding of the desired end state and conditions, relevant actors, tendencies, and potentials.

In the ***problem frame***, the ADM enables the commander, staff, and organization to identify and understand the problems that can prevent mission accomplishment and progress toward the desired future conditions in that environment. One of the key objectives of ADM is to ensure that the organization solves the right problems. Through critical thinking, the commander and staff derive the system of problems from the differences in the environmental frame between the current and desired future systems. These differences are in the form of tensions, frictions, conflicts, and competitions between relevant actors and the physical and human components of the environment. Thinking in the problem space results in a clear problem frame, written narrative, and graphical depiction of the system of problems that is confronting the organization. It is important to note that the problem statement is not of a single problem, but the set of problems that challenge organizational mission accomplishment.

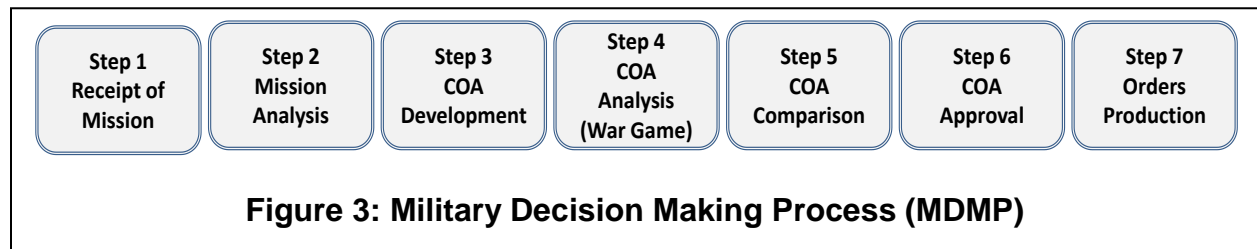
The third doctrinal component of the ADM is the ***operational approach***. The operational approach is a broad conceptualization of the general actions that will produce the conditions that define the desired end state. The operational approach is developed within the context of the environmental frame and in order to solve and manage the problems derived in the problem frame. The operational approach is often portrayed in terms of lines of effort, but it can be developed the way that best suits the understanding of the commander and staff in terms of how they intend to approach the mission. A viable operational approach is the critical element in linking conceptual to detailed planning; it conveys the logic and sequence of action through both graphic and clear narrative that brings coherence to the ADM products. It should address the problem statements in a logical sequence of mutually reinforcing actions, yet be broad enough in scope to produce multiple courses of action for the application of combat power to individual elements of the problem set. The operational approach accounts for securing and maintaining initiative and, within the commander's intent, application of resources and mitigation of risk.

The ADM is a continuous approach to understanding environments, problems, and solutions. The ADM is normally oriented on a campaign, major operation, or the unit's deployment or long-term operations, rather than the single task or mission focus of the MDMP and TLP. For that reason commanders and staffs recognize that environments, conditions, and problems change over time as an inevitable result of the competitive use of military, diplomatic, economic, and informational elements of power

in any area of operations; reframing is inevitable in protracted combat operations because adversaries adapt in form, function, tactics, technology, and techniques. When the change is significant enough the commander and staff will require a **reframe**. A reframe is a shift in understanding resulting in a new perspective on the environment and problems. In conducting a reframe the commander and staff comprehensively reframe their understanding of the environment and problem spaces and then use the new understanding to examine the hypothesis and models they used to develop their operational approach. The results of a reframe are new ADM products that include a new environmental frame, problem frame, and operational approach, which then form the basis for multiple future MDMP and TLP detailed planning efforts.

The Military Decision Making Process (MDMP)

The MDMP is the component of the integrated planning process that results in a plan or order for execution by the unit. The ADM does not result in a plan or order, but rather iteratively informs the detailed planning of the commander and staff through the MDMP as new insights emerge. Similarly, the TLP are used by small unit leaders to plan and execute the actions and orders that result from the MDMP or from a direct order of the commander. The MDMP is an iterative process that doctrinally follows the sequence shown in Figure 3 below.



The MDMP is primarily conducted by staffs at the battalion-level and above. Small units such as companies and platoons lack the staff to engage in the MDMP and normally execute TLP as their operations process. While the MDMP is predominantly a staff effort, the role of the commander is critical. Not only does the commander make key decisions regarding the mission statement, course of action, and ultimately the final plan, the commander provides his or her experience and expertise in the form of understanding, vision, and intent. The commander's understanding, vision, and intent should be informed by the contextual situational understanding provided by the ADM when time allows. ADM products are generally useful in mission analysis and Course of analysis (COA) development activities within the MDMP. If ADM products are not available, experienced staffs employ the ADM analytic tools to generate a clear understanding of the operational environment as part of mission analysis. The MDMP can either be performed deliberately, in a detailed and thorough manner, or abbreviated

if time available does not support full execution. In that case commanders give guidance in terms of which portions of the MDMP will be conducted and abbreviated to support required decisions. The MDMP results in a series of warning orders (WARNO) and an operations order (OPORD) that directs actions and operations by subordinate elements and staffs in order to accomplish the mission.

Troop Leading Procedures (TLP)

Small units such as companies and platoons do not have dedicated staffs and are the actual elements of the organization that will carry out the military activities and operations that will result in mission accomplishment. They execute the patrols, fight the engagements, provide the warfighting function support in terms of mission command, movement and maneuver, intelligence, fires, protection, and sustainment. Small units' primary focus is execution and accordingly their TLP support that execution with the planning that can be accomplished by small unit leaders and their subordinates. The steps of the TLP are generally executed in sequence and include:

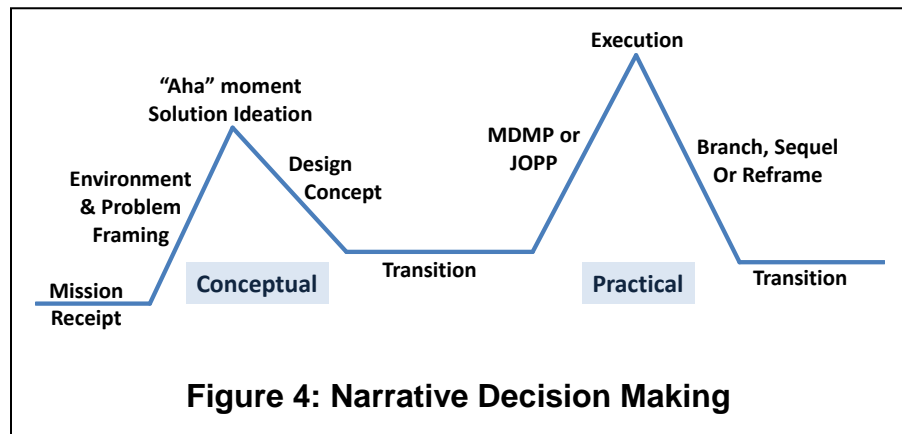
- Step 1 – Receive the mission**
- Step 2 – Issue a warning order**
- Step 3 – Make a tentative plan**
- Step 4 – Initiate movement**
- Step 5 – Conduct reconnaissance**
- Step 6 – Complete the plan**
- Step 7 – Issue the order**
- Step 8 – Supervise and refine**

With their execution focus, the TLP are significantly affected by the factors of METT-TC (mission, enemy, terrain and weather, troops and support available, time available and civil considerations). Planning within the TLP occurs in steps 3-6 and includes the same basic steps as within the MDMP, except such planning is conducted by the small unit leader and subordinates and cannot include the detail developed by a robust staff. TLP planning is informed by the small unit leader's understanding of the ADM products and/or the plan or order resulting from the senior commander's MDMP. During the execution of TLPs, unit leaders are assisted in this planning by senior NCOs, special platoon or element leaders, Company Intelligence Support Teams (COIST) if available, or other warfighting function elements that have been task organized to the small unit. The TLP results in a unit order for execution and is refined based on the changing situation, actions of the unit, or fragmentary orders (FRAGO) received from senior commanders.

Integrated Planning and Narrative Decision Making

The operations process doctrine recognizes that critical decisions are not made in a single blink of the eye, but are instead products of a long-term effort to learn, think critically, and understand the competitive dynamics of military action to address complex environments and unfamiliar, ill-structured problems. From that long-term learning and thinking effort emerges a narrative that informs decision making. That narrative decision

making is the Army's approach in this regard is demonstrated by the mission narrative which is a key output of the design effort. The figure at the right illustrates narrative decision making. The conceptual effort as



captured in the ADM frames the narrative through environmental and problem framing. Once the commander and staff have gained greater understanding, a solution to their system of problems emerges through iterative learning over time and collaborative innovation. The solutions are captured in the ADM products, which in turn inform practical or detailed planning in the MDMP and TLP. Execution of the orders that result from detailed planning then lead to follow-on operations that continue to develop.

In summary, integrated planning consists of a conceptual component employing the ADM and a detailed component that employs both the MDMP and at small unit levels, TLP. The Operations Process is an integrated effort to understand the environment, identify problems, and develop solutions that are translated into tasks and through planning into orders for execution. The next sections describe the central role of leadership in the integrated effort to understand the environment, identify the problem, and develop an operational approach that can be translated into tasks and through the planning process into orders for execution.

The commander personally leads the conceptual component of planning

Section 2 – Role of the Commander in Integrated Planning

No factor is more important to the success of planning than the participation of the commander, whether in ADM, MDMP, or TLP. The commander has the doctrinal

and practical responsibility to drive the integrated planning process, including ADM, MDMP, and TLP. That said, doctrine is clear that while the commander provides guidance for and interacts with the staff during specific steps of the MDMP, the commander leads the ADM effort. This is for several reasons. First, the commander's leadership of the ADM is necessary for him or her to **understand** the environment, problems, and mission, to **visualize** the operational approach that can accomplish the mission, and to **describe** to the staff and subordinate leaders the commander's intent for the mission. Mission command requires that commanders understand, visualize, describe, and direct. ADM is the means to understanding, visualizing and describing, while the MDMP is the means to eventually **direct** through resulting orders. Secondly, the requirement for the commander to lead the design effort is the unique perspective, experience, expertise, and understanding the commander brings to the conceptual planning effort. The external perspective of the commander, generated through discourse with the higher level military commander, and often civilian components and leaders, is critical to the understanding the design team must achieve. The third reason for the commander's leadership of the ADM is the role of the commander in establishing the climate of collaborative learning, thinking, and discourse necessary to achieve synthesis of numerous interrelated and interdependent key ideas that emerge during conceptual planning. This synthesis – the creation of a new understanding of the environment, system of problems, and potential solutions – is exactly what allows units to solve the right problems versus just solving problems right.

Promoting Discourse

A significant role of the commander is promoting and encouraging discourse not only during Design, but also in every activity the organization attempts. Discourse is not a discussion, not a debate, and not an exchange of information. Discourse is candid professional interactive dialogue without fear of retribution with the purpose of achieving in-depth analysis, synthesis, and evaluation of key ideas and concepts during the execution of planning. In the ADM context, discourse is the commander and staff reasoning together, exchanging and developing ideas, sharing information, collaboratively learning and identifying, recognizing and accounting for bias, and exploring and resolving differences of opinion; all in order to achieve greater understanding in support of non-predictive decision making.

Effective discourse is not possible unless the commander ensures discourse occurs. This requires three actions by the commander, each of which is necessary for a culture of discourse to emerge in the organization.

Example of Brigade Commander humility encouraging discourse with subordinates

"I've always been frustrated with myself in my level of understanding prior to my deployment. I must continue to develop that understanding. I need your help with that."

First, the commander must have and demonstrate the confidence necessary to admit that he or she does not know everything, can be wrong, and knows he or she has something to learn from even the most junior staff officer, NCO, or Soldier. This can only be accomplished by a verbal statement by the commander to the staff and subordinate commanders that clearly and physically demonstrates the commander's humility as one who is seeking to learn and understand in order to make better decisions. The commander must further demonstrate that he or she is prepared to learn from and be advised by the experience, expertise, and knowledge that many of the staff and subordinate organizations possess that the commander does not. The commander's position must be that he or she is not the "chief expert" in the organization, but rather the "chief learner" in the organization. The initial statement by the commander must be reinforced continuously through actions and engagements by the commander that prove he or she is one who intends to make decisions informed by the contributions of all in a collaborative effort. The commander ultimately must be an expert in structuring and leading organizational learning and harnessing the corporate intellect if they intend to solve complex adaptive problems.

