Nation Assistance in Kuwait

By Brigadier General Ralph V. Locurcio

In the aftermath of Desert Storm, the U.S. Army Corps of Engineers played a central role in reconstructing Kuwait's infrastructure. The mission of reestablishing life support systems that provided for the safety and security of Kuwaiti citizens was a successful one, and may well be a model for the future. That is, American military assistance to third world countries, followed by nation assistance to restore internal security and enable reform, or preferably, nation assistance in lieu of military assistance to accomplish similar objectives. What follows is an analysis of engineer activities in Kuwait that can be applied to future nation assistance operations.

Background

Anticipating extensive devastation from the Iraqi occupation and subsequent combat action, the Emir of Kuwait formed a government committee known as the Kuwait Emergency Recovery Program (KERP) to manage recovery operations. With functions similar to the Federal Emergency Management Agency (FEMA) in the United States, the committee was headed by Dr. Ibrahim Al Shaheen, who was later named a national minister.

After considering several private contractual options, Dr. Shaheen advised the Emir of Kuwait to ask President Bush for recovery assistance from the Corps of Engineers, with all costs to be reimbursed by the government of Kuwait. The Corps had recent experience in natural disaster recovery after Hurricane Hugo and the San Francisco earthquake. Additionally, it had extensive experience working in the Middle East, along with knowledge of the construction environment and culture. Dr. Shaheen and his advisors assumed that Corps professionals could just as successfully apply their expertise to the devastation wrought by a military disaster. They were right.

On January 14, 1991, as the air attack began and plans for the ground attack to liberate Kuwait

were being finalized, the Corps signed a $45 million Foreign Military Sales (FMS) agreement with Kuwait to begin the process of assistance. The Corps launched the recovery operation from its Transatlantic Division Office in Winchester, Virginia, formerly known as the Middle East/Africa Projects Office, which also provided command, control and logistical support throughout the operation.

Following the liberation of Kuwait in February, the recovery task force, dubbed the Kuwait Emergency Recovery Office (KERO), moved into Kuwait from a staging area in Saudi Arabia. Once in Kuwait, KERO operated under the local direction of the Defense Reconstruction Assistance Office (DRAO) which, in turn, reported to the Department of Defense (DOD) and the U.S. Ambassador to Kuwait for guidance and direction.

"A nation assistance task force cannot operate in a vacuum—even though...constrained by time..."

The KERO team entered Kuwait on March 4, 1991, to commence recovery operations. In the 300 days following liberation, this team, which averaged 140 American and 60 Kuwaiti professionals, placed over $300 million in repair work through contracts with major American and foreign construction firms. Working seven days a week and an average of 12-14 hours per day, they surveyed, repaired, and restored to operation major infrastructure systems and facilities such as the national network of 300 kilovolt (kv) electrical distribution lines.

They also worked on electrical substations, water mains and pumping units, the highway network, sanitary mains, two seaports, the international airport, and more than 150 public schools. Other projects included over 750 public buildings, including police, fire, medical, other service facilities, ministerial headquarters and some defense facilities. The details of the scope and magnitude of this successful operation have been reported in several accounts by national and international media.

What is more important for our Army today, considering the likelihood of future nation assistance operations, is an account of the major

Above: Jim Wong, Army Corps of Engineers, and Suhaila Marafi, a Kuwaiti engineer, inspect electrical damage at Ali Al-Salem Air Base. (Photo by Jonas Jordan)

Far Left: Eman Qaturba, a Kuwaiti observer and Captain Bob Irby inspect power cables damaged by cluster bombs south of Kuwait City. (Photo by Jonas Jordan)

