

# Planning for Systemic Impact

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## Introduction

There is a growing consensus that effectiveness in peacebuilding demands that policy makers, donors and practitioners think and act more systemically (De Coning 2007; Anderson/Olson 2003; Smith 2004; Dudouet 2006 etc.). Driving this consensus is an awareness that peacebuilders are striving for, yet not attaining; something more than just the results of their immediate programmes (e.g. building a new school in Kabul versus achieving sustainable peace in Afghanistan). Anderson and Olson (2003) call this ‘something more’, ‘peace writ large’ (PWL) or a systemic change from a situation of violent conflict or protracted underdevelopment to one of stable progress toward a society at peace.

Anderson and Olson (2003) go on to conclude that there is a “peacebuilding gap”, or that success at the project level (micro-level) does not add up to success at the level of PWL (macro-level). This gap presents a fundamental challenge to the governmental and non-governmental organizations who try to make effective use of billions of dollars of reconstruction and development aid every year. A critical reason for the peacebuilding gap is that the connections between individual projects and PWL are unarticulated, which means that programme designs make no connection to PWL and ongoing monitoring and evaluation of a programme’s impact on PWL is impossible.

Systems thinking and analysis, as defined by the Berghof Foundation for Peace Support and used as the foundation for this volume, seems tailor-made to assist the peacebuilding community bridge this gap. Of critical importance are the concepts of dynamic causality, seeing ‘wholes’ and not just parts, and appreciating the interconnectedness of different aspects of a system. Simply put, these concepts can help peacebuilders see the interconnections between diverse programmes (micro-level impacts), how these programmes impact – and are impacted by each other and the societal context. Furthermore, systems thinking can assist peacebuilders assess how programmes and contextual factors interact to affect the macro-level whole (PWL).

Tools for systemic analysis (e.g. causal loop diagramming as part of conflict analysis) add value for peacebuilders in two key ways:

1. Breaking out of linear thinking habits. Linear models are deeply entrenched in basic practices within peacebuilding. For example, conducting a needs assessment as a precursor to programme design is largely based on a linear model – identify a

need and address it – as opposed to understanding the complex interrelationships within a societal context, the multiple reasons a particular need exists and the multiple impacts, intended and unintended, a remedial action can have.<sup>1</sup>

2. Linking micro-level programmes and macro-level goals. Many policymakers, donors and practitioners appreciate the need to bridge the gap between the micro- and macro-levels. However, many complain that they lack the tools to articulate the link between the two levels or they simply find any attempt to connect the micro and the macro overwhelming and a deterrent to action. Without the ability to make the micro-macro link, implementing agencies are only held accountable to measures of impact at the micro-level, so there is little incentive to bridge the peacebuilding gap or to consider a micro-level project's potential impact at the macro-level.

Using systemic thinking is necessary for improving peacebuilding practice, but it is not sufficient for making macro-level change (PWL). It is also necessary to have a systemic theory of change, or in this case a systemic theory of peacebuilding, to build sustainable peace in large complex systems, such as Afghanistan or Tanzania. Systemic analysis is largely a descriptive tool for outlining the crucial dynamics within the conflict system. A systemic theory of peacebuilding is a prescriptive theory on how to make changes in a conflict setting. Using systems thinking tools without a systemic theory of peacebuilding is like having all the right tools to fix a car engine, but having no idea of how a car engine works. Thus, a systemic theory of peacebuilding can add value in two key ways:

1. Thinking holistically (overcoming disciplinary blinders by doing analysis beyond an agency's area of competence and/or operations). Anderson and Olson (2003) uncovered the tendency of peacebuilders to "lead with their programme" or to start by asking how their particular specialty (e.g. dialogue work, building health clinics, organizing local elections) can be useful in a situation and to limit their analysis only to aspects of the situation that affect the implementation of their predetermined response. In other words, those with hammers tend to look only for nails.
2. Acting holistically (investing in strategic outreach to maximize a project's potential for macro-level impact through networking, collaboration and/or coordination among diverse agencies and projects). The principles of interconnectedness and dynamic causality mean that acting in isolation is not an option for any peacebuilder. Programmes cannot ignore factors beyond their immediate scope because any contextual factor can have an impact on that project's effectiveness and sustainability (e.g. the potential impact of an agricultural project can be jeopardized by the level of local ethnic tensions, corrupt local governance or armed groups, even though these are outside the scope of the project). However, due to limited resources, implementing agencies need some theory or set of criteria to help them choose wisely when determining which other contextual factors to address and how.

This paper will elaborate on a systemic theory of peacebuilding, the SAT model and a series of tools based on the SAT model and systems thinking, which are designed to help

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<sup>1</sup> It should be noted that this paper does not address the means used to execute projects and the impact of systems thinking on that process. Systems thinking does entail that those implementing projects need to see themselves as part of a system and tends to support community or stakeholder driven and owned development processes.

peacebuilders work both systemically and holistically. These tools include causal loop diagramming, pathways analysis, holism analysis, scale analysis, interdependence analysis and a Programme Planning Matrix. The tools are meant to help bridge the peacebuilding gap by giving peacebuilders insights into how to enhance a programme's potential contribution to PWL. In order to illustrate these tools, I will draw on a brief project I did with Mercy Corps' Country Team in Afghanistan (from November 2007 to March 2008).

