



The Open Construction and Building Technology Journal

Content list available at: <https://openconstructionandbuildingtechnologyjournal.com>



RESEARCH ARTICLE

A Systematic Methodology for Pre-Reconstruction Planning in Post Conflict Scenarios

Ghassan Al-Chaar^{1*} and George Calfas²

¹Materials and Structural, Construction Engineering Research Laboratory, Champaign, IL 61822, USA

²Environmental Processes Branch, Construction Engineering Research Laboratory, Champaign, IL 61822, USA

Abstract:

Aim:

This study aims to assist in planning the preliminary phases of pre-reconstruction. The pre-reconstruction phase is critically important to the success of any reconstruction effort.

Background:

The period of reconstruction following armed civilian conflict, military operation or natural disaster is a critical window of opportunity to bring stability and normalcy to a region. Stability not only depends on resilient infrastructure, but also on reliable political systems, a national identity, and an able population to sustain the economy and system of governance.

Methods:

It presents three foundational dimensions that contribute to creating and fostering a successful post-conflict or post-disaster environment: political reality awareness, cultural property protection, and capacity building. This study also presents a methodology that quantitatively assesses the specific elements that contribute to the success or failure of a planned reconstruction effort.

Results:

An in-depth understanding of the three dimensions of Political Reality, Cultural Property Protection, and Capacity Building is necessary to ensure a stable environment for any reconstruction operations to succeed without unpredicted obstacles.

Conclusion:

A systematic methodology of assessing the potential outcomes of an effort can guide planners to evaluate the appropriateness of the effort for the scenario, as well as the probability of it, achieving success.

Keywords: Pre-Reconstruction, Reconstruction planning, Political reality and reconstruction, Cultural consideration, Capacity building, Resilient infrastructure, Cultural property.

Article History

Received: May 29, 2019

Revised: August 09, 2019

Accepted: August 20, 2019

1. INTRODUCTION

The period of reconstruction following armed conflict or military operation is a critical window of opportunity to bring stability and normalcy to a region. The task of reconstruction is not simple and extends well beyond physical infrastructure. Stability not only depends on resilient infrastructure, but also on reliable political systems, a national identity, and a capable

population to sustain the economy and system of governance. Experience has shown that unpredictable results may emerge from reconstruction activities if the overall political and cultural factors are not taken into consideration. Such failures and inefficiencies can cost billions of dollars in wasted funds. The largest contributors to this problem are unpreparedness, insufficient planning, and operations based on assumptions instead of empirical knowledge.

The purpose of this research was to develop a systematic methodology for the pre-reconstruction planning of post-conflict or disaster areas. It is intended to serve as a guide to

* Address correspondence to this author at Materials and Structural, Construction Engineering Research Laboratory, Champaign, IL 61822, USA; Tel: (217) 373-7247; E-mail: Ghassan.K.Al-Chaar@usace.army.mil

planners during the preliminary planning phases of reconstruction. It addresses three dimensions in pre-reconstruction planning and provides an overview of each topic, as well as a methodology for assessing the viability of an action based on the expected outcome on different areas of interest. The areas chosen are Political Reality, Cultural Property Protection, and Capacity Building. The key factors to a successful system of governance are (1) Safe and Secure Environment, (2) Rule of law, (3) Stable Governance, (4) Sustainable Economy, and (5) Social Well-Being [1]. The three dimensions for systematic reconstruction were defined based on these key end states. A stable political climate contributes to the first, second and third key factors by ensuring that a nation is qualified with reliable political leaders in a democratic system that serve the population. Promoting capacity building contributes to the third, fourth, and fifth key points by developing a population that is politically literate, economically resilient, and socially cohesive. Cultural Property Protection (CPP) preserves the identity of the host population so that it survives beyond the conflict or disaster, contributes to the social well-being of the nation, encourages the cooperation of the host population by respecting its' cultural heritage.

This study is not intended to provide specific guidance on actually facilitating reconstruction in the three areas mentioned; rather, it is focused on accounting for the immediate impacts on those areas when planning for physical reconstruction. This study is more about positively influencing the environment for reconstruction missions by recognizing the aspects of reality most relevant to pre-reconstruction planning and implementation. Reconstruction planning should aim for positive, productive elements that promote the devolution of the post-conflict environment and/or the stagnation of progress. Ultimately, operational and strategic reconstruction plans must contribute to the stability of devastated countries.