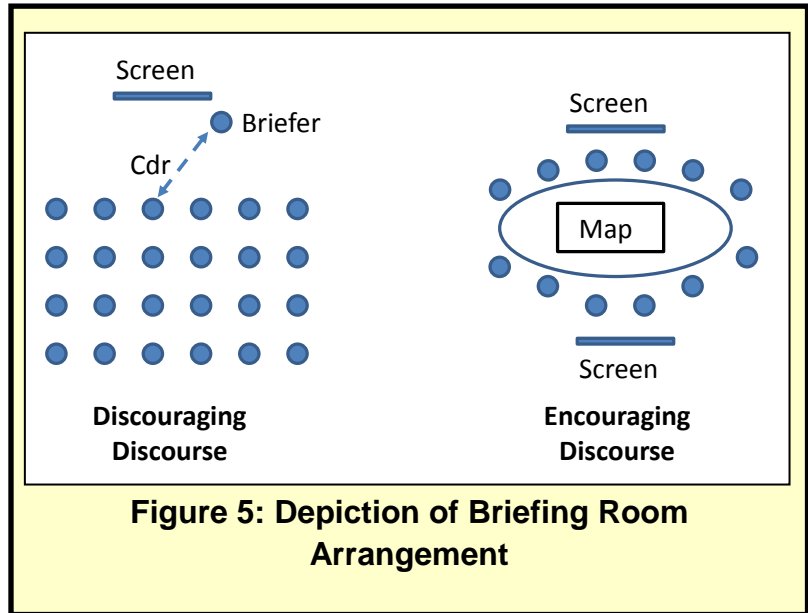
Second, the commander must lead and engage in discourse throughout the execution of the ADM. Remember, Army doctrine deliberately states that the commander participates in the MDMP, but leads ADM. ADM as the conceptual component of planning requires effective discourse and the commander must create the time and contribute to that discourse. The commander has more experience than anyone else in the organization, has a broader perspective than anyone else in the organization, and ultimately is the decision maker for both the conceptual (ADM) and detailed (MDMP/TLP) components of the operations process. When the commander engages in discourse with the staff in order to learn, exposes and overcomes his or her own bias, is exposed to different perspectives and ideas, reflectively shapes thinking, and achieves synthesis in understanding the best command decisions are made.

Battalion Commander to his staff "don't sit in the back of the room with the answer and keep it to yourself. I don't want to get downrange and people kept quiet about a problem when someone on the staff is thinking to themselves that 'I knew it all along...' That is just criminal"

Third, the commander must establish a culture in which collaboration and discourse routinely occur throughout the organization through personal example, coaching, and mentorship. Discourse cannot be a one-time occurrence, nor can it occur only when the staff is engaged in ADM. For example, in the MDMP COA development can be significantly enhanced through discourse that informs what COA are developed and why. Similarly, discourse by small unit leaders during or immediately after the leader's recon step of TLP can inform the selection of the COA to be implemented. Like

almost every human effort, discourse is a learned activity that improves with practice. The commander must demand that discourse occurs during the operations process in every organization and at every echelon within the command. Of course, subordinate commanders and staff must have the confidence that the commander will listen, truly consider the perspectives and recommendations that are offered by subordinates, and will reward, not punish, honest and forthright engagement.

Commanders set the tone for discourse not just at the organizational level, but also during each evolution of the operations process. This starts with commanders breaking away from "briefings." Briefings have a very formal and rigid atmosphere and result largely in point-to-point communication between the briefer and the commander. Note the depiction of the standard briefing room arrangement in Figure 5. Such an organization of the room discourages discourse.



Most of the staff is looking at the commander's back, they have difficulty hearing, and are not positioned to participate. Note instead a "knights of the round table" approach to organizing an area in the command post or a conference room for discourse. Everyone can see and interact with the commander, to include observing physical reactions and facial expressions. Everyone has an equal place at the table and that signifies that everyone's contribution is equally important. With the latter example, the commander is reinforcing a climate of discourse, sharing of ideas and collaborative learning, thinking, and problem solving simply by rearranging the planning area.

The MDMP is structured so that commanders engage at specific times for mission analysis, course of action development, and course of action decision briefs. In contrast, commanders lead design discourse by scheduling discourse sessions (not briefings) into the schedule for the execution of the ADM where appropriate based on the evolution of the design team's understanding and emerging conditions rather than a set schedule. Recognizing the commander has many demands on his or her time, the commander is still present as the leader of the ADM effort as much as possible. The commander should designate a Design Team Leader for the command as well as an

Environmental Space, Problem Space, and Solution Space Team Leaders, respectively. Each of the subordinate team leaders are responsible for the daily tactical design efforts and progress and report to the commander and Design Team Leader.

Meta-questioning

The commander leads and promotes meta-questioning throughout the integrated planning system. Meta-questioning is a critical thinking skill that enables more complete understanding by asking higher-order questions that enable the individual or staff to learn, think, and understand more broadly. Questions serve as probes into complexity by helping to iteratively identify the true qualities of a system rather than the superficial qualities. Think of a ladder. Standing next to the ladder your view is somewhat restricted. Take a few steps up the rungs of the ladder and your view becomes broader. Take a few more steps and your view becomes broader still. The same is true of meta-questioning. As commanders ask themselves and the staff successively higher-order questions our understanding of the environment becomes more comprehensive. Despite increased comprehension the commander cannot expect to predict perfectly the full effects of unit actions.

When the unit first begins to execute the operations process the commander typically is the individual best equipped to lead the meta-questioning. Meta-questioning is a result of the commander's broader perspective, greater experience, and more comprehensive understanding of the organization from both internal and external perspectives. Typically the staff will initially be focused on descriptions of the environment. The commander asks the meta-questions, the "why" questions, to encourage the staff to derive the meaning of what they are describing.

More importantly, the commander must teach and coach the staff to employ meta-questioning as their own reflective thinking skill. Rather than simply describing the environment or problems, they should routinely be asking their own meta-questions. By the end of a single ADM and MDMP planning evolution the staff will begin to think habitually in terms of meta-questions, which will raise the level of thinking and discourse across the organization. The commander also encourages and coaches meta-questioning by subordinate small unit leaders. This has two positive effects. First, in executing their own TLP planning they are able to employ reflective meta-questioning to better plan their operations. Second, meta-questioning of what they are observing as their small units are immersed in the environment improves the reporting and assessments those small units provide to their higher headquarters, improving the environmental understanding and decision making across the force and at multiple echelons.

In summary the commander is critical to effective execution of integrated planning. The commander must establish a climate of collaborative learning, adaptation, and innovation. Commanders promote discourse throughout their organization so that the collective intellect and creativity of all members of the organization is harvested to understand, visualize, and describe environments, problems, and operational approaches. The commander raises the level of thinking of the organization through leading and promoting meta-questioning. Finally, the commander promotes and leads a learning organization, the topic of the next section.

The understanding and learning that occurs during planning have great value. Even if units do not execute the plan precisely as envisioned—and few ever do—the process of planning results in improved situational understanding that facilitates future decision-making. (ADRP 5.0, p. 2-2)

Section 3 – Organizational Learning System and the Operations Process

Learning and planning are inextricably linked. The ADM, MDMP, and TLP all have components that are focused on learning, whether it is ADM environmental framing, the IPB conducted in Step 1 of the MDMP, or the leader’s recon conducted during TLP. Best practices suggest that successful organizations develop, maintain, and employ an organizational learning system that promotes and captures learning throughout the organization to enable effective decision making at every echelon, from the individual Soldier to the senior commander. An organizational learning system starts with a deliberate effort to develop a campaign of learning. A campaign of learning plans

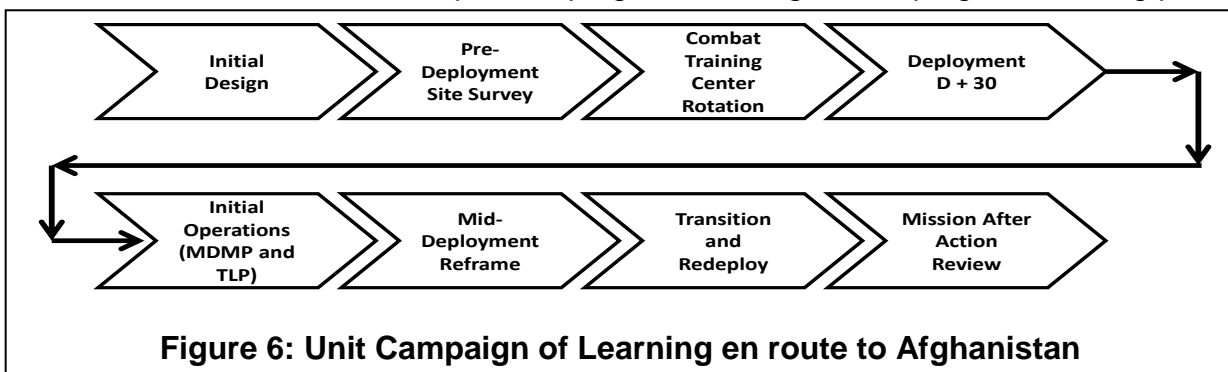


Figure 6: Unit Campaign of Learning en route to Afghanistan

out how the unit will learn from each of its activities, whether operational, training, administrative, or logistical. Figure 6 is an example of a campaign of learning for a unit at the front end of preparation for a deployment to Afghanistan. In this case the campaign of learning starts with an ADM effort to learn about and gain an initial understanding of the operational environment and problems that will need to be overcome once the unit is in theater. The unit then uses the design effort to plan and prepare for what they intend to learn while the commanders, CSMs, and selected staff conduct their Pre-Deployment Site Survey (PDSS) with the unit they will be replacing in

theater. The campaign of learning continues not only while preparing to deploy in CONUS but seamlessly and deliberately through the entire deployment in theater. Units conduct continuous assessment to validate their understanding of the problem and the OE sometimes causing a reframe. Understanding is also improved by discourse and reflection. The campaign of learning transitions from the current mission to the next with a thorough mission after action review upon completion of redeployment. That after action review sets the stage for the next campaign of learning.

Units with effective organizational learning systems also learn in three domains. The first learning domain is the psycho-motor domain. The **psycho-motor domain** concerns primarily what the military calls training. For example learning to employ an M-4 rifle to engage targets, learning to defuse an improvised explosive device (IED), or training to conduct a four-man stack to clear a room are all examples of learning in the psycho-motor domain. In the operations process context, observing and learning how a Taliban rocket point of origin is set-up during a leader's recon is an example of psycho-motor learning during TLP. Learning in the psycho-motor domain is primarily aimed at technical problems such as conducting route clearance or constructing a combat outpost.

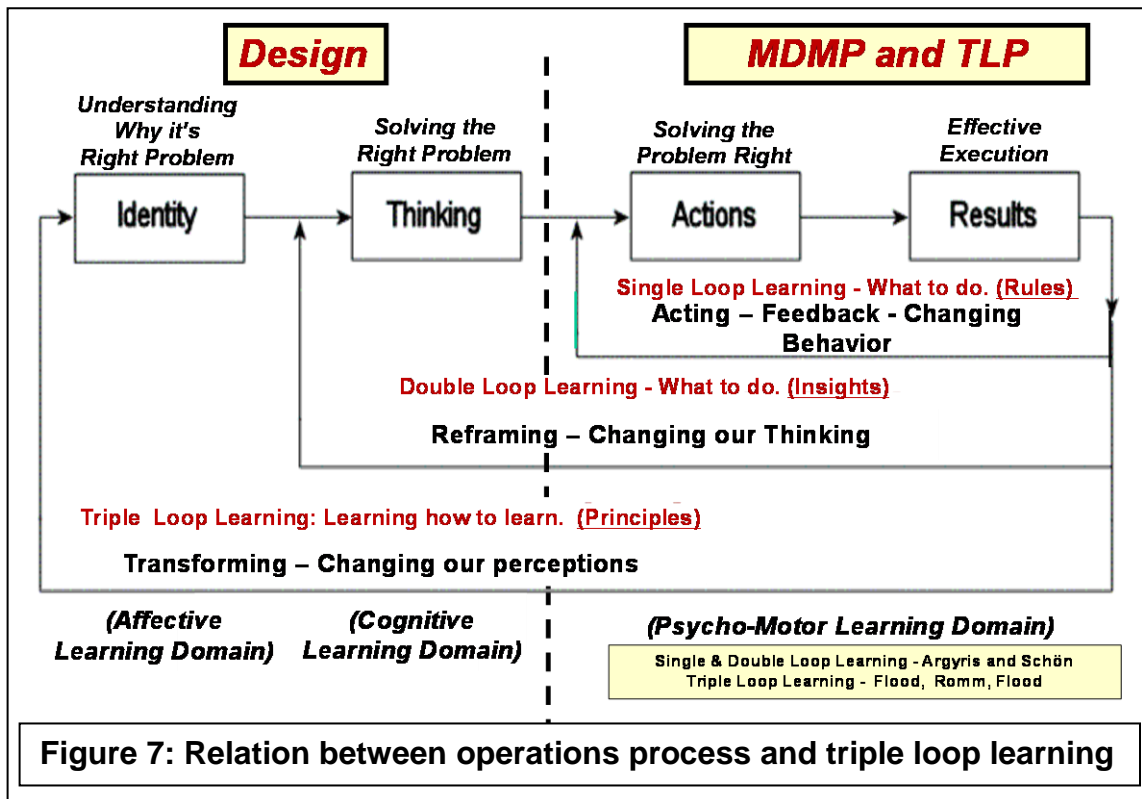
The second learning domain is the **cognitive domain**. The cognitive domain is the learning domain that is focused on the development of conceptual and detailed understanding. For example, mapping an insurgent network or gaining an understanding of the relative roles and responsibilities of Afghan Local Police and Afghan Border Police in a province bordering Pakistan are examples of learning in the cognitive domain. In the operations process context, MDMP activities such as the IPB and design activities such as brainstorming, research, and mind-mapping are examples of learning in the cognitive domain. The cognitive domain includes the learning that results from critical and creative thinking. Learning in the cognitive domain is primarily aimed at technical-adaptive problems such as conducting a cordon and search to capture a bomb-maker or securing election balloting sites.