## 1. The Mercy Corps Afghanistan Example

Mercy Corps as an organization, and their Afghanistan team in particular, was interested in addressing the vexing problem of documenting and enhancing the impact of its programmes on macro-level change/PWL. As an experiment, Mercy Corps agreed to have its senior programme leadership participate in a macro-level analysis exercise. The Mercy Corps participants in this exercise included headquarters staff who oversee specific programme areas and cross-programme functional staff such as from training and development, monitoring and evaluation and finance. The participants also included the heads of field offices and regional programmes. The group consisted mostly of Afghans with several expatriate staff from different national backgrounds. This effort started with a two-day workshop, followed by a series of meetings.

The composition of the group is significant because each person's particular perspective will obviously guide what they see as important factors that drive the current situation in Afghanistan. The substantive tools, analytical methodology and underlying theory are critically important for conducting good assessment. Due to space constraints, this paper will not elaborate further on the conflict analysis process in favour of elaborating on the methodology used for planning based on the output of that assessment process.<sup>2</sup> To better understand that planning methodology, it is necessary to elaborate on the underlying prescriptive theory of macro-level peacebuilding on which it is based: the SAT model.

### 1.1 The SAT Model and Systems Change

The SAT model<sup>3</sup> is a theory of peacebuilding which holds that in order to make a sustainable and systemic transition from violent conflict to PWL, there needs to be change at three distinct though interrelated levels:

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- 2 Good assessment is an on-going process. It is as much about the tools used as it is about the quality of the interaction among the participants involved in the assessment. An assessment done by a group of knowledgeable expatriates will be fundamentally different from one done by Afghans, or one done by 'headquarters personnel' in Kabul versus practitioners in the field versus Afghans from outside Mercy Corps or from local villages. Ideally, a good process would include perspectives from multiple backgrounds. The SPA tool requires identifying key obstacles to and enablers of peace as well as the inter-relationships between these factors. These judgements can be very subjective and the best protection against a systemic bias in making those subjective judgements is to include knowledgeable and diverse perspectives, hence the importance of the group that produces the analysis.
  - 3 See Ricigliano (2003). This article sets out an earlier version of the SAT model. A more comprehensive explanation of the model is in progress.

- **structural:** the systems and institutions in a society that are designed to meet people's basic human needs
- **attitudinal:** widely-held beliefs and norms, attitudes, the level of social capital and the state of intergroup relations that affect the ability of people and groups to cooperate
- **transactional:** the ability of key people to peacefully and productively manage conflict, solve problems and turn ideas into action, especially in regard to dealing with structural and attitudinal problems

The SAT model was developed by asking the question, "What are the levers for achieving systems change regardless of context?" This is different from asking, "How can we understand how systems work?" The hallmarks of good systemic thinking are fairly well known (e.g. see Bateson 1979; Forrester 1991; Senge 1990; Richardson 1994; Checkland 1990, Meadows 2008) and are summarized in the terms of reference for this volume. The SAT model was developed, in large part, by comparing various models for achieving systemic change to see if there were recurrent themes in the types of changes these models felt contributed to systemic, as opposed to linear, change. For example, the field of organizational change contains several such approaches (Burke/Litwin 1992; Lawrence/Lorsch 1969; Burns/Stalker 1961; Nadler/Tushman 1977; Pascale/Athos 1981; Peters/Waterman 1982; Weisbord 1976). Using the Burke and Litwin model as a synthesis of these other works, the SAT model captures three basic types of systemic change drivers identified by Burke and Litwin and then tailors them to the peacebuilding context (see Ricigliano, forthcoming).

## 1.2 A Causal Loop Diagram of Afghanistan

The Mercy Corps group began their collective analysis of the Afghan context by using tools for understanding the structural, attitudinal and transactional drivers of the current situation (lower level of peace). After isolating important factors (a group of 15 out of an original group of over 100 factors identified) from each of the three SAT dimensions, they used systems diagramming to produce a dynamic picture of how these factors were interrelated and how they ultimately affected the level of peace in Afghanistan. Figure 1 contains a hybrid systems map of the situation in Afghanistan based on the work product of three separate groups in the workshop. This map is not based on thorough objective study of the situation in Afghanistan. Rather, it represents a 'sense of the room' about which factors are most important.<sup>4</sup> While this assessment is certainly open to challenges, it is necessary to take it as it is in order to move on to the planning tools with the proviso that plans are only as good as the analysis they are based on.

MC's systemic conflict analysis map for Afghanistan included three first-tier drivers (insecurity, poor economy and corrupt, ineffective government); seven second-tier

<sup>4</sup> What this process lacks in 'scientific objectivity' it gains by way of practicality and through surfacing implicit assumptions the participants were making about the situation in Afghanistan and how MC's programming should respond to it. By raising and discussing these differing perspectives it produces a lot of intra-group learning, a higher degree of consensus about fundamental assumptions and makes those assumptions explicit and testable in light of experience.

drivers (conflict in communities, lack of law enforcement/acceptance, divided government, ethnic tensions/politics, armed groups, unmet expectations and the drug/illicit economy); three third-tier drivers (lack of voice for communities, poor educational opportunities and a rural versus urban divide); and two input drivers (lack of infrastructure and international interference). The systems map is limited in terms of the causal relationships that can be represented in one diagram (in the MC case, we maintained a list of additional factors that formed ‘sub-systems’ associated with factors that are in the map). The map also privileges what Peter Woodrow defines as ‘detail complexity’ (showing the interrelationships among many factors) over ‘dynamic complexity’ (showing fewer overall interrelations among all the factors in favour of elaborating distinct subsystems that exist within the overall system).<sup>5</sup> Dynamic complexity suits if the intervention concentrates on a specific element (e.g. understanding the cycle of escalating intergroup tensions). Detail complexity however is better suited to this analysis, which tries to understand the relationship between any one factor and all of the other factors in the map as well as any one factor’s relationship to the level of peace.