2. METHODS

The methodology was developed by conducting extensive reviews of academic, military, and policy literature in conjunction with the principal investigator's personal experience in Iraq. By incorporating this with lessons learned and the U.S. military's past experience, the three-dimensional methodology for assessing and engaging reconstruction plans was developed. The methodology consists of a rating system that evaluates the impact of an effort under consideration according to the three dimensions. This assists planners in evaluating their approach and the potential effects of an intervention.

2.1. Prerequisite Considerations Toward Systematic Reconstruction

The prerequisites needed for a society to build upon and develop its capacities refer to the enabling environment. The enabling environment describes the contextual factors needed for the success of development. This environment includes institutional, political, social, and economic factors in the country as well as the state of the surrounding nations and the country's relationship with them. These factors approach maturity over time, but a minimum of each is required in order to form a foundation for development to begin. Sequencing

plays an important role in making sure that activities are completed at the right time to be most effective. Development activities should be delayed if requirements such as security and rule of law have not been fulfilled. The identification of "pockets of productivity," where security is ensured and political structures are maintained may help accelerate this process [2].

The planning process can be defined in three stages based on the stability of the nation, as shown in Fig. (1).

2.2. The Three Dimensions

2.2.1. Political Reality

In a post-conflict or post-disaster environment, an unstable political situation has the potential to derail an otherwise well-planned construction mission. Therefore, a comprehensive understanding of political reality is critical for obtaining short-term objectives and promoting positive long-term outcomes. Therefore, political reality is a deceptively simple term that encompasses a complex nexus of diverse political, socio-cultural, historical, economic, and physical phenomena the interpretation of which is dependent on context and the perspective of the observer. It is more critical that the local perspective on political reality be weighed against the perspective of the outside observer. For example, what may be seen as a corrupt or unstable political situation when viewed from outside might not be seen that way or in those terms by the local population [3]. Evaluating political reality is further complicated in the post-conflict or post-disaster environment, where any semblance of normal order is likely compromised, limiting the reliability of conventional knowledge and historical data. Nevertheless, a focused, detailed assessment of the relevant political reality is necessary for planning during pre-reconstruction. Political reality can have wide-ranging implications for the planning and implementation of reconstruction efforts across sectors. For example, disruption in the government sector may cause components in other sectors especially sector Headquarters (HQs), the military, and much of the economic sector to either not function or to require major independent components in order to maintain operational characteristics. For instance, the process of de-Ba'athification in Iraq forced a complete reconstruction of political structures and was managed by an inefficient transitional government (the Coalition Provisional Authority [CPA]). Instead of fortifying pockets of productivity, ministries were allowed to collapse and become subject to looting and destructing potentially useful properties [4]. The political situation can affect a given construction mission in various ways, the most significant being safety and security; access to labor, space, and materials; and public perception. Physical reconstruction often parallels political reconstruction, and especially in a post-conflict environment the political reality encountered on the ground will not resemble the pre-conflict political situation. In the new reality substantial effort is required to reconstruct the capacity for effective governance. This reality presents a significant challenge during planning, as it is difficult to predict the rapid trajectory of political rearrangement that is typical of a volatile post-conflict environment. This burden is often lessened for the post-disaster environment, where reconstruction is likely to occur within the current political milieu; however, local political authority may still be disrupted.

Stage	Stability level	Description	Reconstruction
0	IMPOSED STABILITY	Drivers of violent conflict persist, requiring the active and robust presence of external military forces, in partnership with a sizable international civilian presence, to perform vital functions such as imposing order, reducing violence, delivering essential services, moderating political conflict, and instituting an acceptable political framework pursuant to a peace accord.	During this stage, reconstruction efforts must focus on delivering essential services such as lifeline systems necessary for the public's daily survival. Vague political forces, a culturally sensitive public, and poor capacity of resources exists.
I	ASSISTED STABILITY	Drivers of violent conflict have been reduced to such an extent that they can be largely managed by local actors and developing indigenous institutions, enabling the reduction of outside military intervention and civilian assistance to levels that can be sustained by the intervening parties over the long term.	Merging gradually into sustainable peace. Local organizations start engaging in reconstruction, reducing the burden of the reconstruction teams. An interest competition by the internal local players is at its peak. Political forces try to influence reconstruction efforts for self-interest. In this stage, capacity building is critical toward corruption-free business conduct. Competition for power and political gain with nonviolent processes occur, and participatory institutions operate with a level of continuing international involvement and oversight that is sustainable.
II	SELF-SUSTAINING PEACE	Local institutions are able to cope effectively with residual drivers of violent conflict and resolve internal disputes peacefully without the need for an international military or civilian administrative presence.	Reconstruction efforts at this stage become sustainable by local resources. Stabilization indicators are more pronounced. Lifeline systems are fully expected to be restored.