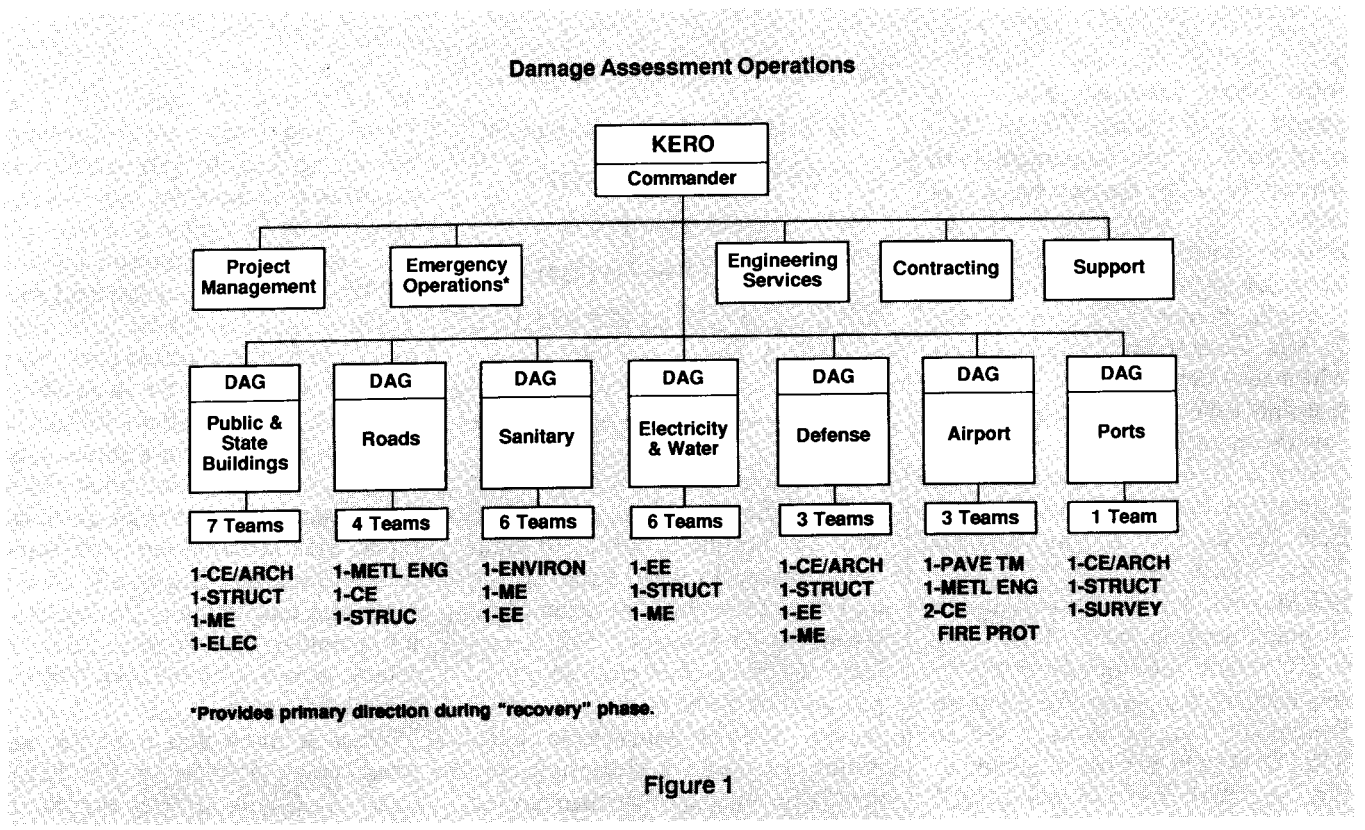

Figure 1

decisions and processes which governed assistance operations in Kuwait. This article will deal with these subjects. In particular, the following will be covered:

- Organization and staffing of KERO
- Programming and budgeting for the recovery
- Contracting
- Logistics
- Political factors and partnership with the host nation

Staffing

In the case of the KERO operation, there was not much time to organize, staff and train the initial task force of approximately 140 Corps employees. These personnel were experienced volunteers from various districts and divisions, who rotated to Kuwait on a three-month cycle. To minimize potential dysfunction and confusion caused by an unfamiliar organizational structure, a decision was made to use the habitual Corps organizational structure for a small district office.