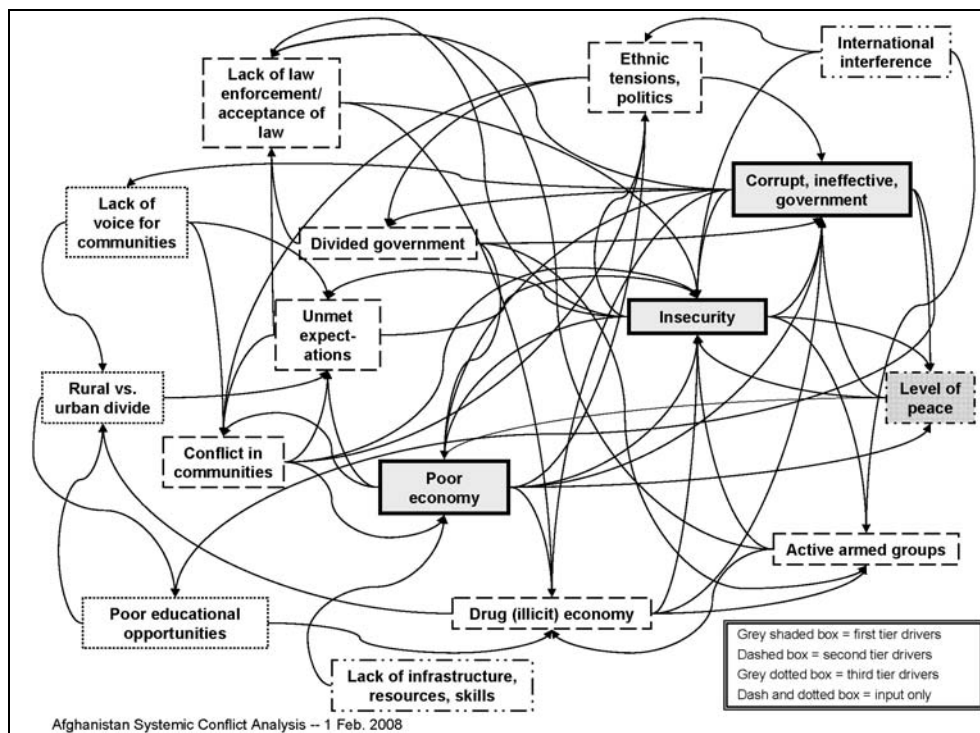


Figure 1: Systemic Conflict Analysis

5 Presentation by Peter Woodrow entitled “Reflecting on Peace Practice: Systems Thinking and Peacebuilding,” at the *Expert Meeting on Systems Thinking and Peacebuilding*, University of Wisconsin, Milwaukee, 23 October 2008.

## 2. Planning for Systemic Change

Based on this systems map, the Mercy Corps team began to assess how their programmes fit into a more holistic and systemic view of the conflict and to understand whether, and if so how, their programmes contribute to PWL. This proved to be a challenging endeavour, as in the context of PWL the impact of individual, localized and sector specific programmes sometimes appears like a ‘drop in the ocean’. For this reason, many peacebuilders resist thinking in systemic terms: no single programme or organization, governmental or non-governmental, is sufficiently large to make systemic change on its own. Conventional wisdom has been that if so many factors that contribute to the level of peace or violence in a society are out of one’s control, then there is little reason to even bother asking the question of whether one’s programme(s) contributes to PWL.

It is true that no single programme or organization can create PWL and that individual peacebuilders are necessarily dependent on many other initiatives and actors. But the situation is not so dire as to justify any one peacebuilder disregarding the potential to contribute to PWL. To help explain this point, it is crucial to define what it means to ‘contribute to PWL’ or to facilitate systemic change. Creating systemic change does *not* mean that there needs to be a complete, one hundred percent change in all the factors that drive the system. In order to create systemic change, it is sufficient to cross a lower threshold. Systems change when, over time, the system moves from an undesirable status quo (stagnation) or a downward spiralling state (deterioration) to one which is improving over time (e.g. a virtuous cycle in which, over time, the system moves closer to PWL, not farther from it).

Concerning the systemic conflict analysis of Afghanistan, the question is not what it would take to transform a poor economy into a fully mature, healthy economy, or the insecure environment into a more secure environment, or its corrupt, ineffective government into a completely clean, highly efficient one. Rather, the question is what it will take to get the system to a ‘tipping point’ where the conflict system moves from being stagnant or deteriorating to a system that is gradually improving over time. By inference, this means an economy that is improving, not eroding over time, security that is improving, not worsening and a government that is getting cleaner and more effective, not less.