The third learning domain is the **affective domain**. The affective domain is the learning domain focused on learning about and understanding attitudes, values, motivations, social mores, and cultures. For example, during their ADM a unit studied the Afghan tribal traditional system of Pashtunwali and compared the ten tenets of that system with the Army values. They found that many tenets of the two value systems were very similar. Both the Afghan and American coveted honor, loyalty, respect, and courage. This understanding of culture can be communicated in the affective domain to each Soldier in the unit and then reinforced during MDMP rehearsals. TLP supervision ensures that the actions of US Soldiers will be more culturally effective and reduces the friction between the Americans and the local population and Afghan National Security Forces (ANSF). Another unit invited members of a human terrain team who had been

deployed in their future area of operations to participate as subject matter experts in their design effort. Learning about specific tribal dynamics, culturally-based legal and governmental systems, and role of women in the specific area of operations was an improvement over the generic cultural classes normally provided to Soldiers before a deployment. An integrated operations process allows for triple loop learning.

Triple Loop Learning

Effective learning organizations engage in triple loop learning. Triple loop learning combines learning in all three domains (psycho-motor, cognitive, and affective)



with learning that is appropriate to the task and focus of effort. See Figure 7 which demonstrates how the different components of the operations process related to triple loop learning. Single loop learning is the simplest learning and is focused on execution of specific tasks and solving a particular problem in the right way. Single loop learning is rules-based learning and focuses on what to do in order to connect actions with results. Single loop learning results in changed behaviors to be more effective. Most learning conducted in support of TLP is task focused single loop learning. Many unit schools, aimed at employment of specific systems or tactics, techniques, and procedures (TTP) are examples of single loop learning.

Double loop learning builds on and includes all the aspects of single loop learning. Double loop learning is focused on solving the right problems through effective

critical thinking. Double loop learning is based on insights and results in changing how we think in order to make more effective decisions. Double loop learning produces the synthesis of ideas – a new understanding. Learning in support of MDMP is primarily single loop learning, particularly MDMP training focused on the execution of the process. But some MDMP learning, particularly that conducted in understanding the operational environment and the development of courses of action, is double loop learning. Sources of double loop learning are: staff training, command post exercises, leader development programs – but only when these types of activities are focused on the content as opposed to process, i.e., focus on conceptual thinking rather than the specific staff and leader tasks. Structuring double loop learning requires providing complex and unfamiliar problems that must be solved through critical, creative, and systems thinking skills. Simple, short exercises in which individuals are given a problem to solve and a map as reference can promote the discourse necessary for double loop learning.

Triple loop learning is the most advanced learning and incorporates both single and double loop learning. Triple loop learning is focused on learning to learn in order to understand why problems are the right problems to solve. Triple loop learning is principles-based and results in changing our perceptions of our environment. Learning in support of ADM is a combination of double and triple loop learning. Triple loop learning can be approached through leader development, research, and reading programs that enable individuals to explore the history, theory, and practice of the military art in depth. Additionally, individuals can attend education outside the organization that promotes learning to learn. An example would be the course at the University of Foreign Military and Cultural Studies (UFMCS), also known as the Red Team course, conducted at Fort Leavenworth.

Commanders and staffs must make deliberate efforts to learn how to conduct triple loop learning in support of the operations process and integrated planning. Such deliberate efforts include structuring the campaign of learning to engage in triple loop learning, employing meta-questioning techniques during planning, and conducting Pre-Deployment Site Surveys (PDSS) and Video Teleconferences (VTC) with units already in theater. Commanders should create opportunities to connect with SMEs to learn in all three domains and create the time in their organizational learning system to engage routinely in discourse. It must be remembered that simply learning in the third loop in the ADM is insufficient. Triple loop learning depends on solid training and planning fundamentals so that the single loop and double learning associated with TLP and MDMP is also conducted to standard.

In summary, successful organizations are learning organizations. Commanders lead a campaign of learning throughout the course of a unit's force generation or deployment cycle. Such a campaign of learning includes, but is much more than, a

unit's annual training plan. Organizations must learn equally well in all three domains: the psycho-motor domain, or training; the cognitive domain focused on conceptual and detailed understanding; and the affective domain focused on learning about attitudes, values, and cultures. Finally, effective learning in support of the Operations Process requires triple loop learning. Triple loop learning enables the integration of conceptual and detailed planning.

Section 4 – Integration of Conceptual and Detailed Planning

Clearly Army units are investing considerable commander and staff energy and effort in both the conceptual and detailed components of planning. Practice in the field suggests that a number of different approaches are being employed. Currently the transition between conceptual and detailed planning is generally being conducted in three ways. The first is the employment of ADM as a distinct planning evolution, separate from and in most cases preceding MDMP. It is important to note that even though at the brigade and battalion levels the commanders and staff members who are executing ADM and MDMP are largely the same personnel, they are still executing ADM separately from MDMP. The second approach is the integration of Design into the MDMP, usually as a sub-step of Step 1 (Receipt of Mission) of the MDMP, primarily as a means of informing the commander's initial guidance. The third approach is to conduct the ADM and MDMP in parallel, usually due to compressed time frames.

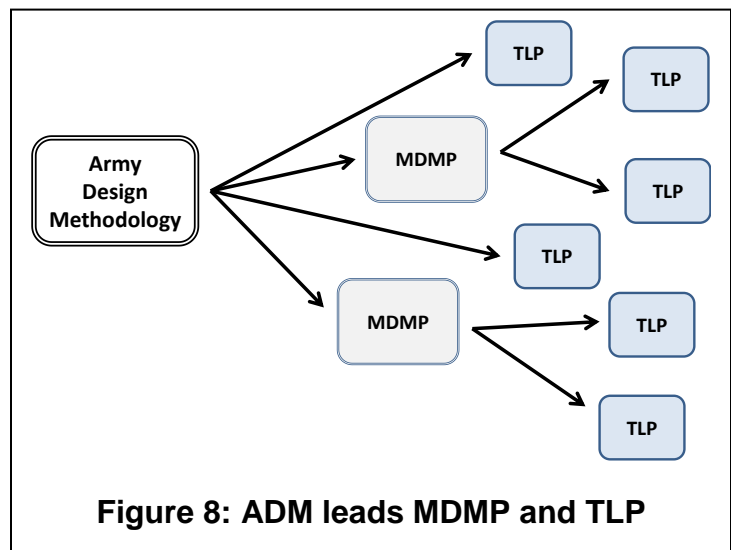


Figure 8: ADM leads MDMP and TLP

ADM leads MDMP and TLP

The most often used integrated planning system approach is to lead the conduct of detailed planning employing MDMP or TLP with conceptual planning employing ADM. Using this approach, a complete evolution of the ADM is conducted and the resulting products are used to inform the detailed MDMP and/or TLP planning that follows. This is the most time consuming of the three integrated planning approaches, but it is also the approach that provides the greatest understanding of environments, problems, and solutions and should result in the most effective planning products and orders. In most cases the same staff serving first as a design team will conduct an ADM and then use the resulting products to inform their own staff execution of the MDMP. In some cases

at higher echelons the design team is separate and distinct from the MDMP planning staff. In those cases the quality of the ADM products becomes even more important in order to effectively inform the staff planning process. In some cases small unit execution of TLP is informed directly by the ADM, without an intermediate MDMP. An example might be a patrol to conduct a Key Leader Engagement (KLE) directed by the commander to a subordinate small unit leader.

Design as a Step within the MDMP

An option when time available for planning is more compressed is to embed an abbreviated design within the MDMP. This option recognizes the importance of design to understanding the operational environment and informing the commander's vision and guidance. In this approach the design effort is embedded within Step 1 (Receipt of Mission) in the MDMP. The MDMP begins with the initial Intelligence Preparation of the Battlefield (IPB) steps of define the operational environment and describe the effects of the operational environment. Once those steps are complete the staff provides the commander with an initial mission analysis brief that includes the initial staff understanding of the environment and problems. This briefing also provides the commander the information he or she needs to begin thinking about an operational approach. The staff then continues with Steps 1 and 2 of the MDMP and concludes the mission analysis. That mission analysis now includes a more comprehensive understanding of the environment from a systems perspective, including a comprehensive understanding of the set of problems and initial guidance on an operational approach that will guide later COA-related steps of the MDMP.

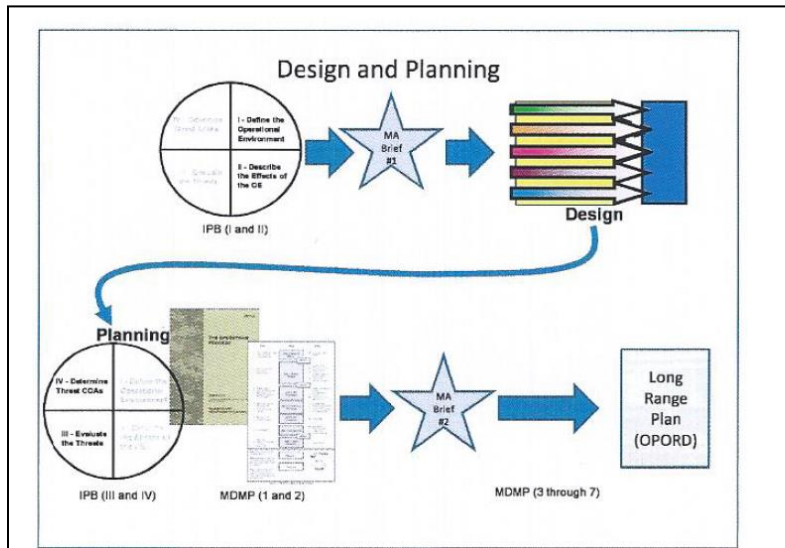


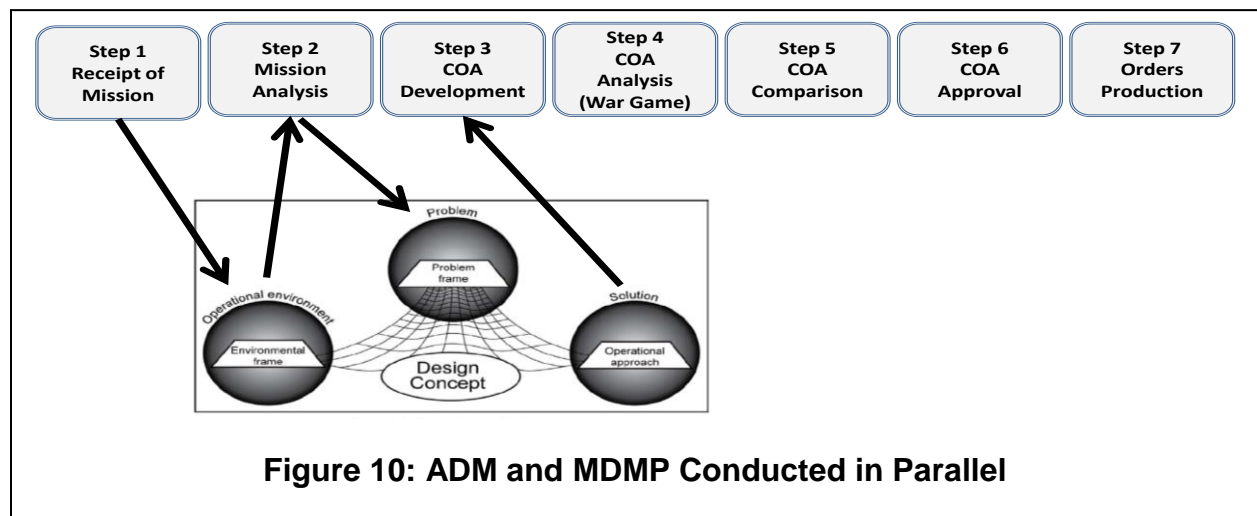
Figure 9: Design Embedded in Step 1 of MDMP

Embedding design within the MDMP contributes some of the elements of design thinking into the MDMP in situations that do not allow sufficient time for a thorough ADM. This approach still requires the staff to possess design thinking skills including systems thinking, critical thinking, and creative thinking in order to move beyond the traditional IPB to provide a more comprehensive understanding of the operational

environment. Executed effectively, the embedded design can contribute a comprehensive understanding of the system of problems, which will inform the MDMP COA development and analysis. The challenge for the commander and the staff is to ensure the commander's participation and the level of discourse is on par with that of an ADM evolution and not limited to the typical MDMP commander's engagements.