In short, volunteers from various Corps organizations would hopefully arrive in KERO and be comfortable with the working environment with only a situational orientation and very little training. Following this basic premise, KERO used two structural variations, each suited to the particular operations at the time, but both employing a common district headquarters structure.

During the initial survey phase of the recovery, KERO field offices were set up according to Corps Emergency Management practice. Labeled Damage Assistance Groups (DAGs), each had a variable number of assigned Damage Assistance Teams (DATs), depending on the mission of each group (Figure 1). For simplicity, DAGs were aligned with specific Kuwait Ministry sectors: buildings, roads, airport, electricity, water, ports, defense, and so on, according to prewar Kuwaiti management conventions.

Adoption of these conventions simplified interface with the host nation because it made leaders and volunteers from these Kuwaiti ministry sectors readily available to work with KERO. This structure was used for about 45 days while damage survey reports (DSRs) were being completed and contractors were mobilizing. Actual construction during this time was minimal.

During the subsequent recovery phase, when construction management became the dominant operational consideration, a more conventional Corps project management structure, with traditional resident offices to manage contractors in the field, was adopted (Figure 2). This helped ensure that project delivery and contract administration were accomplished according to the Corps' quality standards.

Project managers (PMs) were assigned to each ministry sector in order to coordinate with the appropriate Kuwaiti officials responsible for that sector. Managers were tasked with developing a program for each sector in order to control all projects for that sector, from concept to turnover. For example, all roads projects