Unfortunately, there is not an objective, quantifiable, preset measure of ‘sufficient change’ for each conflict driver or the system as a whole. Measuring success toward sufficient change will mean achieving change in both an absolute sense (e.g. growth in the number of households that are maintaining at least a subsistent level of existence) and in a relative sense (e.g. that the pace of change is increasing over time). Monitoring and evaluation systems tend to be able measuring change in an absolute sense. However, measuring the pace of change is harder. There are two key indicators that the pace of change is increasing:

1. the amount of change is increasing relative to the amount of inputs (e.g. the number of households reaching the subsistence level is growing relative to the level of resources being used)

2. change is spreading (i.e. a ripple effect can be observed: more factors are being affected outside of the immediate factors affected by a particular programme)<sup>6</sup>

The difficulty must be seen in the fact that one cannot know if a programme or mix of programmes is sufficient to reach a ‘tipping point’ in the system *a priori*. The option is to plan well based on a systemic conflict analysis, have a testable theory of change based on that analysis and assess the degree to which a programme is making (or is not making) lasting change. There are four different analyses that can help assess the degree to which a programme is likely to contribute to PWL:

1. Pathways analysis: to articulate the potential causal theory for how localized programme impacts can contribute to PWL (hypothesis: programmes with an articulated connection to PWL are more likely to make a lasting impact on it).
2. Holism analysis: to test the degree to which a programme has an impact at the structural, attitudinal and transactional levels (hypothesis: holistic programmes have deeper, more lasting impacts on PWL).
3. Scale analysis: to assess the degree to which a programme is of sufficient size to have significant or lasting impact at the local, regional or national levels (hypothesis: insufficient scale undermines lasting impact on PWL).
4. Interdependence analysis: to assess the degree to which a programme is addressing a sufficient number of causal factors in order to have a lasting impact on the immediate objectives of the programme, and ultimately on PWL (hypothesis: ignoring important conflict drivers undermines lasting impact on PWL, while not accounting for positive ripple effects of a programme on a system undervalues the true impact of that programme).

### 3. Pathways Analysis: Articulating the Link between Programmes and PWL

The first step in analysing the link between individual programmes and PWL is a ‘Pathways Analysis’. To do this, the causal loop systems map can be converted into linear relationships in order to more easily determine the ‘pathway’ a particular programme’s impact can take to affect PWL. Figure 2 is an example of a linear causal flowchart for one of the first-tier drivers identified in the causal map: ‘Corrupt, Ineffective Government’. This diagram shows all the factors that affect the variable in question or target variable and it also shows all the factors that the target variable affects.

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<sup>6</sup> To gauge whether the pace of positive change is increasing in a system it is necessary to monitor and update your Systemic Conflict Analysis Map over time.

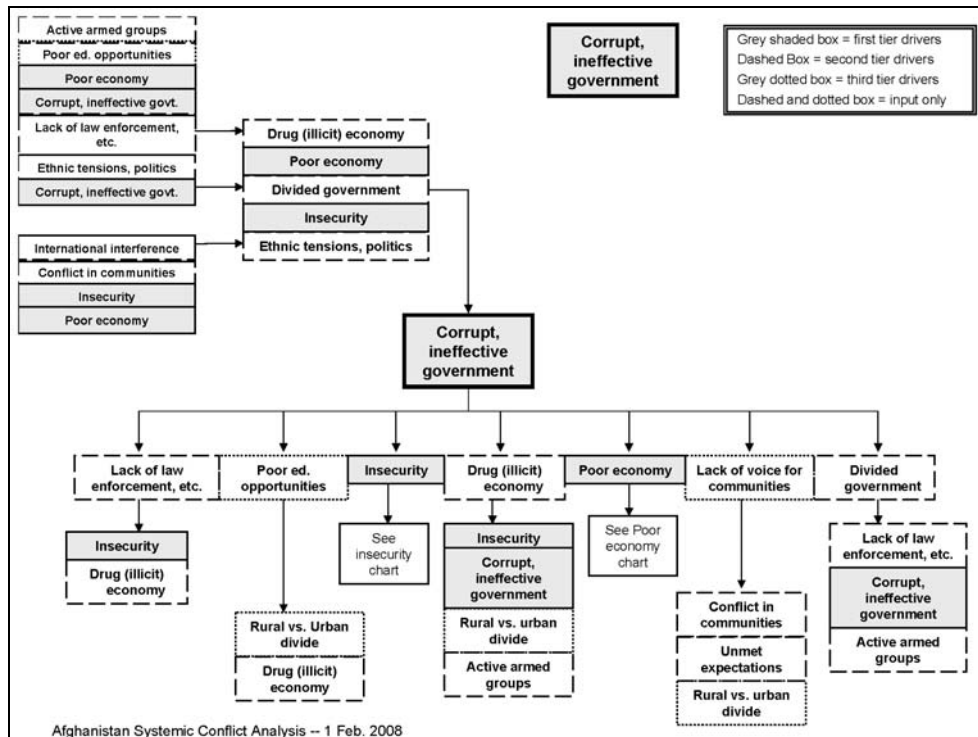


Figure 2: Pathways Analysis

This diagram and similar diagrams prepared for the other first-tier conflict drivers (insecurity and poor economy), were used to do a Pathways Analysis (Figure 3) on one of MC Afghanistan's programmes, a European Community funded project entitled Alleviating Poverty through Productivity and Livelihood Enhancement (APPLE).<sup>7</sup> The first step is to identify the causal factors in the systems map on which the APPLE programme intends to have direct, or first level, impact. These include:

- Poor economy,
- lack of economic infrastructure, resources, and skills,
- conflict in communities, and
- lack of voice for communities.