Design in Parallel with MDMP

The commander may direct that the ADM and MDMP be conducted in parallel. This is done so that both efforts will inform each other. The initial receipt of mission, IPB and mission analysis of the MDMP can inform the development of the environmental and problem frames. The design work of environmental framing can in turn inform the



mission analysis. Most importantly, the operational approach that results from the ADM effort can be used to inform and shape COA development and analysis. In order to execute the parallel approach, the commander must divide his subordinates in order to have both a design team and a MDMP planning staff. Smaller headquarters, such as battalions, may be challenged to have enough personnel to execute this approach. An option employed by one battalion commander preparing to deploy to Afghanistan was to form a design team of his company commanders and assistant S-2, assistant S-3, and assistant fire support officer. The primary staff executed the MDMP while the commander-centric team was executing ADM. This approach had the added advantage of resulting in ADM products that were developed by all the company commanders, so they understood the environmental frame, system of problems, and operational approach better than if it was developed by staff and briefed to them. Thus, when company commanders later executed TLP for tasks assigned by the battalion, they did so informed by the ADM products they had helped develop.

In summary, the Operations Process provides for three approaches to integrating conceptual and detailed planning. The most used, most comprehensive, and most effective approach is to have the ADM lead MDMP and TLP. A second approach that supports crisis action planning is the integration of ADM into Step 1 of the MDMP. A third approach is to conduct ADM and MDMP in parallel. Regardless of the approach employed, one of the key contributions of conceptual planning to the integrated planning process is a more comprehensive understanding of the environment, which is the topic of the next section.

The commander and staff develop a contextual understanding of the situation by framing the current conditions of an operational environment. In doing so, the planning team considers the characteristics of all the operation and mission variables relevant to a particular operational environment. This includes identifying and explaining behaviors of relevant actors in the operational environment. An actor is an individual or group within a social network who acts to advance personal interests. Relevant actors may include individuals, states and governments, coalitions, terrorist networks, and criminal organizations. They may also include multinational corporations, nongovernmental organizations, and others able to influence the situation. (ADRP 5.0, p. 2-7)

Section 5 – Environmental Framing

Once the commander has issued his or her guidance the ADM begins with framing the operational environment. The staff frames both the current environment and the desired future environment. Through a sequence of variable generation (sometimes referred to as brainstorming), research, and mind-mapping the staff is able to map the current operational environment as a system. Variable generation yields the variables or categories that must be researched to understand and eventually map out the relationships and interdependencies among all the relevant actors and agents in the environment. The staff then projects forward from the current environment to describe the future operational environment as they would like it to be. For example, if in the current operational environment Afghan National Army (ANA) forces are capable of independent company operations, a possible future operational environment might be that the ANA is capable of brigade-level independent operations.

Many units use white boards for environmental framing. The white board helps the members of the staff reduce the effect of their existing bias in several ways. First, as a collaborative effort, individual bias is overcome by input from other staff members with such bias. Collective bias is revealed as the generation of ideas/variables results in certain topics that are over-represented and certain topics that are under-represented or missing. This is particularly important when a unit is planning to return to a region, country, or province where many of the team have been before. Environments change over time, as do enemies, opponents, governments, economies, and local populations. Starting with a clean white board signals to the staff they must focus on the environment as it exists today, not as it was last time they were there. White boards also enable brainstorming, drawing, and redrawing as the staff's understanding of the environment matures.

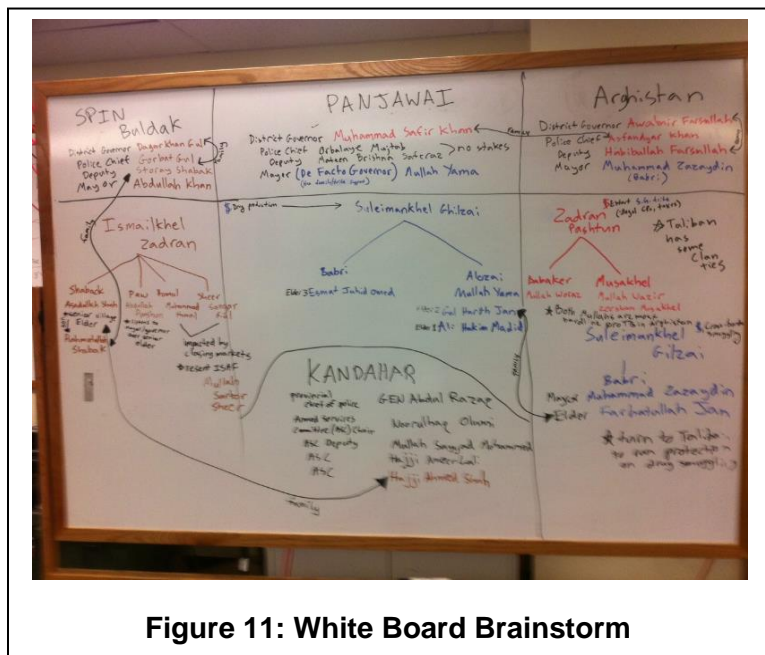


Figure 11: White Board Brainstorm

Environmental Framing – Variable Generation

Staffs start the environmental framing by generating an understanding of the relevant variables in the operational environment, including locations, actors, geography, organizations, and systems that make up the current operational environment. Brainstorming is the method most often used by units to initially generate the initial understanding of the variables, but it is not the only possible method. Its purpose is to surface a large quantity of ideas or variables, without initial consideration of the relative value of each. In terms of best practices, most units brainstorm as a white board exercise. Their key to success is in capturing as many diverse ideas as possible. In the initial brainstorm there is no set format, but a successful technique is to use a scribe to ensure every idea is captured on the white board. Brainstorming tends to be more effective if individuals are oriented to the situation ahead of time, think on their own first, write down their ideas or what they believe to be relevant variables, and then move into group interaction to elicit everyone's ideas. The example in the text box highlights additional structure through dividing the staff into four groups, each with a general focus on a potential line of effort. Additionally, use of the operational and mission variables can provide content structure, while the brainstorming, research, and mind-mapping approach provides methodological structure. The results of the brainstorm in the ADM environmental frame not only supports that effort, but also

**Observation of a Leader Training
Program Coach at a Combat
Training Center**

“The Battalion staff breaks into teams to brainstorm operating environment assessment as an element of design. They are broken into four groups by the executive officer according to line of effort (security, economics, society, governance). The unit takes about 30 min. to get read into information available on shared drive. Then they break into groups and brainstorm.”

informs the understanding of the operational environment component of the IPB in Step 2 (Mission Analysis) of the MDMP. Staffs brainstorm in Step 2 of the MDMP to identify implied tasks during mission analysis and later to develop potential courses of action.

Brainstorming is initially messy as ideas are thrown out by every member of the team. Later in the environmental framing or MDMP task analysis those ideas will be grouped and arranged to be more meaningful to the staff using affinity mapping as a critical thinking skill. Brainstorming also helps to free the collective minds of the group so they “think outside the box.” Often, the initial results of brainstorming are guided by, or reflect, the operational variables of PMESII-PT and mission variables of METT-TC. Successful units use brainstorming to move beyond those variables and avoid “inside the box thinking” or simple reliance on rigid frameworks that constrain thinking and employ the divergent thinking and ideation that ultimately yields understanding of the complexities and interdependencies in the system that is the environment. Remembering that the integrated planning process is used for all planning and not just planning for combat, variable generation through brainstorming is applicable to other planning and problem solving efforts, to include training development, Soldier care, and installation management actions.

Environmental Framing – Research

Successful staffs use the result of their brainstorming to guide deliberate research into each factor they identified. In the example shown here the staff conducted detailed research into the village of Spin Boldak including, as doctrine suggests, its history, tribal influences and connections, governance, and social and economic patterns (both internal and external to the district). This produces an environmental understanding that is significantly greater than simple link diagrams that only signal that relationships exist. Armed with this detailed understanding of the environment the staff “sees” a pattern of relationships emerge which then inform their derivation of the problems that exist within the environment that will affect the accomplishment of the mission or success of the campaign.

Research is a challenge for most commanders and staffs. Most individuals have not conducted significant research since graduating from civilian schools. Some individuals in the unit may be skilled at research and they should be leveraged as much as possible. For example, intelligence analysts and civil affairs specialists typically have

good research skills. Thus, research skills must be developed and sustained in each evolution of the operations process. There are several imperatives for effective research in support of planning, whether in support of ADM, MDMP, or TLP. These are outlined below.

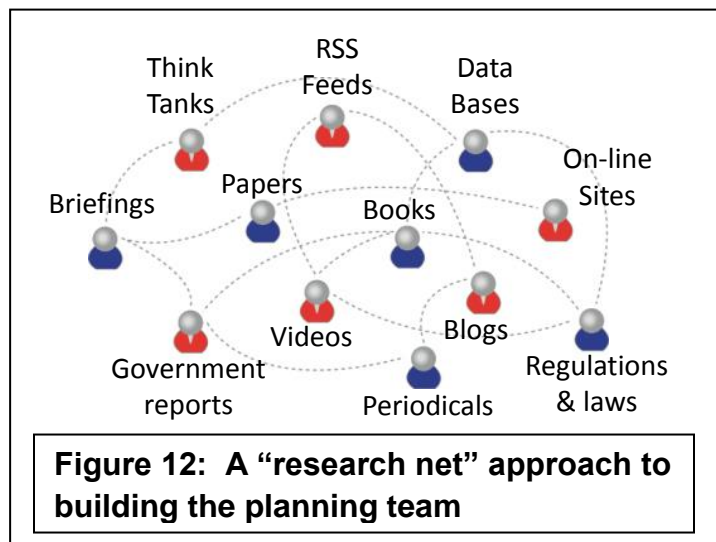
Systems Thinking- Comprehensive, holistic research is not possible without the application of systems thinking. Design research is guided by an initial brainstorming session to derive and suggest the components of the system. These components we term *categories* for research and they represent coherent sub-systems of the broader system that makes up the environment. For example, in the political sense a state government might be a category; or in the homeland security sense a drug cartel, or in the military sense the Taliban might be a category. Categories cannot be pre-determined, they emerge from the critical, systems thinking of the design team as brainstorming activities occur.

Breadth - In order for research to be holistic, it must be broad. The planning team leader will want to form as many research teams as possible to cast the ‘research net’ as broadly as possible at the start of the ADM iteration. This allows the team to collect as much information as possible in the shortest amount of time. An approach is to

divide the design team initially into two-person groups and assign each pair a set number of categories, ideally related in some way. For example a two-person team might be assigned agriculture, light industry, retail, and service corporations with the understanding that together those four categories will likely form a major portion of a larger economic assemblage for an area. The pair will research each category, collect artifacts

(papers, briefings, videos, etc.), and be prepared to present their findings during iterative discourse back brief sessions. Research will include consultation with subject matter experts external to the organization in order to better understand the context and extend the breadth of understanding. The design team members must be prepared to research additional categories that emerge throughout the iterative Design discourse back briefs.

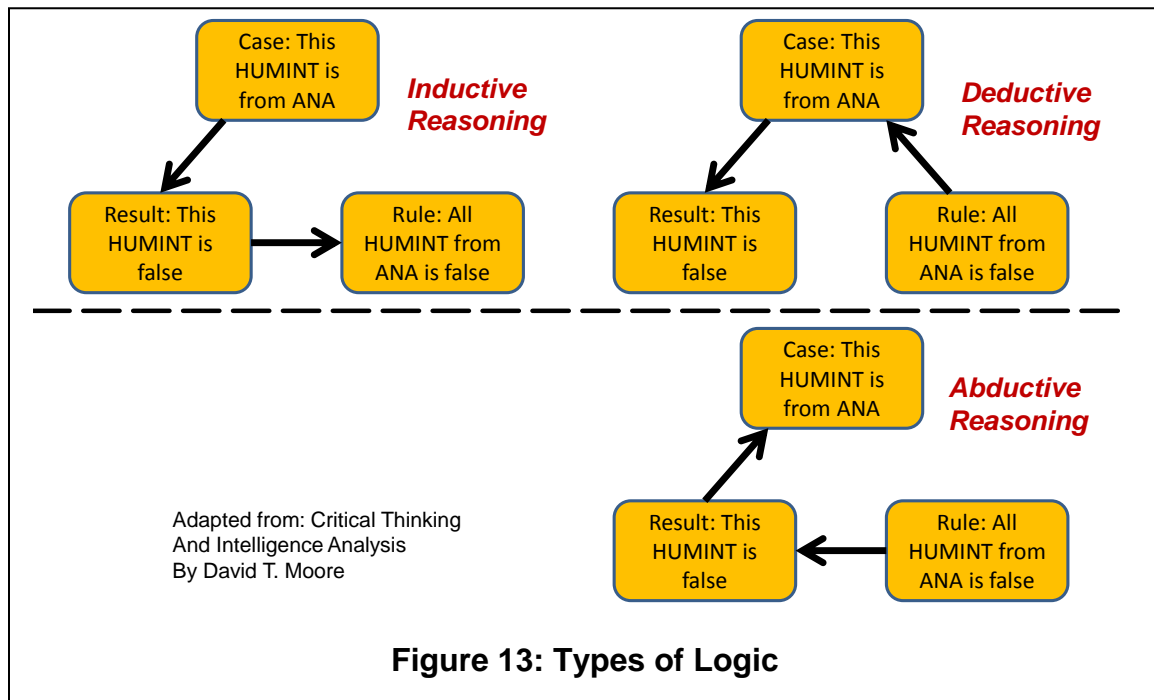
Depth – The researchers must conduct a “Deep Dive” in an effort to thoroughly explore every category that has been initially identified. Depth is achieved through the use of



multiple sources from a variety of governmental, academic, corporate, public, and private viewpoints over time. Depth cannot be achieved with single, current snapshots of the category. Nor can depth be achieved from only classified or unclassified sources. A unit that relies only on SIPR sources and reports from units already deployed in theater are not going to achieve the depth required. Again, access to subject matter experts can extend the depth of understanding of the research team. For example, one research team brought into the staff a Human Terrain Team that had served in the units anticipated region and provided detailed knowledge of the social, tribal, and cultural factors in that area. Figure 12 illustrates the types of sources that should be examined in the research. The more sources that are employed the more in depth and reliable the research becomes. One of the major factors affecting depth and breadth of the research is time. Effective research takes time, which is often the most precious commodity in any problem solving or planning endeavor. Sources should be clearly articulated and not be limited by artificial standards. For example, an academic peer reviewed source is not necessarily more informative than a current blog. Similarly, in the military context, classified sources are not necessarily more informative than unclassified sources. The quality of the final outputs of the Design effort are directly attributable to the effectiveness of the research. Researchers should note the authors of their respective documents, author known biases, and the dates the sources were published.