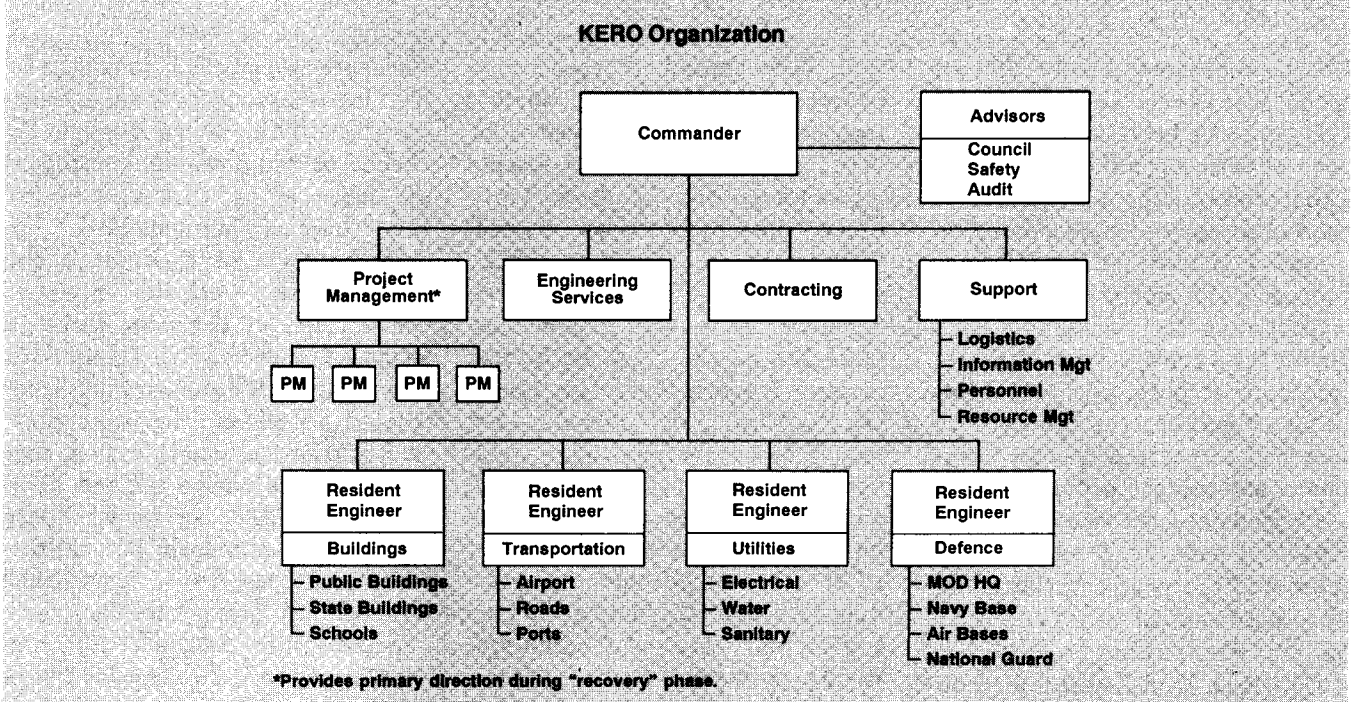

Figure 2

constituted the "roads sector program," which was the responsibility of one PM, who worked with the Kuwaiti official responsible for roads.

The PM established project priorities, developed project and program budgets, and decided project features and quality standards. Each PM also monitored progress through all technical phases (design, contracting, construction), reported on the progress of each project and the entire program, and supervised eventual project turnover.

Purely technical phases of the project life cycle were handled by the appropriate technical divisions within the KERO structure: Engineering Services (analysis, design, estimating, specifications, value engineering, field consultation); Contracting (contract preparation, solicitation, review, award, small business administration), and Resident Offices (construction management, contract administration, modifications, claims resolution). Other professional elements such as counsel, safety, and audit were also present on the KERO team to round out the professional package and ensure timely project completion.

All of these decisions proved to be correct and advisable for future operations, but there were a few problem areas. For example, the conversion from DAGs to Resident Offices proved somewhat problematic as new roles and responsibilities were sorted out. Similarly, the decision to rotate field level engineering professionals every three months was a difficult—but workable—staffing concept.

On the other hand, rotation of key leaders such as deputies, division chiefs, resident engineers, the chief of project management, the resource manager, and the property book officer, proved extremely disruptive. In future operations, key personnel should be selected for the duration of the operation, or not less than a six-month tour with a minimum overlap of at least one week.

Programming and Budgeting

When KERO began its work, there were no operational governmental agencies in Kuwait to accomplish the normal budgeting actions necessary to fund a large-scale national reconstruction program. It didn't take long for KERO to obligate or expend the original $46.3 million FMS funding. Within 45 days, KERO was essentially out of funds and in need of additional authority to continue operations.

Extremely cost conscious, as any nation would be in this situation, Kuwait requested an accounting of all funds on a monthly basis. Later, they asked for a complete financial summary prior to granting any request for additional funds. To meet those requests, an efficient method of managing and displaying project information and funding status had to be developed quickly. Similarly, more than 1,000 damage survey reports had served to inventory, record and quantify the damage, but a system of managing this information was needed.

Using standard software packages and lap-top computers operating on generator power,

KERO engineers developed and implemented a computerized project data base within a few days of their arrival in Kuwait. A substantial achievement, this data base allowed field engineers to add or modify project information as field work, estimates or construction was completed. This gave PMs a continuously accurate information base and the capability to manipulate the data as required to prepare budget documents and reports rapidly.

Project data was sorted by the Kuwaiti ministry sector and presented to the appropriate ministry representatives for decisions on priority, timing, and scope. KERO PMs soon found that their counterparts, doing their best despite a lack of time, staffing, information, and facilities, were unable to respond quickly to such requests.

Working feverishly against time, KERO PMs and resident engineers collaborated to organize a prioritized line item repair program for each ministry, based on their acquired understanding of the ministry's function and the known damage. The PMs then presented these programs to the respective ministry authorities for approval. Once approved, individual programs were organized into a nationwide KERO repair program and briefed to DRAO and the KERP central committee for funding. This entire process was accomplished in little more than one week for the augmented $212 million KERO budget for 1991-1992.

Later, the KERP committee reserved the authority to adjust funding among programs, but allowed KERO some flexibility to move funds within a program, provided the committee was notified. This process was summarized and reviewed in biweekly meetings with the KERP committee which also served to monitor progress, and add or delete projects.