In Figure 3, the first level impacts of the APPLE programme are represented by the thick arrows connecting the APPLE box with the four factors identified above. Using

7 The Alleviating Poverty through Productivity and Livelihood Enhancement (APPLE) Programme is a livelihoods-based food security programme in Eastern Afghanistan aiming to strengthen rural livelihoods of vulnerable households through community mobilization efforts and village development plans. Through this EC (European Commission) funded programme, 120,000 beneficiaries in poor rural communities of Nangarhar and Kunar Provinces will have improved food security as well as a more reliable agricultural income. For further information please check: [www.mercycorps.org](http://www.mercycorps.org). This analysis is meant as illustrative and the conclusions of the APPLE Pathways Analysis are not definitive, but meant to demonstrate the tools for assessing and enhancing a programme's impact.

the linear causal diagrams, it is possible to map the connections, or pathways, from each of the factors immediately affected by the APPLE programme to PWL and to roughly assess the strength of the impacts of these factors. The strength of an impact of one factor on another is divided into four types, with each type representing a ‘weaker’ impact than the type before it:

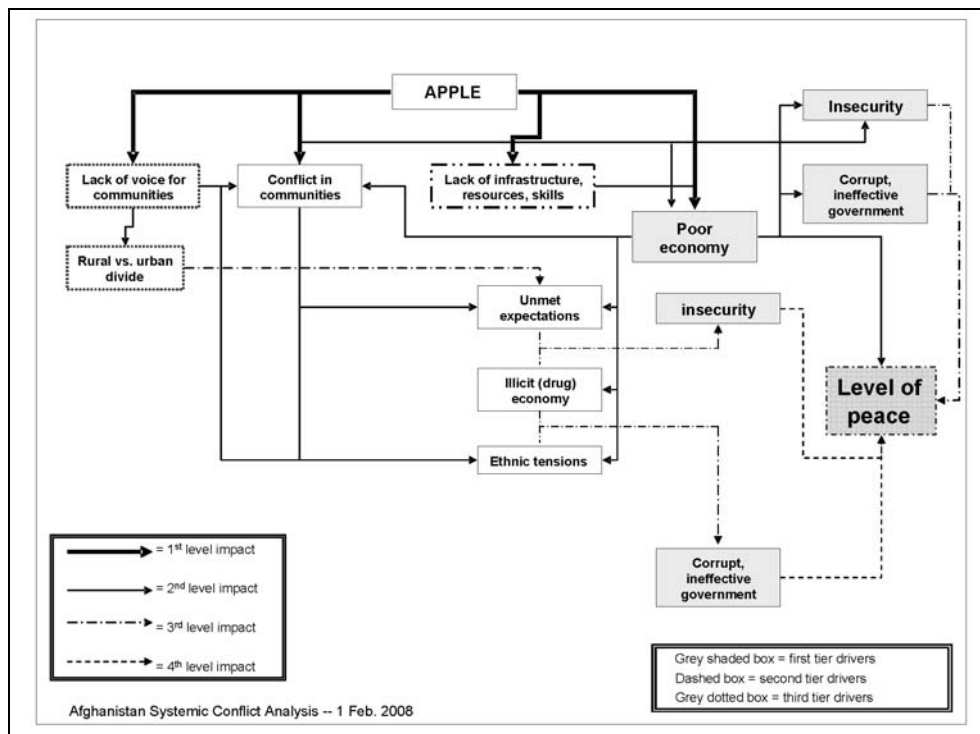


Figure 3: APPLE Pathways Analysis

- 1<sup>st</sup> level impact: the strongest level of impact and the one most proximate to the programme activity itself (thick line)
- 2<sup>nd</sup> level impact: represents the influence of factors that were 1<sup>st</sup> level impacts of the APPLE programme (thin line)
- 3<sup>rd</sup> level impact: represents the influence of factors that were 2<sup>nd</sup> level impacts of the APPLE programme (dashed line)
- 4<sup>th</sup> level impact: represents the influence of factors that were 3<sup>rd</sup> level impacts of the APPLE programme (dotted line)

Another way to think about the difference between the various levels of impacts is that the impact of any factor is one degree less than the strongest impact acting on that factor. For example, the APPLE programme intends to have a 1<sup>st</sup> level impact on ‘conflict in communities’ and changes in the level of conflict in communities will have a 2<sup>nd</sup> level impact on three other factors – ‘security’, ‘unmet expectations’ and ‘ethnic tensions’. Further, because ‘conflict in communities’ has a 2<sup>nd</sup> level impact on ‘ethnic tensions’, it

has a 3<sup>rd</sup> level impact on everything 'ethnic tensions' affects. However, since it is only feasible or helpful to understand the pathway from APPLE to the 'level of peace' down to 4<sup>th</sup> level impacts, one only needs to include in the pathways analysis those factors that 'ethnic tensions' affects which then have a direct impact on the 'level of peace'. In this case, that means looking only at the connection between 'ethnic tensions' and 'corrupt, ineffective government' because 'corrupt, ineffective government' is only one step removed from affecting the 'level of peace'. Therefore, APPLE has a 1<sup>st</sup> level impact on 'conflict in communities', which has a 2<sup>nd</sup> level impact on 'ethnic tensions', which has a 3<sup>rd</sup> level impact on 'corrupt, ineffective government', which then has a 4<sup>th</sup> level impact on the level of peace. For the purposes of evaluating the impact of the APPLE programme on the level of peace, one does need to worry about the impact 'ethnic tensions' has on, for example, 'divided government' because the relationship between 'divided government' and the 'level of peace' is too tenuous to count (e.g. it would be a 5<sup>th</sup> level impact and thus too weak to have any measurable impact).