Fig. (1). Planning the three stages of reconstruction, as presented by Measuring Progress in Conflict Environments (MPICE).

2.2.2. Cultural Property Protection

The term cultural property is defined in the 1954 Hague Convention as “movable or immovable property, whether secular or religious and irrespective of origin or ownership, which is of great importance to the cultural heritage of a state” [5]. Cultural Property Protection (CPP) preserves the identity of the host population so that it survives beyond the conflict or disaster, it preserves the faith of the population in the United States, and it protects economically valuable objects to benefit the nation after the period of instability. Recent experiences of U.S. Armed forces in Iraq have demonstrated that CPP is a key element in the operational environment. For example, the Islamic State of Iraq and Syria (ISIS) and others took advantage of instability that began in Iraq in 2003 to destroy and steal cultural property, including historical monuments, mosaics, and other ancient art and antiquities [6]. These attacks represent assaults on opportunities for historical study and sustainable tourism that could be used to boost local economies, and this lack of CPP likely contributed to the ongoing instability in the years to follow.

In addition to the mission benefits of CPP, U.S Military personnel are obligated under international treaties [5, 7, 8] to protect cultural property that is under their jurisdiction or authority during times of war, including occupied territory; failure to do so may constitute a war crime. In peacetime, CPP is the responsibility of the host nation’s government and US

military regulation instructs commanders in the country to yield all decision-making and authority to the local government. Because the host nation’s government may not be fully functioning after a conflict or natural disaster, reconstruction missions may fall into a gray area between wartime military occupation and peacetime standard operating procedures. Reconstruction efforts at CPP sites pose a unique set of problems including special material types, construction techniques, documentation requirements, and decision-making processes. Pre-planning for reconstruction missions that involve CPP is critical to ensure poor (and perhaps illegal) decisions are not made in the field due to ignorance or a lack of immediate options.

2.2.3. Capacity Building

Human conflict has the potential to destroy decades’ worth of infrastructure investment, leading to instability and difficulty in returning to pre-conflict conditions. Destruction and displacement impact much more than the physical aspect of society, including the loss of organizational systems that once managed people’s lives and the technical expertise that worked within those systems. In the simplest terms, capacity building can be defined as “the process by which a population gains the ability to observe and determine its needs and priorities, as well as the technical, organizational, and institutional foundations to take action towards achieving its goals” [9]. With the objective

of reconstruction being eventual independence and reestablishment of stable normalcy, capacity building ensures investment in human capital so that the population is able to recover and does not develop a dependency on other parties. Capacity building should not be limited to narrow goals such as workforce training, but it should also develop different levels of institutions and social systems as well as hard and soft capacities. Recent cases of this phenomenon include NATO Mission Iraq (NMI), which launched in July of 2018 as a non-combat training and capacity building mission designed to help Iraqi forces prevent the return of ISIS/Daesh [10]. The objective focuses on training Iraqi Security Forces at professional military institutions based in Baghdad to create sustainable and inclusive security structures. The formation of well-trained Iraqi instructors will contribute to capacity building by creating self-sustaining leaders who can increase the long-term stability of Iraq.

Capacity building is also demand-driven, which means that the population knows what it needs but lacks the support or resources to achieve its goals. Existing capacities must be recognized and built upon instead of attempting to reconstruct them by imposing new or foreign practices, and the local culture and context will define compatible forms of capacity. Planners should also be aware of the complex nature of societies and the potential unintended consequences of intervention actions. The importance of national political support and quality leadership for successful reconstruction cannot be overstated [11]. Therefore, they should not operate based on assumptions, and empirical observations and assessments should be a regular part of the process. Failure will inevitably be encountered at some stages, but the ability to learn and adapt would prove valuable in the constantly evolving setting of post-conflict and post-disaster areas.