To stay abreast of fast-moving project operations and funding transactions, it was necessary for KERO and DRAO to hold weekly in-process reviews (IPRs), similar to Corps monthly project review boards. Again, the data which formed the basis for these reviews emanated from the project data base. This was manipulated to form project management summaries, bar chart program schedules, key project fact sheets and other management documents. This same automated system of reports was used to inform higher headquarters, DOD, the ambassador, Kuwaiti ministers, and other interested parties on the status of projects and KERO operations.

Overall, several salient features of the budgeting operation should be noted for future operations. First, a computerized and flexible project management data base was needed from the very start of operations. This system enabled KERO managers to convincingly demonstrate their control of projects and costs. Secondly, KERO task force engineers were frequently close to the action and well versed in project details. Consequently, they were the best qualified personnel to develop and defend budget requests.

Finally, frequent communications with host nation decision makers were established to obtain program decisions, ensure acceptability of plans and operations, provide information, develop good working relations and establish credibility. A nation assistance task force cannot operate in a vacuum—even though they, and the host nation government, may be constrained by time as a result of the crisis.

Contracting

Speed and, later, control were the driving forces in all KERO contracting operations from the outset. KERO staffers planned for a 45-day competitive emergency contract award cycle to be executed from Saudi Arabia. They were eventually forced to use a 10-day contingency plan when the war ended more quickly than expected.

Working nearly around the clock and without specific knowledge of the conditions in Kuwait, the KERO staff, with their Kuwaiti counterparts, completed necessary project scoping, solicitation, prequalification, and proposal evaluation actions. They awarded eight letter contracts worth approximately $25 million within this extremely compressed time period. These letter contracts were further defined after mobilization, once the actual scope of the repair mission was known.

To divide the work among the contractors, Kuwaiti projects were organized into either functional or geographic work sectors according to prewar work management conventions. Consequently, the eight contracts were divided among the following areas: general building repair (in three areas of the city); road repairs; sewer/water pipe repairs; port surveys; electrical repairs, and specialized building repairs. Because this scoping followed pre-war conventions, the Kuwaiti government management structure was perfectly aligned to participate in decisions and to later take control of operations.

Because these letter contracts were essentially cost-plus instruments, a precise method of controlling and documenting the flow of work to the contractor was required once construction operations began. For control and contract administration, the original DAGs were converted to standard Corps' resident offices once mobilization was complete and construction began in earnest.

For the purpose of passing specific work requirements to the contractors, the DSRs prepared during the survey phase were

Construction crews repair Nulseeb Road near the Saudi border. (Photo by Jonas Jordan)

converted into work orders. These documents resided in the project data base. They were reviewed and modified to define the exact scope and estimated cost of work orders, and serve as the plans and specs during construction. They ultimately provided the basis for final negotiations on price and time.

As the operation progressed, larger projects were individually advertised to enhance competition and encourage participation of both American and Kuwaiti small businesses. However, this conversion to individual competitive contracting was extremely difficult with the limited KERO staff. By this time, more than $100 million in cost-plus contracts, with well over 150 active modifications, were in progress. In addition, the time required to formulate, advertise, and award a competitive, fixed-price contract to an uncertain group of bidders was both risky and prohibitively time con-

The system of dividing the country into work sectors served reasonably well during the early stages of the Kuwait recovery and kept the contractors geographically separated. However, in future operations this geographical orientation should be discarded after a brief period of construction. Additionally, more general contractors should be employed during the middle to later stages of the recovery to enhance competition. That is, if the projected work flow and funding can justify the cost of additional contractor mobilization. If this is possible, proposals for individual work orders could be offered to competing contractors for greater cost efficiency.