Based on this map, it is possible to tell the following story (theory of change) for how APPLE contributes to attaining PWL:

The APPLE programme has 2<sup>nd</sup> level, 3<sup>rd</sup> level and 4<sup>th</sup> level impacts on achieving PWL. Through enhancing the livelihoods and productivity of 120,000 beneficiaries, the programme has a 1<sup>st</sup> level impact on the economy of Nangarhar and Kunar provinces in eastern Afghanistan. Because 'poor economy' is a primary driver of the conflict in Afghanistan, programmes that affect the economy have a 2<sup>nd</sup> level impact on PWL, at least in those areas served by APPLE.

In addition to the 1<sup>st</sup> level impact of the programme on the economy, APPLE has 1<sup>st</sup> level impacts on two factors that impact the economy: 'conflict in communities' and the lack of economic infrastructure, resources and skills.' APPLE helps to lessen 'conflict in communities' through its community mobilization efforts, work with development councils, and by generally helping to give communities a coherent and effective voice in the development process (the lack of which is a driver of 'conflict in communities'). The programme also helps to build infrastructure (resources and skills) by providing training and productive assets, like poultry.

APPLE also impacts PWL through having 2<sup>nd</sup> and 3<sup>rd</sup> level impacts on the two other primary drivers of PWL: 'insecurity' and 'corrupt and ineffective governance.' Helping to improve the economy has an impact on improving insecurity and governance, which in turn has a 3<sup>rd</sup> level impact on PWL. Further, improving the economy, lessening 'conflict in communities' and giving a voice to communities has a 2<sup>nd</sup> level impact on several drivers of 'insecurity' and 'corrupt/ineffective government': 'unmet expectations,' the 'illicit (drug) economy,' and 'ethnic tensions.' By having a 3<sup>rd</sup> level impact on insecurity and corrupt/ineffective government, APPLE has 4<sup>th</sup> level impacts on building PWL.

Being able to articulate a connection or pathway between a programme and PWL is a necessary step, but it is not sufficient to determine the quality or strength of that connection or how to improve it. The holism, scale and interdependence analyses are designed to address this need.<sup>8</sup>

8 It should be noted here that these analyses are only as good as the causal map used as the basis of the analysis. If in doing these analyses a finding seems out-of-step with reality, it may be necessary to consider revising the causal map by adding/deleting factors or to change relationships in the map etc.

#### 4. Is APPLE Holistic?

The purpose of the holism analysis is to ensure that the programme in question is likely to have a lasting effect on the immediately impacted (1<sup>st</sup> level) factors as identified in the Pathways Analysis. According to the SAT theory, lasting change for any one factor identified in the systems map (let alone for the ultimate achievement of PWL) will require change at the structural, attitudinal and transactional levels relative to that factor(s). For example, creating a lasting reduction in conflict in communities will require transactional, attitudinal and structural change.

The chart below (Figure 4) lists the conflict drivers on which the APPLE programme is designed to have *1<sup>st</sup> level impacts*. Below that, the chart provides details on the desired impacts of the programme, the means by which it will have those impacts (i.e. the programme activities) and the indicators that could be used to determine whether or not those activities are having the desired impacts. To evaluate whether APPLE will have a lasting, systemic impact on the identified conflict drivers, the chart divides the desired impacts, activities and indicators into structural, attitudinal and transactional categories.

Target Conflict Drivers	Poor economy, conflict in communities, lack of economic resources (infrastructure, skills, resources), lack of voice for communities		
	Structural	Attitudinal	Transactional
Desired impact	Improved village-level economies, improved village-level infrastructure to support economic growth, greater number of households able to be sustainable	Improved levels of trust between clans and between community and local government, greater participation in formal/legal governance and economic processes	Communities able to manage conflicts productively, communities able to solve problems collectively, communities have a voice in decision making that affects their community and build partnerships with local government
Activity	Training in economic/business skills, provision of productive resources, facilitating the creation of village development plans and assisting in their implementation	Joint training, facilitation/mediation, community/intergroup dialogue	Community mobilization, skills training in negotiation and communication, provision of relevant expert opinion and neutral information, joint training with local government officials
Indicators	Economic performance and quality of life measures; number and quality of village development plans; progress toward goals identified in village development plans; number of beneficiaries (individuals, households)	Views such as feeling of being represented/heard by government; level of trust in government, NGOs, international community; perceived levels of tensions between ethnic groups/clans	Reduction in number and severity of community conflicts, increase in number and quality of contacts between communities and local government

Figure 4: APPLE Holism Analysis

Based on the above chart, it appears that APPLE does incorporate transactional, attitudinal and structure activity and impact. However, the programme is weak on promoting attitudinal change (or at least has less activity compared to its structural and transactional components). This is an area that Mercy Corps should monitor and consider whether there are implications for action (see the Programme Planning Matrix section below). If APPLE is not having an impact based on the indicators listed, additional transactional, attitudinal and structural activities could be added.