2.3. Methodology

Preplanning for a reconstruction mission is often carried out with either limited or no consideration of the non-technical aspects of the mission-aspects that can indirectly affect the mission's overall outcome. In this study, we present a preplanning methodology that considers a three-dimensional, interactive approach to incorporate the aspects of Political Reality, Cultural Property Protection, and Capacity Building (Fig. 2). Without collectively considering these three areas, the reconstruction mission will have a higher probability of failure. The preplanning process outlined here is designed to pave the way toward a successful reconstruction mission.

3. RESULTS

This pre-reconstruction methodology establishes a system of metrics to assist in formulating the following: Enumerating efforts under consideration, prioritizing the efforts, and planning their implementation for selected reconstruction efforts.

This methodology is geared toward measuring outcome-based goals, or the effects of each effort under consideration. Output-based measurements are usually limited to what is being done, such as building or restoring several clinics or

schools. Conversely, an outcome-based measurement is based on what was achieved, not what was planned. For example, the extent to which education or public health has improved could be measured by the number of schools or clinics that were built and are in use. Thus, distinguishing success or failure is based on the outcome instead of the output, and the broader outcomes to consider are the three dimensions of Political Reality, Cultural Property Protection, and Capacity Building.

It is necessary to understand that reconstruction efforts usually take place while the nations'-state is fragile and in a phase of recovery, thus, security is essential for sustained reconstruction. However, a level of sustainable security cannot be achieved without diminishing most or all of the conflict drivers among participants. Utilizing outcome-based metrics will provide a tool to achieve both a baseline operational-level and strategic-level assessment to prioritize efforts under consideration in a manner that reduces or eliminates potential obstacles to stabilization prior to the commencement of reconstruction efforts.

The appropriateness of an effort under consideration can be assessed based on the three dimensions of methodology. The assessment quantifies the impact of an effort based on a point system associated with each potential impact that the effort will have on the outcome. A sample set of questions is presented in Fig. (3) to show the format of the assessment. Finally, a weighted average of all impact values is then used to categorize the effort into one of the following:

- **Oppositional:** may contribute to open conflict, and it is assigned (-2) in the scoring questionnaires.
- **Negatively Influential:** may lead to probable conflict, and it is assigned (-1) in the scoring questionnaires.
- **Neutral:** either not applicable to or has no effect on a sector, and it is assigned (0) in the scoring questionnaires.
- **Positively Influential:** indirectly provides and receives some modest level of support, and it is assigned (+1) in the scoring questionnaires.
- **Supportive:** directly provides and receives some substantial level of support, and it is assigned (+2) in the scoring questionnaires.

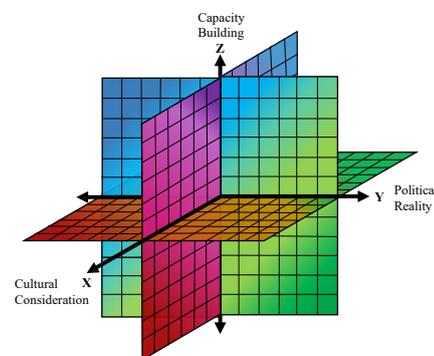


Fig. (2). Schematic representation of the three-dimensional view for systematic reconstruction.

Dimension	Question	Rating Scale
Political Reality	Does the effort under consideration reduce the means and motivations for violent conflict?	-2 -1 0 +1 +2
Political Reality	Does the effort under consideration promote establishing trust and legitimacy?	-2 -1 0 +1 +2
Cultural Property Protection	Does the effort under consideration have environmental aspects that are relevant under the Overseas Environmental Baseline Guidance Document (OEBGD; DoD 4715.05-G)?	-2 -1 0 +1 +2
Cultural Property Protection	Are local authorities consulted prior to deployment to assist in the selection of activity areas?	-2 -1 0 +1 +2
Capacity Building	Can the effort under consideration be used to strengthen managerial systems of the local government?	-2 -1 0 +1 +2
Capacity Building	Does the host population have the attitude and desire for change?	-2 -1 0 +1 +2

Fig. (3). Sample assessment questionnaire.