As a rule of thumb, each general contractor must see a potential workload of $50 to $100 million to justify mobilization. In the case of Kuwait, the contracting operation was initially sized for a $50-$100

information available at the time and guidance from Kuwait. The eventual $300-$400 million workload could not have been forecasted accurately enough to justify the risk of additional mobilization. In fact, as many as ten contracts were considered at one point, but the option was discarded because the cost of mobilization would have consumed an inordinate percentage of funds available for construction.

Another contracting method worthy of consideration is job order contracting. This method awards an indefinite delivery, general construction contract based on competitively bid, fixed-unit prices. Actual quantities are specified in the field via delivery orders generated from damage survey reports or similar documents. The unit prices are fixed upon award, except for out-of-scope work, which is negotiated as a modification.

two-fold. First, the considerable up-front work involved in preparing the unit price contract specification for solicitation, award, and administration is time prohibitive unless this data is already available and computerized from prior work experience in the region.

Second, as with other fixed-price contracting, the method presumes at least general knowledge of the scope, cost and availability of materials, labor and other factors which mitigate the risk of a fixed-price bid. In the case of Kuwait, even if the voluminous specifications could have been prepared and distributed in time, it is doubtful that contractors would have accepted the considerable risk of a fixed-price contract since virtually all pricing factors were unknown.

In retrospect, it appears that some form of cost-plus contracting is inevitable in an operation such as this. The instrument must be flexible enough to shape the scope of the work as it becomes known, responsive enough to meet the urgency requirements of the crisis, and yet controllable enough to ensure cost efficiency. Staffing plans must consider these factors and allow sufficient government staffing for adequate contract supervision, administration, and—most certainly—audit.

The role of auditors very early in the contract operations scenario cannot be overemphasized for cost-type contracting. While engineers are supervising contract execution, the auditors can shape the allowable range of contract overhead and specify the level of cost and pricing data required to support the contractor's costs. The sooner these parameters are established, the sooner an efficient flow of modifications, negotiations and eventual contract close outs can be established.

Logistics

Engineers are not logisticians, and even great and dedicated engineers cannot do a day's work, let alone several months of intensive work in a hostile environment, if they cannot eat and sleep properly. For example, the valuable data base previously mentioned required computers, generators, copiers, paper, cartridges, and spare parts on a daily basis. In short, the success of an operation of this magnitude and duration revolves around the efficiency and effectiveness of its logistical operation.

The KERO planning team, working with Transatlantic Division, had to assume that nothing would be available for use in Kuwait, except perhaps a building shell to serve as a shelter. Since KERO was an ad hoc TDA organization which did not exist prior to this operation, it had no organic equipment and no property book. Further, since all costs were to be borne by the Kuwaiti government, new equipment would have to be purchased on short notice with Kuwaiti funds and subsequently turned over to Kuwait when the mission was completed.

Everything needed to sustain KERO operations for 30 days, from vehicles to copiers, and personal hygiene products to food and water, had to be purchased in Saudi Arabia in the same 10-day period mentioned earlier, and loaded on semi-trailers for the journey to Kuwait. It's hard to describe the expression on a local automobile dealer's face when a KERO purchasing agent walked into his showroom on 18 January and purchased 62 4x4 vehicles for immediate delivery. Overall, virtually nothing was forgotten in over 4,000 line items needed to support operations.

As a result, the KERO team was able to conduct self-sustained operations almost immediately on arrival. However, even the best planned operation is not perfect. A rapid resupply base must be available to replenish critical items which cannot be found locally, or to satisfy new requirements which develop as the operation matures and changes. This function was accomplished by Transatlantic Division in Virginia, using commercial air cargo resources via a sister office in Dhahran, Saudi Arabia.

Two aspects of this logistics tale deserve special consideration in future nation assistance operations. First and foremost, the equipment used by the team is host nation property and must be treated as such. Accountability, maintenance and repair, and the general condition of host government property are all key components of the image of quality performance which the task force seeks to leave behind. The reputation of the Corps and the U.S. Army is at stake.