## 5. Is APPLE of Sufficient Scale?

The purpose of this analysis is to assess whether APPLE is of a sufficient scale to have a lasting impact. Whether a programme is of sufficient scale depends on the unit of measurement you are looking at. This analysis focuses on the scale question at three levels: local (e.g. village), regional (e.g. a group of districts or a province) and national. For each causal factor impacted by the programme, the analysis asks for an estimate of the programme's ability to make an impact at each of the three levels. This estimate is based on a how much of a particular factor (e.g. conflict in communities or lack of infrastructure) the programme addresses.

For example, APPLE is targeting the causal factor: 'poor economy'. To assess the ability of APPLE to affect the economy of a particular village, one would need to look at the range of factors that affect the economy at this level. Another way to ask this question (at the local level) is to examine the degree to which one expects APPLE, if successful, to have an impact on the overall village economy. Though APPLE can have a significant impact on the livelihoods of particular families, there are many other factors that affect the local economy beyond those that APPLE affects. The ability of APPLE to impact the economy at the village level is 'low to medium.' As you move out to the regional and national levels, the ability of APPLE to affect the economy at these levels decreases. These estimates are reflected in the chart below (Figure 5).<sup>9</sup>

	<b>Local Level</b>	<b>Regional Level</b>	<b>National Level</b>
<b>Economy</b>	Low – Medium	Low	Low
<b>Conflict in communities</b>	High	Medium	Low
<b>Infrastructure</b>	Medium	Low – Medium	Low
<b>Lack of voice for communities</b>	Medium – High	Low – Medium	Low

*Figure 5: APPLE Scale Analysis*

From this brief analysis, APPLE seems to be in good shape, scale wise, to affect 'conflict in communities' and 'lack of voice for communities' at the local level, but is vul-

<sup>9</sup> These are judgments based on a relatively short analysis of the APPLE programme. A more in-depth and precise analysis would be needed to make more definitive judgments about the programme.

nerable, scale wise, when it comes to the economy and to some degree on infrastructure (at least beyond skills training and supplying some productive resources). As a result, 'poor economy' and 'lack of infrastructure' need to be included in the Programme Planning Matrix below.

## 6. Is APPLE Sustainable? An Interdependence Analysis

The purpose of this analysis is to put the impact of the APPLE programme into the context of a dynamic system (e.g. the causal map described earlier). In the causal diagram, there are 15 factors (individual conflict drivers) and 56 interrelations (impacts of one factor on another). This means that there is a high degree of interdependence: if one factor is affected, it in turn affects others, and in order to change any one factor, it is often necessary to address some or all of the factors affecting it.

There are two types of interdependence that affect the ability of the APPLE programme to have an impact in this dynamic context. First there is 'negative interdependence'. Negative interdependence refers to the degree to which other conflict drivers can frustrate, or undermine, the ability of the APPLE programme to have a lasting impact that contributes to PWL. In other words, even if APPLE were a hundred percent successful in affecting the factors it immediately impacts (poor economy, conflict in communities, lack of voice for communities and lack of infrastructure), it would still not guarantee PWL because there are many other factors (eleven in total) that affect PWL.

The second type of interdependence is 'positive interdependence'. Positive interdependence tries to assess the degree to which the immediate impacts of the APPLE programme 'ripple' through the system. For example, by impacting the level of 'conflict in communities', APPLE also affects all the factors that 'conflict in communities' affects (e.g. poor economy, unmet expectations, ethnic tensions and insecurity). The factors affected by 'conflict in communities' also affect (although much more weakly) many other factors.

### 6.1 Assessing the Negative Interdependence of APPLE

To assess the negative interdependence of a programme, there are two items to consider. The first is to look at which factors are included in the causal map but which do not appear (even as tertiary impacts) in the APPLE Pathways Analysis. There are five factors that are not impacted at all by APPLE:

- active armed groups
- divided government
- poor educational opportunities
- lack of law enforcement/acceptance of law
- international interference<sup>10</sup>

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10 International interference is an input variable which is not affected by any other driver in the systems map.

This means that APPLE is doing nothing to affect these factors and hence its impact on PWL is vulnerable to the impact of these factors on the system. An important question is “how vulnerable?” To answer that question one needs to get a sense of how big of an impact these ‘neglected’ factors have on PWL. The impact value of each factor in the systemic conflict analysis map can be determined by selecting a target variable and assessing how many other factors the target variable affects, the strength of those impacts and the importance of the variable affected. In this analysis, if a target variable has an immediate impact on a first-tier driver, then it gets five points; an immediate impact on a second-tier, third-tier or input driver is worth three points; one point is awarded for every factor that the immediately impacted factors then affect.

For example, if we take ‘armed groups’ as the target variable, it gets five points for immediately affecting the level of ‘insecurity’ (because it is a first-tier driver) and seven points for each of the seven factors that insecurity directly affects (twelve points total for affecting insecurity). The armed groups factor also gets three points for affecting the ‘lack of law enforcement/acceptance’ factor and three points for affecting the ‘drug (illicit) economy’ (six points total). Additionally, the target variable ‘armed groups’ also gets two points because ‘lack of law enforcement’ affects two downstream factors and four points because ‘drug (illicit) economy’ affects four downstream factors as well (six points total). The total impact value for ‘armed groups’ then is 24. Figure 6 contains the results of the impact value analysis for all the factors in the systemic conflict analysis map.