Description, Explanation, and Meaning – Researchers cannot be content with simply vacuuming up data and information and handing it over to the staff. The goal of research is to determine what each observed phenomena means to the organization. Taken together, description, explanation, and meaning produce understanding which is the goal of any research or problem solving endeavor. ***Description*** provides an articulation of “what” is going on in a problem situation. ***Explanation*** describes “how” something works and ***meaning*** explains “why” something is of particular value and importance to the design team. An accurate expression of description, explanation, and meaning produces understanding which is the goal of any research or problem solving effort.

In order to achieve that accurate expression, some initial analysis is required by the researchers. The key is to ascribe and validate *meaning*. We get to meaning initially through critical thinking and application of deductive, inductive, and abductive logic to derive the *explanation* for why the data or information we obtained is the way it is. Most of us are familiar with inductive reasoning and deductive reasoning, but less familiar with abductive reasoning. Abductive reasoning starts with an observation, which may be something the research team finds as they are exploring a particular category. Next in abductive logic the individual or research team forms a hypothesis of what the observation might mean. If that hypothesis is not supported or supported by further research, another hypothesis is formed and so the reasoning continues until a conclusion is reached. Figure 13 illustrates the three types of logic that can be applied during the integrated planning system.



Using the three types of reasoning the research team seeks to answer the critical questions for their topics. For example, why are agricultural revenues declining; why are the drug cartels fighting each other; why is the Taliban moving back into a river valley? There may be more than one explanation, and each should be considered and included in the analysis until there is a reason to discard that explanation. Developing these explanations is the intellectual route to meaning. What does the information just retrieved and the explanation mean to the organization and the planning effort? When we get to meaning we are learning what we need to learn in order to make the decisions necessary to solve and manage problems and create that desired future environment. Achieving understanding of the meaning of observed data and

information is the goal of research. Individuals or small groups that conduct research should strive to achieve understanding through a clear articulation of the description, explanation, and meaning of observed phenomena.

Form – Function – Logic – The researchers, whether operating singly or in small groups, must be able to think beyond what they simply see. Often data or information will describe the *form (patterns and relationships)* of what is observed, e.g., the organization of a branch of a company, the structure of a manufacturing plant, or the make-up of a terrorist cell. Researchers must move beyond form to discover the *function* of what they observe. What does that branch of the company, manufacturing plant, or terrorist cell actually do? How does it operate? What function does it perform? And finally, what was the *logic* that guided the linkage of form and function, or was the form externally driven by some other considerations? Perhaps the branch of the company was organized solely to provide a managerial position for a favorite son and has nothing to do with what the branch actually does. In design team discourse of the research, the team must understand the relationship of the form, function, and logic of the relationships that create each component of each category.

Iteration – One pass through the research, analysis, and synthesis cycle is not going to be sufficient to achieve the comprehensive, holistic understanding necessary for effective design across physical, cultural, and ideological boundaries. After the initial research and discourse the staff and commander must cycle back through the research effort as many times as it takes to achieve understanding for the organization. Some research will need to be refined, some expanded to cover other new topics within a category, some new categories will emerge, and some information will need to be confirmed or conflicts in available information resolved. Within available time the staff and commander conducts as much iteration as necessary to fill in the gaps in knowledge and deliberately correlate and validate information through both analysis and synthesis in order to improve understanding as time permits.

Often relationships among actors are multifaceted and differ depending on the scale of interaction and their temporal aspects (history, duration, type, and frequency). Clarifying the relationships among actors requires intense effort since relationships must be examined from multiple perspectives. Commanders can also depict relationships by identifying and categorizing their unique characteristics. (ADRP 5.0, p. 2-7)

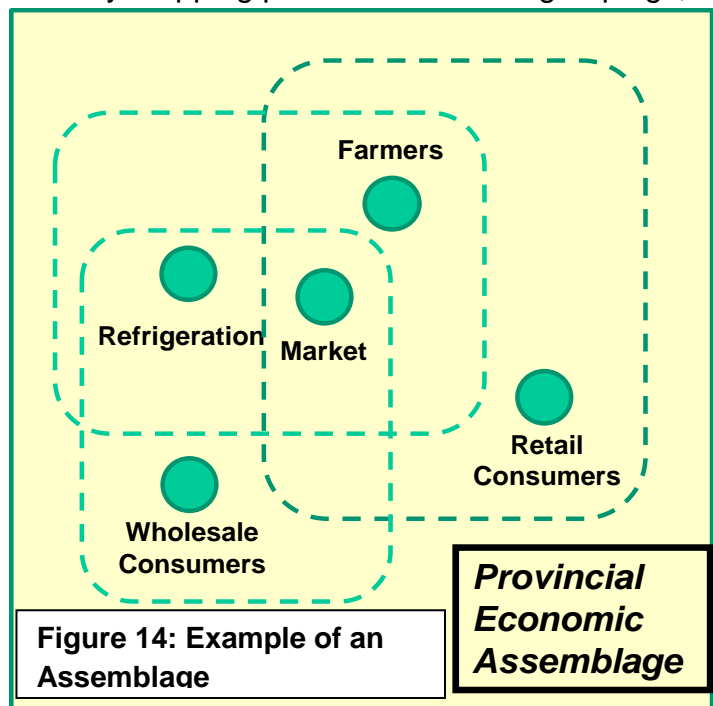
Environmental Frame – Mind Mapping

In the execution of ADM, the Design team applies critical and systems thinking in framing the operational environment in the environmental space. As described in FM

5.0, the staff must identify all the actors, clarify their relationships, and depict those relationships. A critical thinking skill that is often used is mind mapping. As the Design team maps the operational environment they not only identify relationships, but group together actors who are strongly connected by a common aspect of the environment. The start point for the mind map is the initial brainstorm conducted by the staff. Once the brainstorm has been conducted the Design team is divided into small groups to conduct deliberate research into the categories developed during the brainstorm. The mind mapping takes place as the research teams report on the results of their research. Mapping the results of research is not simply a briefing by each research team. The entire Design team engages in a discourse as each research team reports. Individuals contribute to the discourse based on the results of their own research effort, as well as their professional experience and expertise. The Design team's scribes record the results of the brainstorm, research, and mind map both in graphical and narrative form.

Normally the initial mind map is developed on white boards using a technique called affinity mapping in order to group categories into sub-systems, or assemblages. Later in the environmental framing or MDMP task analysis those ideas will be grouped and arranged to be more meaningful to the staff using affinity mapping as a critical thinking skill. In applying affinity mapping the research teams will write each category on a sticky note and then place the sticky note on the white board. The staff will discuss placement of each category and the groupings that result. For example, Highway 1 in Afghanistan could be placed in a sub-system or assemblage of transportation, or one of infrastructure, depending on how the staffs understanding of the environment and its critical components are emerging. Once affinity mapping produces the initial groupings, the staff turns to understanding the relationships between actors.

Two major aspects of relationships are developed. First is the grouping of categories into assemblages. The assemblages are grouped based on common relationships. An example would be an economic assemblage within a province based on grapes and raisins shown in Figure 14. Note how the provincial assemblage is broken down into three sub-assemblages: one for retail sales by families, one for wholesale sales to exporters, and one for the actual provincial



marketplace. The second major aspect of relationship development in the mind map is the interrelationships and interdependencies of actors and organizations external to their immediate grouping. This is shown in Figure 14 by the many lines criss-crossing the problem space. Staffs also build the mind map using digital tools, as shown in the graphic above that represents the mapping of the environmental frame for a unit preparing to deploy to Afghanistan. The mind map is never finished; nor is it ever a complete representation of relationships among actors, artifacts, and physical environment. Of necessity, it limits the element of analysis based on time and information available. The staff continues to refine the mind map as more information is received and learning occurs. Successful staffs cycle through the research, discourse, mind map effort several times to further refine their understanding and improve the resulting Design products; including the environmental frame, problem frame, and operational approach that will inform deliberate planning through the MDMP and TLP.

Mind mapping the conceptual environment of governmental, social, economic, cultural, relational, threat, etc., complements the use of evidence of the physical environment, including maps of the geography, data bases of weather, resources, etc. Ultimately military operations are either conducted on or affect decisions made by local populations and governments on land. Accordingly, successful units integrate their mind maps with detailed map recons and physical recons such as Pre-deployment Site Surveys (PDSS). This ensures that the conceptual understanding of the environment, problem situations, and solutions can be translated into detailed plans and orders in MDMP and TLP that can be carried out on the terrain within the physical environment.

In summary, the first major effort in integrated planning is understanding the current and desired future environments and situations. That understanding is generated through environmental framing that includes a systematic approach including brainstorming, research, and mind mapping to both develop and evaluate the environment and context for the mission, operation, or campaign. Between the current and desired future environments are the problems, tensions, conflicts, and challenges that can prevent reaching that desired end state. Those problems are the focus of the next section.

Section 6 – Problem Framing

The planning team frames the problem to ensure that they are solving the right problem, instead of solving the symptoms of the problem. Framing the problem involves understanding and isolating the root causes of conflict. The planning team closely examines the symptoms, the underlying tensions, and the root causes of conflict. Tension is the resistance or friction among and between actors. (ADRP 5.0, p. 2-9)

Solving the Right Problem and Solving the Problem Right

The Operations Process calls for the commander and staff to develop a problem statement, which is developed in Step 2 of the MDMP. A challenge for staffs is that the MDMP is task oriented. It is focused on developing the best COA for a specific task. Said differently - the MDMP is focused on solving the problem right. The challenge of course is which

problem is the right problem to solve. The ADM is the planning component within which the staff looks at problems in detail and forms an appreciation of which problems should be solved when, that is - solving the right problem. Moreover, critical thinking in the problem space within the design effort recognizes that no problem is solved in isolation, but set in relation to other problems, the environment, and the mission.

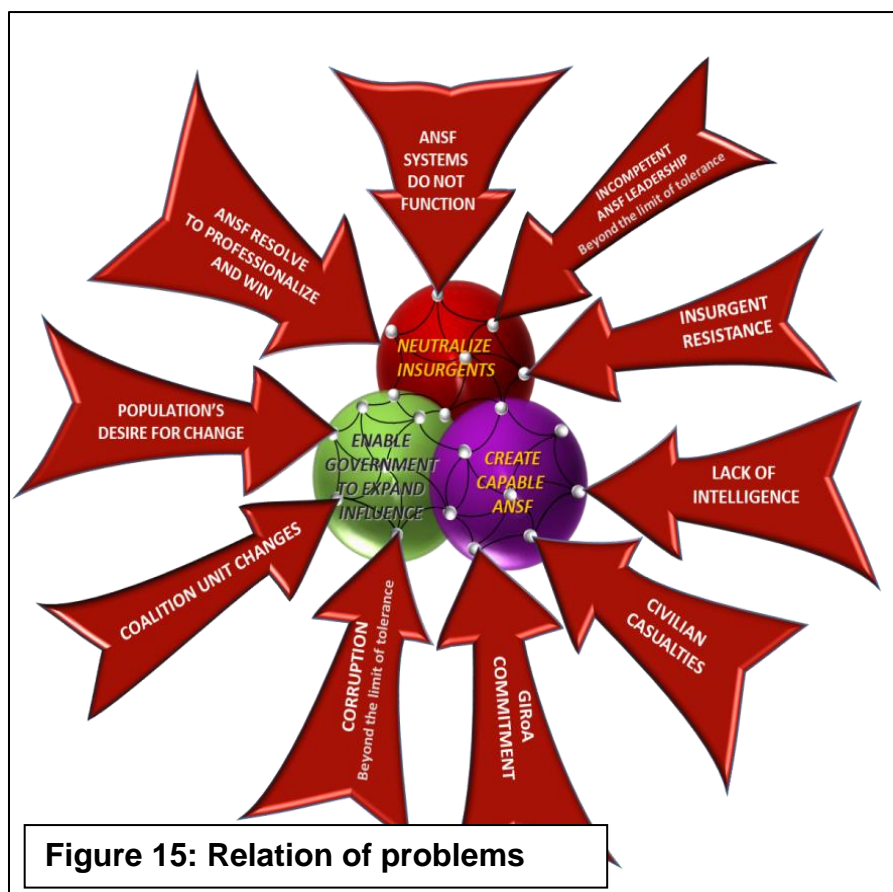


Figure 15: Relation of problems

Critical to any successful planning effort is the identification of the problems that must be solved or managed in order to accomplish the mission. Note that the term is problems, not problem. Use of the ADM reveals that in every mission, every task, there is more than one problem to be solved. More importantly, the problems that confront the unit are related to each other so that actions to solve or manage one problem can have positive or negative effects on the unit's ability to solve other problems. This is illustrated in Figure 15, produced by a battalion deployed to Afghanistan. The battalion had been in country for approximately 60 days when their experiences suggested that the problem framing conducted during their Design effort at home station was insufficient. The battalion commander configured the staff as a design team and reframed the problem space. The result was identification of a system of ten major problems, all of which were preventing the battalion from achieving their desired end

state in their area, specifically to: neutralize insurgents, create capable ANSF, and enable government to expand influence. Identification of these problems offered the battalion the opportunities cited in FM 5.0 and led to a series of battalion-level and smaller operations to solve or manage those problems, each of which was deliberately planned through one or more MDMP at battalion-level and TLP at company and platoon level.