Similarly, the crisis situation notwithstanding, the host government does not want a rag-tag outfit operating in its country, exposed to its own population and the world media. Both of these factors are political indicators of the strength of the host government and its recovery operation, and deserve careful monitoring. Translated into day-to-day operations, this means strict care of equipment and rapid attention to repairs, housekeeping, uniforms and the like.

Another logistical consideration which deserves careful attention is "the cost of doing business." Again, notwithstanding the crisis environment, the recovery operations must be sufficient for quality operations but not extravagant.

In KERO operations, the target was to hold pure overhead costs to less than 10 percent of all expendi-

tures. KERO engineering salaries were charged to projects as direct costs wherever possible. Consequently, actual overhead costs came in around 8 percent, which was eminently satisfactory to the Kuwaiti government. This figure does not consider the salvage value of approximately $2 million worth of vehicles and equipment. They will ultimately be returned to the Kuwaitis to produce a final overhead figure of around 7 percent.

Politics and Partnering

There is no question that operations like this have political overtones at all levels which must be carefully managed. Engineers are dealing with vast cultural differences which, in spite of the unbridled goodwill exhibited by all participants, could easily result in disagreements and lasting misperceptions. After all, aside from the humanitarian relief afforded by the nation assistance effort, the only lasting benefit for American national interests is the goodwill and lasting working relationships generated by the engineering management process. These are political rather than construction products.

The first and foremost consideration for a lasting professional image was the quality of construction provided. Early on, during the heat of the crisis phase, there was tremendous political pressure to conduct only emergency repairs to facilities so that limited funds could be spread over many project areas. Experience has shown that for all but the smallest repairs to facilities, this tolerant "crisis" attitude will subside long before the completion date of the work.

Consequently, in the calm, post-crisis environment, the user may not recognize this emergency scoping as quality construction, and he will complain bitterly that he has been served with shoddy work. Such problems need to be resolved immediately, on the ground, with the customer—preferably in his favor—rather than through administrative appeals. This is especially true for major programs which affect large groups of citizens, as these projects justifiably receive close scrutiny and media coverage. Here, a strong, involved, and active public affairs officer can ensure balanced coverage so that such problems do not receive undue attention.

A corollary of this concerns project selectivity. All projects do not have equal value in light of U.S. political and national security objectives and values. The same is true for the host nation population. Progress will undoubtedly be reported by the American media, and consequently every project in the Corps program must appear as beneficial to Americans as to the host country. The validity of the support provided must always appear justifiable and humanitarian to the supported population, and to the American taxpayer. These media observers, who shape political decisions through public opinion, often will not give sufficient consideration to the intricacies of the project approval process.

In general, projects acceptable for U.S. government construction will suffice for the host nation population. In other words, projects which support major population segments, versus those which satisfy the goals of special groups, are usually acceptable.

On the other hand, planners should not be complacent and say "it's their money, they can do what they want with it." Some citizens of host countries may easily accept the use of government labor to work on private projects as one of the perks of high office. It may even be sanctioned legally, but such practice would never be condoned or understood in the U.S., and should be avoided. For example, work on private residences, ornate buildings, and VIP facilities should be avoided unless there is an overriding and unmistakable social value. In Kuwait, reconstruction of the national parliament involved very special and expensive construction and furnishings. But the overriding value of providing a necessary and suitable facility for the return of democratic government in Kuwait was universally acceptable in both the U.S. and Kuwait.

As a general rule, U.S. forces should always be used for the "highest and best" purposes which afford the maximum positive image and the least risk, political or otherwise, to our government and our personnel. Projects which do not fill this criteria should be recommended for construction by private contractors working directly for the host government. Close cooperation with the U.S. ambassador and his staff will serve to provide the political sensitivity necessary to properly screen projects.

A second consideration for construction managers is the political problem of "who's in charge" of the nation assistance effort. Clearly, the host nation must be in charge, and U.S. elements must keep this steadfastly in mind. This is not as trivial as it appears because engineering judgments, which we make routinely and frequently without asking, are often driven by our own cultural imperatives—which may not be valid in the host nation.