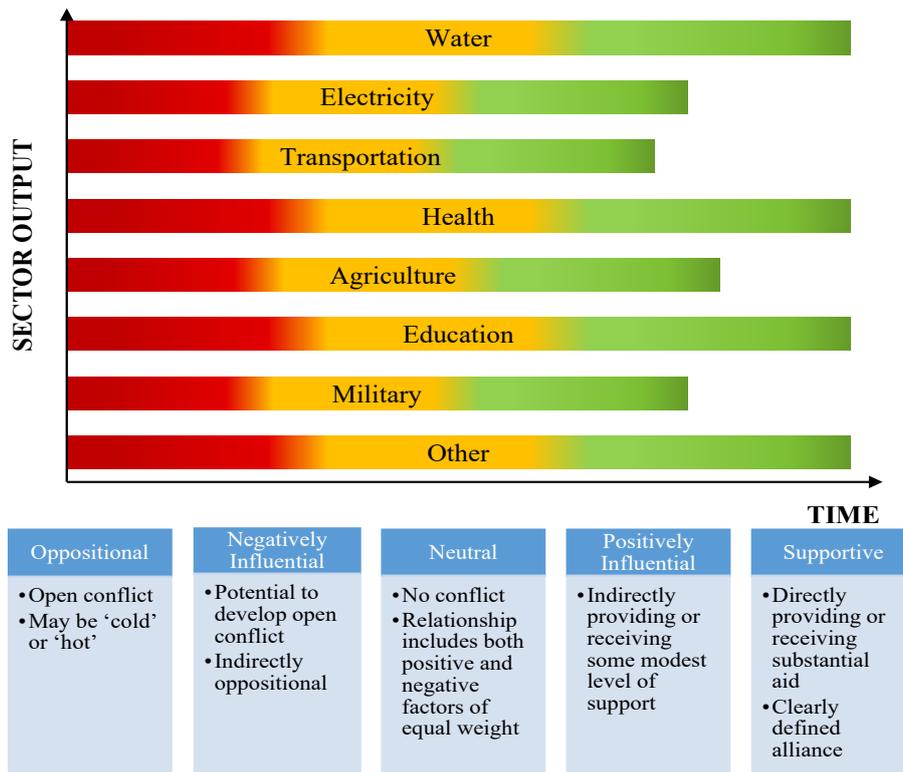


Fig. (4). Output on applicable sectors.

These five tiers can be applied to conditions found within applicable sectors such as water, electricity, etc. Fig. (4) or applied to mission elements of stabilization (Fig. 5). As these Figs show, color-coded physical conditions (red, yellow, or green) can be assigned to each sector during a project's or program's execution to measure or track its effectiveness. While most sectors are expected to start in the red zone and improve with positive performance until reaching the green

zone, poor performance may lead to worsening conditions and increase the probability of grievance and further instability.

CONCLUSION

In conclusion, the pre-reconstruction phase is of critical importance to the success of any reconstruction efforts. This study presented three foundational dimensions that contribute to creating a post-conflict or post-disaster environment that fos-

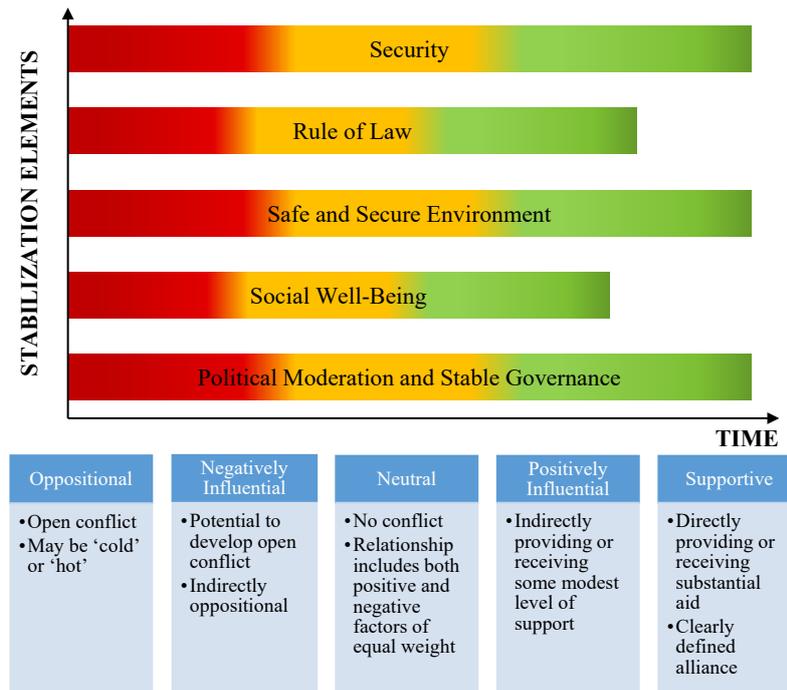


Fig. (5). Outcome on major elements of stabilization missions.

ters success in addition to a methodology that quantitatively assesses the specific elements that contribute to the success or failure of a planned effort.