Problem Framing – Shared Problems

Every problem space is different, because every environment, mission, and organization is different. Staffs must see and understand problems in ways that are appropriate for their organization within the context of that environment and mission. This is particularly true in joint, coalition, and partner operations. Army units are not the only ones with

problems between the current environment and desired future system. Whether working with other Services, such as Army-Marine Corps joint operations; other coalition operations, such as US-Polish operations in Ghazni Province in Afghanistan; or

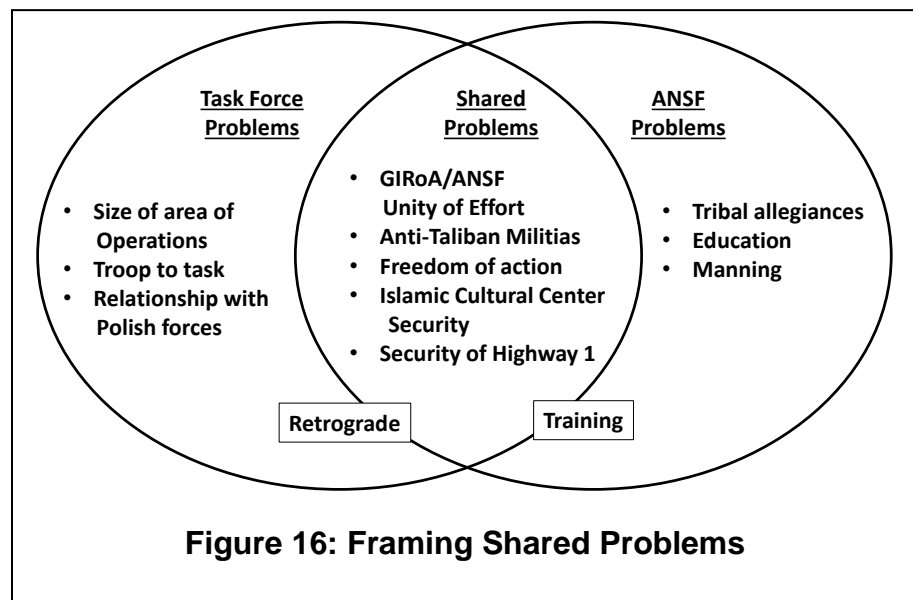


Figure 16: Framing Shared Problems

partners, such as ANSF units will have some problems that are unique to the unit and some problems that are shared with the other force or forces. In problem framing, the staff must make their best effort to see the problems not just from the U.S. Army unit perspective, but also from the perspectives of whoever they are working with and within the context of the people, cultures, and terrain they are operating in.

In the example shown here, the U.S. Army unit has a Security Forces Assistance mission aimed at advising and assisting the ANSF to improve the Afghan Army and Police forces capabilities to operate independently and secure the population. As the U.S. forces draw down from their maximum strength some problems emerge that are U.S. specific, such as troops available to perform tasks and larger areas of responsibility. Looking at the environment from an Afghan perspective the staff realized that there were unique ANSF problems including manning during harvest season and specific tribal allegiance of ANSF personnel. The staff then realized that many problems

were shared, including freedom of action and security along the major lines of communications and unity of effort. There were also some problems that were primarily one nation's, such as retrograde of American forces, but that were also partially shared by the ANSF in terms of provision of security and closing of bases. The key here is that by looking at the system of problems from more than just the US Army perspective the staff gained a greater appreciation of the challenges facing the Coalition and ANSF.

Problem Framing – Informing Troop Leading Procedures

The problem frame serves two purposes. One purpose is as a component of the design effort in which understanding problem situations enables the development of operational approaches to solving those problems. The second purpose is to inform detailed MDMP and TLP planning to ensure that those problems are accounted for in developing courses of action and subsequent planning. This second purpose is critical because it is through the actions and orders that result from MDMP and TLP that problems are actually solved. Additionally, problems identified in the design are confronted on a daily basis by the platoons, companies, and teams engaged in combat and other activities on the ground.

One unit addressed this problem by having the Company Intelligence Support Team (COIST) participate in the battalion design effort. The COIST then was able to provide company and platoon leaders with an understanding of the problems specific to their task and area of operations as they engaged in their TLP. The COIST would provide the platoon leader or company commander with a graphic that overlaid the problems onto the standard IPB description of the area of operations. For example, the graphic would show the “shadow control” exerted by a specific religious Imam providing sermons in support of a Taliban cell enforcing Sharia law in the village and supported by a local landowner. Understanding that these three problems are linked to subvert the local government and that they were also linked to problems outside the company's area of responsibility aided the company in planning and conducting its daily operations.

Identifying and solving the right problems, those that are major obstacles to mission accomplishment, is critical to success of an integrated planning system. Problems are not tied to a specific unit, but are shared by all organizations operating in that space. And, most importantly, problems must be articulated to the units who are going to encounter and ultimately solve those problems through application of MDMP and TLP. In summary, problem framing enables organizations not only to solve the

The operational approach enables commanders to begin visualizing and describing possible combinations of actions to reach the desired end state given the tensions identified in the operational environmental and problem frames. (ADRP 5.0, p. 2-45)

problems right, but also to solve the right problems. Developing the operational approaches that enable solving problems is the topic of the next section.

Section 7 – Developing Operational Approaches

The operational approach is the way in which the unit is going to solve the problems identified in the problem frame and derived from the difference between the current and future desired environments. Because the commander and staff identify more than one problem in a system of problems the operational

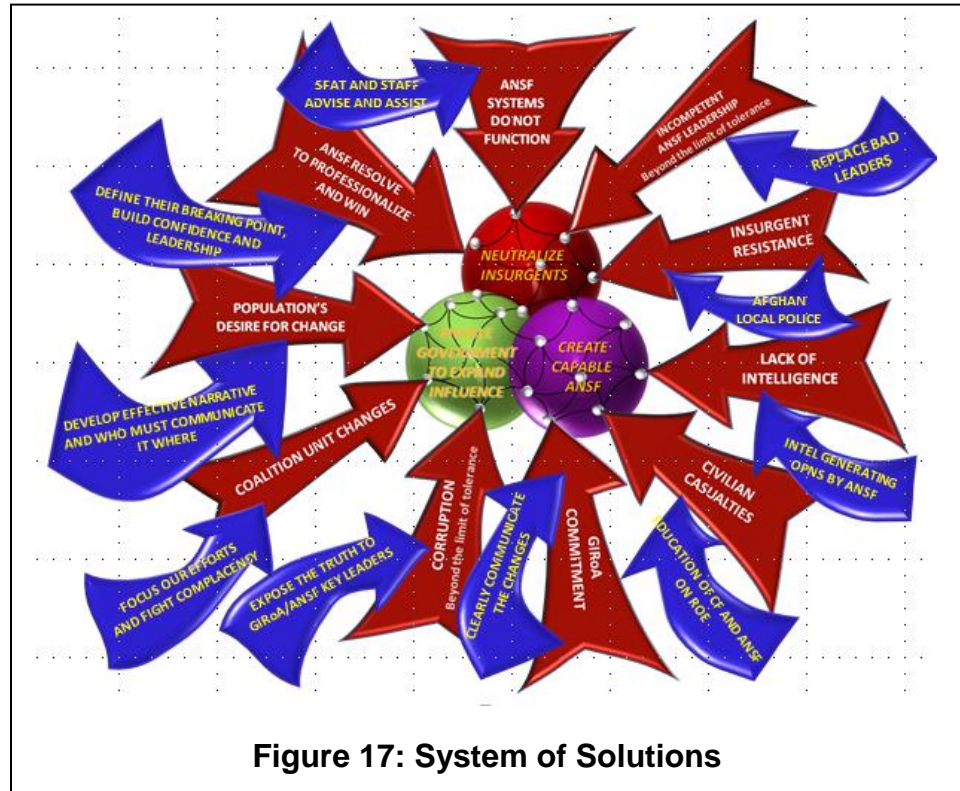


Figure 17: System of Solutions

approach includes a system of solutions. This is because every problem has one or more solutions. Plus, the solutions cannot be treated as isolated actions but must be integrated in order to account for the second and third order effects resulting from each solution. Earlier in Figure 15 we saw a system of problems for a battalion in Afghanistan. In Figure 17 arrows have been added to represent the solutions the unit developed for each of the problems. For example, developing intelligence capabilities of ANSF would require a battalion-wide MDMP to synchronize staff and company efforts to accomplish that task. A Key Leader Engagement (KLE) to communicate the battalion narrative to Afghan tribal leaders would require the use of TLP.

One of the major goals of design is collaborative creativity by the commander and staff to develop innovative approaches to solve and manage the problems that were derived from understanding the operational environment. The ADM was developed in order to enable commanders and staffs to be innovative in overcoming the complex problems facing the Army in its world-wide mission post-9/11. In framing the problem space the staff identifies a system of problems, not a single problem. This system of problems is the catalyst for developing those “possible combinations of actions” described in ADM doctrine. Solutions are continuously refined and synchronized in time and space as operations are conducted. The Operational Approach addresses a broad range of actions in a nonlinear manner. Conversely,

MDMP and TLP are focused on specific mission related tasks and thus are more linear and narrowly focused to achieve a specific purpose or tactical outcome. The outcomes from specific MDMP and TLP related activities must be captured and assessed through the implementation of a coherent organizational learning system. The learning and assessment imperative will lead to continuous micro refinements of the ADM products and potential reframing activities if the understanding the unit leadership possesses no longer matches what is manifested on the battlefield.

In the Spring of 2012 there was a significant increase in the conduct of attacks on US forces by members of the Afghan National Security Forces, termed "Insider Threats." In preparation for deployment to Afghanistan one Brigade Combat Team conducted an ADM effort focused specifically on countering Insider Threats. The goal of the commander and staff was an operational approach that would reduce the Insider Threat to the US force. The slide shown here provided by a unit represents the results of developing a set of solutions for inclusion in the operational approach. These actions

Methods of Decreasing Insider Threats

- ❖ Background Checks of ANSF
- ❖ Re-Vetting of ANSF
- ❖ Re-Vetting of Afghan Local Police (ALP)
- ❖ Deployment of Counterintelligence Teams
- ❖ Screening Returnees from Leave
- ❖ Improved Intelligence Sharing between ISAF and ANSF
- ❖ Cultural Training
- ❖ "Get Closer to Your Afghan Partner"
- ❖ Guardian Angels
- ❖ Loaded Weapons
- ❖ Increased Training in Shooting Skills
- ❖ Safe Zones
- ❖ Pressure the Afghan Government and Military
- ❖ Afghan Embarrassment

Figure 18: Set of Solutions integrated with MDMP

were then integrated into all MDMP and TLP driven operations during the rotation. The operational approach incorporates the elements of operational design and as ADRP 5.0 suggests, often is depicted using lines of effort. In Figure 19 shown below, a unit has identified four major lines of effort, aimed at the four major assemblages identified through their environmental and problem framing. In this case those lines of effort are Coalition Forces, the Afghan National Security Forces, the Government of Afghanistan, and the Enemy forces. Along each line of effort they have arranged the actions necessary to overcome the problems identified that may prevent realizing the desired end state on the far right of each line of effort. Each of those actions with each line of

effort will be conducted as the result of detailed planning through MDMP or TLP. The vertical arrows depict the necessity to synchronize efforts in each line of effort in time, space, and purpose.