For example, Americans, as a general rule, value time more than money—especially in crisis situations. Eastern cultures are much more patient. Cost and perceived value are more important than time, and this difference can cause major disagreements and the misperception that Americans are not good managers.

A corollary to this example is the role of true partnership with host nation managers. In the case of Kuwait, the host nation managers were adamant about having a partnership with the Americans. This desire stemmed from their need to direct their own destiny in a professional way, and from their sincere desire to learn the American way of managing a project.

True partnership was relatively easy to achieve in field engineering activities through the use of Kuwaiti volunteer engineers who were assigned to KERO. These engineers worked side by side with their American counterparts throughout the entire recovery operation and shared every experience. Consequently, the Kuwaitis and Americans developed a mutual understanding of each other, and from that came the respect and trust which formed a true partnership.

That is not to say that problems didn't exist. There were many differences in work practices, compensation, privileges, and housing arrangements—all of which were potential areas for discord. These were discussed as each case arose and a conscious effort was made to ensure that both Kuwaitis and Americans followed the same rules and practices.

At the managerial level, the partnership was equally important but harder to achieve because of the complexity of managers' responsibilities, and the time constraints on their respective schedules. The individuals involved had to make a concerted effort to include their counterpart in any and all decisions pertaining to the recovery program.

This usually caused a time delay and additional discussions. But the time was well spent because it prevented later misunderstandings and delays during construction. In fact, in almost every case where consensus on policy was not achieved prior to a construction decision, there were misunderstandings and delays during the critical—and more costly—construction cycle.

Finally, the task force commander can also expect considerable attention from DA, DOD and the U.S. Congress. These agencies all require current and accurate information on all operations to fulfill their responsibilities and answer constituent questions. Consequently, a comprehensive, rapid, and preferably automated reporting system must be developed early on.

In Kuwait, both Transatlantic Division and the Defense Reconstruction Assistance Office (DRAO), utilizing reports from KERO, interacted directly with these agencies to provide accurate information, answer inquiries and relay sensitivities to KERO. This allowed KERO to concentrate on engineering and construction activities rather than external coordination.

Conclusion

To sum up the Kuwait experience in a few words is difficult. There were so many lessons learned that this article can only scratch the surface. Some general thoughts are important, however.

First of all, as an intergovernmental operation, the Kuwait experience was a tremendous success. The humanitarian spirit of the participants easily bridged cultural and professional differences and paved the way for close cooperation and good working relations. What resulted from this cooperation was the prospect of a long-term relationship—based on trust and goodwill—that is probably more important than the operation itself. Of paramount importance to these excellent working relations was the responsive and accountable support of the engineering management structure in KERO. Budget documents and funds accountability were precise and convincingly accurate. This is of cardinal importance to the establishment of trust with the host nation.

Second, a true and honest partnership in all engineering decisions eliminated potential misunderstandings which could easily have delayed construction and undermined the completion of key projects.

Finally, free and open communications with all parties ensured that both U.S. and Kuwaiti government officials—and their constituents—understood exactly what was happening as the recovery progressed.

The Kuwait recovery was a satisfying and professionally exciting experience for all who had the opportunity to participate. As an intergovernmental experience, it holds promise for future application, not only in the aftermath of a conflict, but potentially as a conflict management or conflict reduction mechanism which warrants serious consideration.

Brigadier General Locurcio is commander and division engineer of the Pacific Ocean Division, Army Corps of Engineers. He previously served in the Persian Gulf as commander of the Corps' Transatlantic Division's Kuwait Emergency Recovery Office (KERO). Other assignments included commander and district engineer of the Corps' Savannah District and Philadelphia District, and assistant director of construction at Army Corps of Engineers Headquarters. He has also served in several troop assignments in Germany and Vietnam. He is a graduate of West Point, and holds a master's degree in urban engineering from Purdue University. He is also a graduate of Command and General Staff College and the Army War College. He is a registered professional engineer in Virginia, Pennsylvania, and New Jersey.