An in-depth understanding of the three dimensions of Political Reality, Cultural Property Protection, and Capacity Building is necessary to ensure a stable environment for any reconstruction operations to succeed without unpredicted obstacles. A systematic methodology of assessing the potential outcomes of an effort can guide planners to evaluate the appropriateness of the effort for the scenario as well as the probability of it achieving success.

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

The source of data and materials are stated in the technical report ERDC/CERL TR-19-5 available at [https://apps.dtic.mil/dtic/tr/fulltext/u2/1069295.pdf].

FUNDING

This study was conducted for the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)) under Program Element T45, Project P2 455009, “Contingency Base – Site Identification for the Tactical Environment.”

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

ACKNOWLEDGEMENTS

Declared none.

REFERENCES

- [1] G.B.B. Penner, US Military Peacebuilding and Post-Conflict Reconstruction: Meeting the Challenges of the Post-9/11 Environment.MA Thesis, Virginia Polytechnic Institute and State University, Blacksburg, VA, December 2011 .,
- [2] D.W. Brinkerhoff, R.W. Johnson, and R. Hill, *Guide to Rebuilding Public Sector Services in Stability Operations: A Role for the Military*.Strategic Studies Institute, U.S. Army War College, Carlisle PA, October 2009,
- [3] Y. Funaki, and B. Glencorse, "Anti-corruption or accountability? international efforts in post-conflict liberia", *Third World Q.*, vol. 35, no. 5, pp. 836-854, 2014. [http://dx.doi.org/10.1080/01436597.2014.921433]
- [4] A.H. Cordesman, *Reconstruction in Iraq: The Uncertain Way Ahead.*, Center for Strategic and International Studies: Washington, DC, 2007 .https://www.csis.org/analysis/reconstruction-iraq-0
- [5] UN Educational, Scientific and Cultural Organisation (UNESCO), “Convention for the Protection of Cultural Property in the Event of Armed Conflict”, 14th May, 1954, Available from:, https://www.refworld.org/docid/40422c914.html [accessed 28th May, 2019]
- [6] U.S. GAO, “*Afghanistan Reconstruction: Despite Some Progress, Deteriorating Security and Other Obstacles Continue to Threaten Achievement of U.S. Goals*”, U.S. General Accountability Office, Washington, DC, July, 2005.
- [7] Geneva Conventions of 12 August 1949. Adopted at the Diplomatic Conference for the Establishment of International Conventions for the Protection of Victims of War, held April 21 to August 12 in Geneva, Switzerland; signed by 61 States by 12 February 1960 deadline. Geneva: International Committee of the Red Cross (sponsor).,
- [8] UN Educational, Scientific and Cultural Organisation (UNESCO). 1972. World Heritage Convention. Adopted 16 November 1972, in force 1975. Paris: UNESCO General Conference, 17th session, Convention Concerning the Protection of the World Cultural and Natural, October, 21st, 1972.
- [9] G. Al-Chaar, C.L. Baxter, A.H. Elmajdoub, K. Cupka-Head, and G.C. Calfas, “Pre-Reconstruction Planning”, 2019, Available from:, https://erdc-library.erd.c.dren.mil/xmlui/bitstream/handle/11681/32321/ERDC-CERL%20TR-19-5.pdf?sequence=1&isAllowed=y [http://dx.doi.org/10.21079/11681/32321]
- [10] NATO Mission Iraq (NMI), 2018, Available from:, https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2018_12/1812_03-factsheet-NMI-en.pdf [Accessed 6 Aug. 2019].

[11] D. Kadirova, "Implementation of post-conflict reconstruction and development aid initiatives: Evidence from afghanistan", *J. Int. Dev.*,

vol. 26, no. 6, pp. 887-914, 2014.
[<http://dx.doi.org/10.1002/jid.2998>]

© 2019 Ghassan and Calfas

This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International Public License (CC-BY 4.0), a copy of which is available at: (<https://creativecommons.org/licenses/by/4.0/legalcode>). This license permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.