In summary, the outputs of the ADM are the operational approaches that are developed as solutions to the problems identified in the operational environment. The

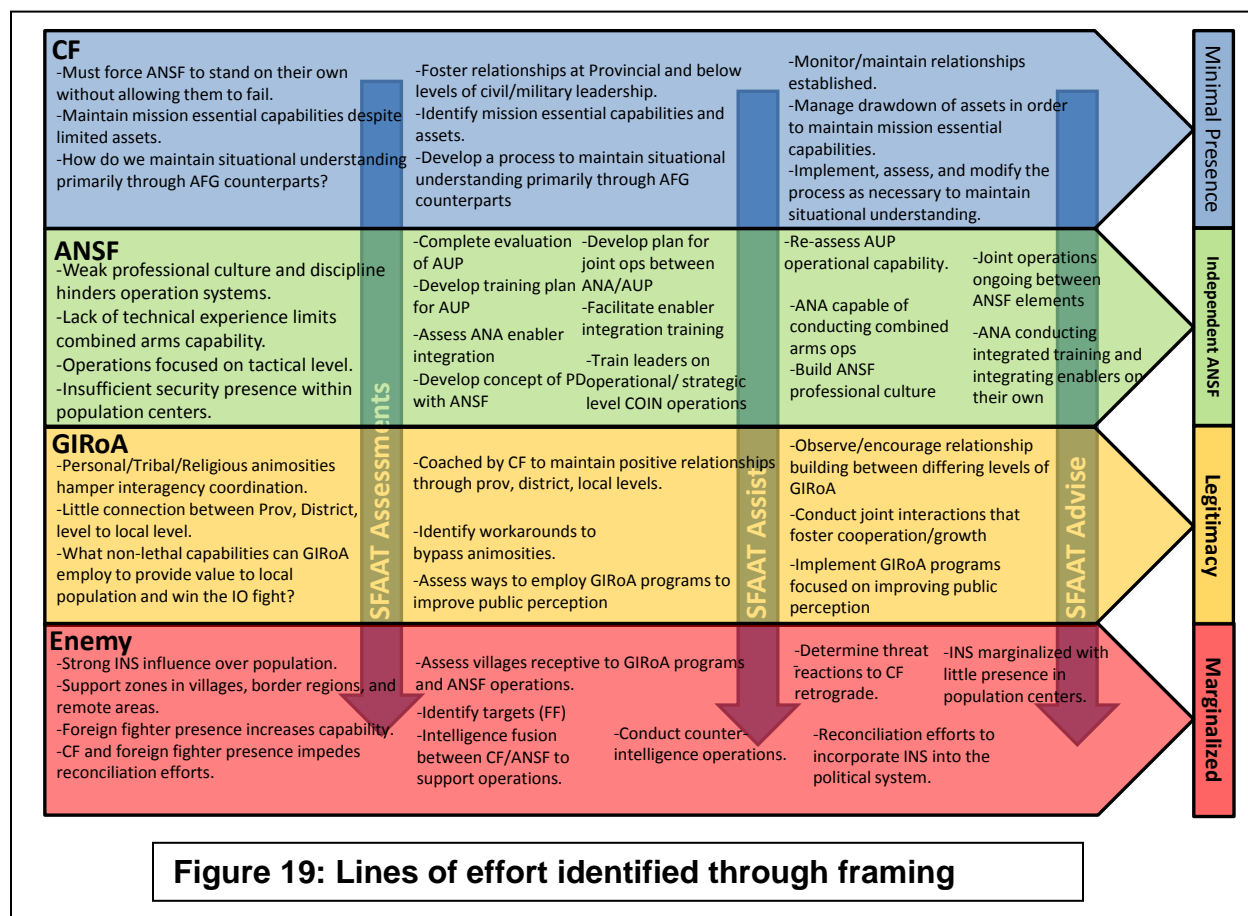


Figure 19: Lines of effort identified through framing

operational approaches are included in ADM products that include all the products resulting from the environmental and problem framing in ADM, as well as the guidance and intent the commander has developed through his or her leadership of the ADM. The products then inform the execution of detailed planning via the MDMP and TLP. As operations driven by orders resulting from MDMP and TLP unfold, the organization assesses its efforts. As a result of those assessments the situation may arise such that the environmental and problem situation understanding resulting from the ADM is no longer deemed accurate and valid. At that point, a reframe is required, which is the topic of the next section.

Section 8 – Reframing

During operations, commanders decide to reframe after realizing the desired conditions have changed, are not achievable, cannot be attained through the current operational approach, or because of change of mission or end state. Reframing provides the freedom to operate beyond the limits of any single perspective. Conditions will change during execution, and such change is expected because forces interact within the operational environment. Recognizing and anticipating these changes is fundamental to Army design methodology and essential to an organization's ability to learn. (ADRP 5.0, p. 2-11)

Observed and reported practice suggests that reframes are most often used during deployment or rotation in a combat environment. Doctrine implies that a reframe can be initiated by the work of the commander or the staff, but in practice the commander directs and guides reframing activities in the same way he or she does the original Design effort, based on a realization that the current depiction of the operational environment does not correlate to experienced reality, and the logic of action underpinning the operational approach is no longer valid. The role of the commander in the decision to reframe is critical because ultimately a reframe will affect the planning, coordination, execution, and assessment of every operation or administrative/logistical task performed by the unit from that point on. All MDMP and TLP efforts that follow a reframe will be informed and shaped by the new understanding of the operational environment and problems and the new operational concept that results from the reframe.

Assessment is the determination of the progress toward accomplishing a task, creating an effect, or achieving an objective (JP 3-0). Assessment precedes and guides the other activities of the operations process. Assessment involves deliberately comparing forecasted outcomes with actual events to determine the overall effectiveness of force employment. More specifically, assessment helps the commander determine progress toward attaining the desired end state, achieving objectives, and performing tasks. It also involves continuously monitoring and evaluating the operational environment to determine what changes might affect the conduct of operations. (ADRP 5.0, p. 5-1)

Reframes are usually signaled by the results of assessments. How and what to assess should initially be signaled by the results of the environmental and problem framing. Units assess progress against their desired end state developed in the environmental frame. Measures of performance signal such progress and must be developed, along with the means to conduct the assessments. Units assess their

success in overcoming the problems identified in the problem space through measures of effectiveness, which again must be developed along with the means to assess that effectiveness.

Many units have used the ADM to frame their operational environment, system of problems, and to develop an operational approach prior to major deployments. Once deployed the units apply MDMP, TLP, and targeting meetings to make decisions and direct operations. The challenge is that over time the environmental and problem framing that were initially conducted become less relevant as actions by friendly, enemy, and non-combatants alter the environment. Periodic updates to the ADM products can keep the environmental and problem frames relevant. This in turn contributes to adaptations to the operational approach and directly informs MDMP and TLP for upcoming operations.

Some deployed units have built periodic updates of the environmental and problem frames into their battle rhythm. Most units have regularly scheduled weekly or bi-weekly operations and intelligence (O&I) updates or targeting meetings. Some commanders used these meetings to update their ADM products. One commander substituted design updates for his weekly O&I meetings. Another instituted an environmental frame update every other week. Still another substituted design updates for targeting meetings. In each case, the objective of these commanders was to make their MDMP and TLP directed actions more effective by ensuring that the basis for action was rooted in an accurate understanding of the operational environment and system of problems they faced while deployed.

**Deployed Battalion
Commander**

“We instituted a design update every week because we could see that the environment was changing. We only held four targeting meetings during our entire deployment. Those were the best targeting meetings we ever had, because they were informed by the design.”

The starting point for a reframe is the current situation and environment. To initiate a reframe the commander issues initial guidance, similar to the initiation of the original ADM effort. The staff then “wipes the white boards clean;” that is, in discourse with the commander the staff reframes their understanding of the environment, the problem space, and develops a new operational approach that will overcome the challenges that precipitated the reframe. Typically, operational necessity drives the reframe to be conducted in a more compressed timeframe than the original ADM. The challenge is to balance the time required for understanding and collaborative innovation with the need to transition to effective operations. Combat operations will require a unit

to continue to conduct missions as it reframes its understanding of the environmental, problem, and solution spaces. The execution of missions in this context is part of the learning that is required to execute a successful reframe. Unit leaders must have continuous contact and interaction with the environment and system of problems to learn about them, and they must then think critically, innovate, and adapt continuously in an effort to generate the most effective operational approach to emergent battlefield conditions.

In summary, reframes are conducted at the direction of the commander when the unit's understanding of the environment and its problems no longer conforms to the reality on the ground. Reframes are signaled and informed by assessments, which must be

deliberately planned and executed. Reframes result in a new conceptual understanding of the environment and problem situations and a new operational approach that informs and guides subsequent MDMP and TLP. The products and tools of a reframe are similar to the products of the initial ADM and that is the topic of the next section.

A Reframe Example

A battalion had conducted a deliberate ADM planning effort prior to deployment. After 60 days in a province in Afghanistan the battalion leadership collectively realized that the problems they had identified in CONUS were not the problems they were confronted with on a daily basis. The battalion commander directed a reframe and the battalion derived a more relevant system of problems and planned and conducted subsequent MDMP operations that were highly successful.

Commanders and staffs document the results of Army design methodology to inform more detailed planning. Key outputs of Army design methodology conveyed in text and graphics include: Problem statement, initial commander's intent, and planning guidance, to include an operational approach. (ADRP 5.0, p. 2-10)

Section 9: Planning Tools

Graphics and Narratives- Throughout execution of the ADM the staff develop graphics and narratives to convey their increasing understanding of the operational environment, system of problems, and system of solutions. Graphics enable visual understanding of complex systems, problems, and relationships. What graphics will not do is provide the knowledge required to transfer the understanding generated during ADM work that is necessary for detailed planning and decision making. To provide that level of detail and understanding the staff must write a narrative. The graphic and the narrative taken together provide the understanding necessary for the Design operational approach to

be developed and in turn inform the MDMP and TLP. In the figures shown here a Brigade design team preparing for deployment to Afghanistan developed a graphic that portrays their understanding of the economic system, or assemblage, within their operational environment. The accompanying narrative provides their researched understanding of the tax system that is a component of that larger economic assemblage within the province. The graphic and the narrative support their design problem and solution work and in turn

inform the MDMP, in particular Step 2 (Mission Analysis), Step 3 (COA development), and Step 4 (COA Analysis). The economic graphic and narrative also support TLP by providing the junior officers, NCOs, and Soldiers with an understanding of the economics in the environment in which they will operate, patrol, and interact with the population.

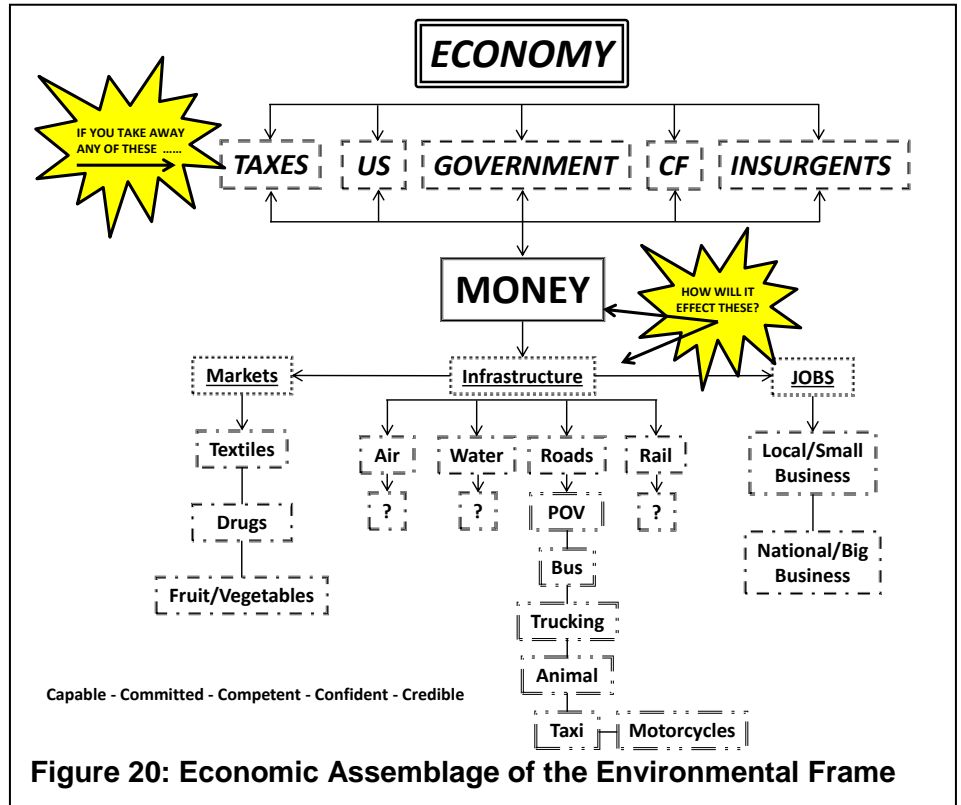


Figure 20: Economic Assemblage of the Environmental Frame

Narrative - Taxes

Taxes: In the early 1980s, Tax collection was essentially disabled by the disruption caused by fighting and mass flight. Under the Taliban, arbitrary taxes, including those on humanitarian goods, were imposed. Currently Afghan tax collections only account for 30 percent of government revenue. The rest is foreign aid.

Afghanistan Tax Revenue was at a level of 66.59B in 2010, up from 31.36B from 2009. This is a change of 112.4% . Afghanistan Taxes on Exports was at a level of 19.63M 2010, up from 6.086M from 2009. This is a change of 222.5%.

KABUL, 25 February 2011 (IRIN) - The Ministry of Finance (MoF) has called on all local and international NGOs to pay their taxes promptly or face legal consequences, including fines and a revocation of their operating licenses. Over 2,400 local and international NGOs are present in Afghanistan and MoF says all but a few are liable to pay tax.

“NGO staff salaries [national and international employees], office and residential rent, contracts and other economic and financial activities are subject to tax,” Najib Manalai, an adviser to MoF, told IRIN, adding that NGOs were exempt from corporate income tax due to the non-profit nature of their work.

Taxes on NGOs generate over 1.5 billion Afghanis (about US\$33 million) of revenue for the treasury annually, according to MoF.

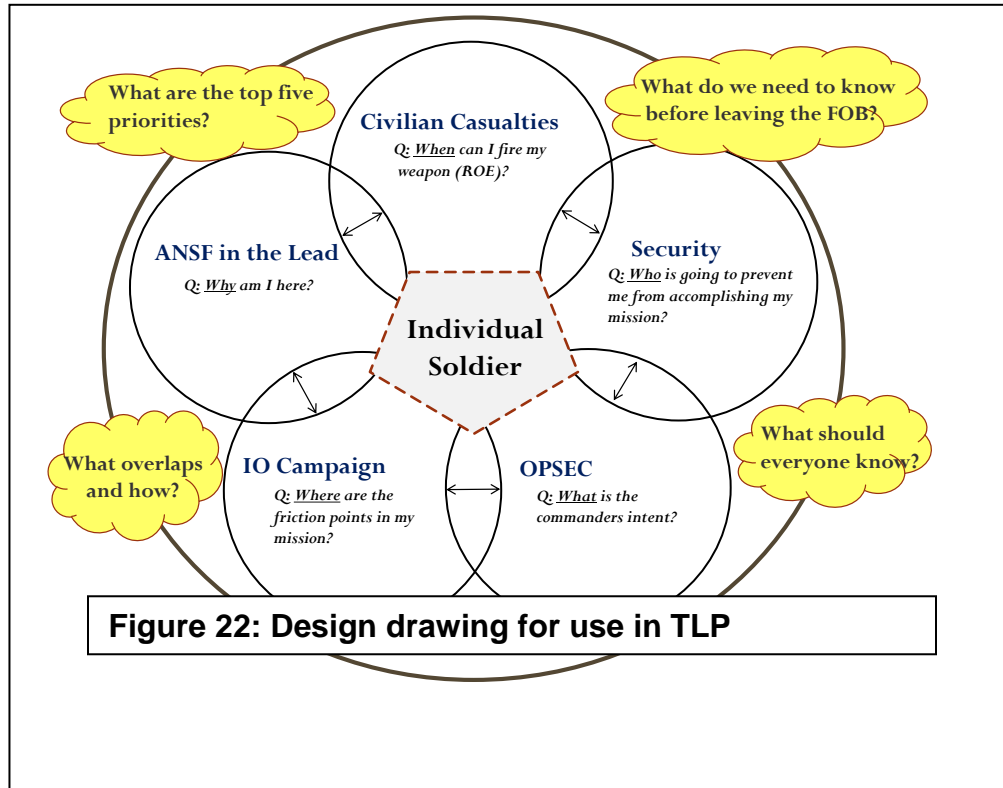
Pakistan comparison: The government is seriously indebted -- and only 1.9 million people in a country of 170 million filed tax returns at all in 2010. An estimated 10 million people are registered to pay taxes in Pakistan; the great majority don't pay a rupee.

BLUF: Removal of the current tax system in Afghanistan would hinder the Economy and greatly slow down the process to build up the countries infrastructure. Corruption, misuse of funds and a general dislike of the taxation system takes away from the overall effectiveness of what taxes bring in.

Figure 21: Narrative on Tax Category of Economic Assemblage

Planning Tools and Products – One slide Design drawing for TLP

Integrated planning ultimately must translate into actions by Soldiers and small units to transform vision into reality. That only happens if those same Soldiers and small units understand that vision and, as importantly, understand the complexities of the environment in which they operate. TLP by themselves do not provide the higher commander's vision or understanding of the environment. However, Design drawings produced by higher headquarters can assist Soldiers and small units to understand both the commander's vision and



understanding of the environment. In the example at right, during a battalion Design effort the Command Sergeant Major developed a single drawing that could be provided to every Soldier, squad, team, and crew to ensure that while they had not participated in the Design effort they were able to use the results of the Design in their preparation for operations via TLP and in their decision making while executing operations. The drawing avoids the complexities of mind maps and other staff planning tools and provides the Soldier and small unit with a simple set of priorities that are enduring and applicable across the force, regardless of MOS or duty position.

Planning Tools and Products – Using Design drawings to inform MDMP and TLP. Sketching towards understanding.

Design drawings are a way to see and understand the complexities of our environment. Another excellent and useful technique for developing forward progress in the team is to focus, on occasion, deliberately on a specific form of drawing or sketch. There are generally three forms that can be used – the

design drawing, the presentation drawing, and the production drawing. The design drawing is frequently the emergent sketch from the actual work of designing – frequently multiple sketches presented by factions or sub-groups to a common shared understanding discussion by the larger group.

Individuals may also provide specific design sketches of work they were assigned.

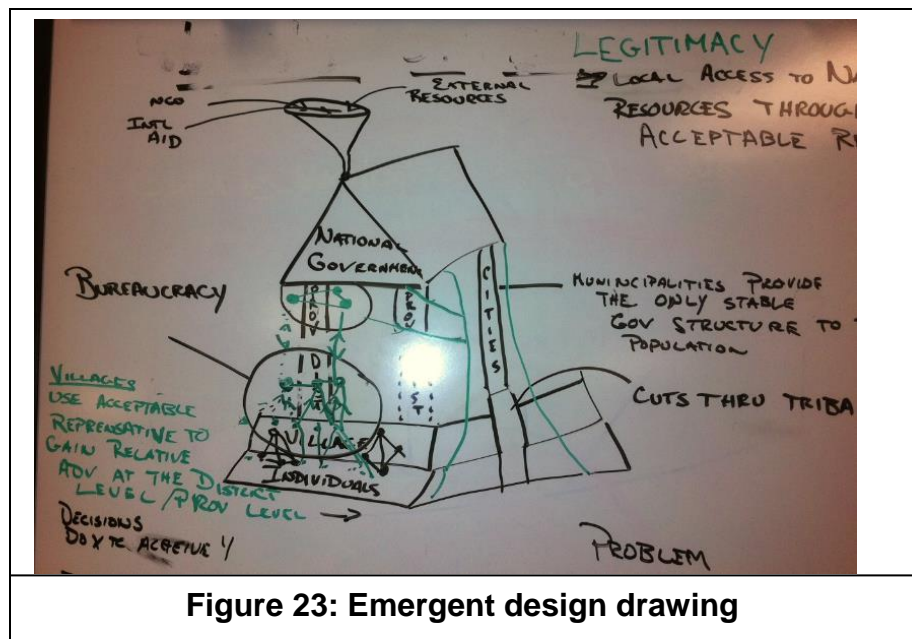


Figure 23: Emergent design drawing

The presentation sketch is generally used to present understanding of the design team to an outside-the-team individual, frequently the organization's commander or more senior commanders. These are difficult sketches, but in the challenge of creating understanding in a person (not in the design team), the team itself frequently hones its own understanding of the issues at hand. The key principles to effective presentation sketches include using commonly understood, doctrinal terms to describe the understanding. Using words only understood by the design team will not aid the understanding of those not intimately involved in the design itself.

The production sketch, likened to a blueprint or a contractor's drawing, is the tool used to transfer action to members of the organization outside the design team. In a manner similar to the presentation sketch, the creation of a production drawing will frequently hone the design team's understanding of the issues. Design drawings are developed by the design team during the design effort and then passed with a comprehensive narrative to the staff for use in the MDMP. While there is no set format for design drawings, there are several techniques that enable staffs to use drawings to express their understanding. Design drawings should illustrate the relationships and interdependencies

between components of systems. Design drawings should illustrate the staff's understanding of how systems operate in each of the three design spaces. Design drawings employ metaphors to suggest the character of a system. The design drawings shown above were developed by a staff to illustrate the complexities of the environment in Afghanistan in which the unit intended to promote the legitimacy of the government. There are several metaphors in use in the picture. One is the funnel into which international aid and external resources are being poured into the country. The second is the use of the house to illustrate the government. The individual and the tribal village are the base upon which the house is built, the provincial, district, and city governments hold up the national government. The design drawing also captures connections such as that of bureaucracy and non-governmental organizations (NGO) and their relationships with provinces, districts, and villages. This design drawing was provided in this format to the staff for use during MDMP.

Some summary is necessary here, prior to an illustrative vignette to convey what research has shown. First, multiple planning approaches were observed. The approach of using ADM as a lead into MDMP/TLP was most frequent, and was time consuming but produced the best plans. Most critical in the integrated operations process is effective transitions. The transitions can be achieved through combinations of good graphics and narratives and requires a comprehensive organizational learning system. Finally, it is without doubt that the commander is critical to successful integrated planning. The commander must establish a climate of collaborative innovation. An illustrative vignette follows.

Section 10 – An Integrated Planning Vignette

The vignette described here is intended to illustrate the components of the integrated planning system working together in the operations process in order to overcome a major challenge to a unit in combat. In this case the unit was a battalion operating in Afghanistan. About a third of the way through the unit's deployment, operations had been progressing smoothly, with little opposition. Then, a series of complex IED attacks changed the battalion's operational environment. The attacks were so successful that the battalion was forced to spend three days simply extracting the unit's elements and recovering damaged and destroyed vehicles and wounded Soldiers. As a result the commander directed a complete reframe of the battalion's existing design. He assembled all members of the planning staff, brought in SME's from both inside and outside the battalion, and spent three days reframing the design through a mini-ADM. His intent was to gain an understanding of the current operational environment, generate a new desired future environment based on the changes in the threat, gain a fresh perspective on the system of problems they faced, and develop innovative solutions to the challenges of significantly increased and effective IED attacks.

The role of the commander in this process was critical. Not only did he make the decision to conduct a reframe, he led the entire process. The staff had been conducting primarily MDMP for several months in support of the battalion's tactical operations. The commander had the staff go back to white boards and start their design all over. He had the staff and SMEs all work in the same space for the entire three days in order to ensure that crosstalk and discourse captured everything they were learning and thinking about. The commander also kept all discussions practical in focus; the battalion needed workable solutions to very urgent problems. The commander also directed that members of COIST teams from each company participate in the reframe. This ensured that subordinate elements had input to and understood the environment, problem situations, and solutions as they emerged from the reframe.

The staff executed a complete reframe of their operational environment, recognizing significant changes not only to the threat assemblage, but also, given renewed popular support to Taliban elements, to the population assemblage. Gathering the staff and SMEs together, the commander led them through the environmental reframe, ensuring they accounted for the physical environment, particularly the variations in terrain across the battalion area of operations and the changing weather as winter transitioned to spring. At the same time they wrestled conceptually with the very complex interdependencies such as those between commercial traffic on Highway 1, the ability of the ANP and ANA to secure the approaches to Highway 1, and the support the ANSF was receiving from specific Afghan tribal and district leadership. The recognition of the interdependencies was the reason the commander had directed a complete reframe. He recognized that the battalion's objectives for their mission could not be accomplished unless they recognized and solved or managed the most complex problems confronting them.

The staff spent even more time on the problem space and the system of problems. They recognized they were confronted by all three different problem types: technical problems such as vehicle recovery, technical adaptive problems such as clearing a route of complex obstacles, and complex adaptive problems such as Taliban freedom of action relative to the US and ANSF forces. They recognized also that the technical problems could be answered through TLP, but that technical adaptive problems such as route clearance were going to require dedicated forces and deliberate MDMP for specific route clearance missions. They also recognized that it was only through the design reframe that they would be able to solve and manage the very complex problems associated with regaining freedom of action.

The main effort of the staff and SMEs was aimed at developing a new operational approach. Their focus was regaining freedom of action, more than just freedom of movement. The staff, acting as a design team with the commander, developed a set of solutions that included a range of options, from taking advantage of air-mobility to improving the operational coordination of

ANA and ANP. Each of the solutions was developed so that the staff would be able to transition to one or more MDMP to execute the tactical operations necessary to enact the solution. In this regard there was little focus on preparing briefings and more focus on what information was required by the MDMP planning team.

Ultimately the reframe not only produced a new operational approach by the battalion, but also a shift in mindset. That shift in mindset was necessary to change from a reactive stance following the complex IED attacks to a more proactive approach that was aimed at regaining the initiative. As a result of the MDMP and TLP driven operations after the reframe, the battalion secured freedom of action and successfully executed their mission during the remainder of their deployment.

¹U.S. Department of Army. ADRP 5-0 The Operations Process 17 May 2014