	Impact Value
<b>Corrupt, ineffective government</b>	51
<b>Poor economy</b>	49
<b>Insecurity</b>	47
Conflict in communities	35
Drug (illicit) economy	28
Divided government	26
Ethnic tensions, politics	25
Active armed groups	24
International interference	23
Lack of law enforcement/ acceptance of law	18
Lack of voice for communities	18
Unmet expectations	15
Poor ed. opportunities	12
Lack of infra., res., skills	11
Rural vs. urban divide	11

The impact value of a factor is determined based on the number of other factors this factor affects. If a factor affects a primary (first tier) driver it gets 5 points; if it affects a second tier driver, it gets 3 points; and it gets 1 point for every factor it has an indirect impact on.

Grey shaded box = first tier drivers  
Dashed box = second tier drivers  
Grey dotted box = third tier drivers  
Dashed and dotted box = input only

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*Figure 6: Impact Value Analysis*

Taken together, the APPLE programme's 'neglected factors' account for about 25% of the total impact of all causal factors on PWL. This is a significant enough impact to warrant including these five factors in the section on the Programme Planning Matrix below.

In addition to looking at the factors that are unaffected by the APPLE programme, a second consideration is to look at how significant an effect the APPLE programme is having on the factors it does intend to affect. For example, APPLE affects (immediately or indirectly) the four factors that contribute to 'conflict in communities' (e.g. 'poor economy,' 'ethnic tensions,' 'unmet expectations,' and 'lack of voice for communities') at least at the local level. In contrast, APPLE has relatively weak impacts on two important factors that contribute to a poor economy, namely 'insecurity' and 'corrupt and ineffective government'. These two factors have a large impact on poor economy (e.g. they were responsible for an estimated 60% of the total causality of the poor economy) as well as a large impact on PWL.<sup>11</sup> This high negative interdependence means that APPLE's impact on the economy (and hence PWL) depends on progress being made on these key conflict drivers by other actors and initiatives. Therefore, 'corrupt and ineffective government' and 'insecurity' need to be included in the Programme Planning Matrix section.

## 6.2 Assessing the Positive Interdependence of the APPLE Programme

The positive impact of a programme goes beyond the immediate impact that programme has on a specific causal factor. Like a stone dropped in a pond, positive impacts create ripples through the system. For example, by having a positive impact on 'conflict in communities', the APPLE programme has a positive ripple effect on each variable that 'conflict in communities' affects: poor economy, unmet expectations, ethnic tensions/politics and insecurity. Potentially, if the ripple is strong enough, it can have a positive impact on all the variables which these four variables affect and so on.

The 'positive interdependence' analysis is an attempt to measure the strength of those positive ripples. This analysis can be done with the data included in the 'impact value' analysis for each of the causal factors (see Figure 6). The positive interdependence (positive ripple effect) of a programme is determined by the impact value of the factors it affects, minus the strength of the programme's impact on that particular variable. For example, APPLE has a strong impact at the village level on 'conflict in communities', which has a relatively high impact value (35, the fourth highest impact value of all the causal factors). A strong impact on a variable with a high impact value means that APPLE has a strong positive ripple effect in regard to this variable. On the other

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11 This estimate is based on apportioning 'causal weight' to the five immediate drivers of poor economy (e.g. corrupt, ineffective government, insecurity, lack of infrastructure, conflict in communities and divided government). None of these five contributing factors is 100% responsible for the poor economy nor are they equally responsible for it. It is possible to apportion weight to each factor according to its impact on causing a poor economy. For example, 'insecurity' was apportioned 30% responsibility for the poor economy, 'corrupt, ineffective government' was also given 30% responsibility, 'lack of infrastructure' 20%, 'conflict in communities' 15%, and 'divided government' 5%. These are rough estimates but could be made more detailed based on more refined data.

hand, APPLE has a relatively low impact on 'poor economy' (especially above the village level) and, although 'poor economy' has a high impact value (49), the positive ripple effect is relatively small.

The importance of this analysis is to capture the full extent of programme impacts (the ripple effects in addition to the immediate impacts) and to suggest areas where positive interdependence could be strengthened. In relation to the APPLE programme, the investment of resources in lessening the degree of conflict in communities is very cost effective and could perhaps be strengthened. An area for future development may be to do more to affect 'corrupt and ineffective government' as this is the factor with the highest impact value and one that the APPLE programme could do more to affect (e.g. through expanding an existing MC initiative that provides negotiation and communication training to include local government officials; building relationships between communities; NGOs and local government etc.). It might also be an effective investment to address 'divided government' (which has a relatively high impact value) through providing negotiation and communication training to local and regional government officials (either by MC directly or through other actors).

## 7. Enhancing Impact on PWL: Programme Planning Matrix

The above analyses are designed to spot needs and opportunities for programme development in ways that increase the lasting impacts of the programme and, thereby, its impact on PWL. There are three basic ways to address programme needs (i.e. three ways to improve holism, address scale problems, lessen negative interdependence and increase positive interdependence):

1. Monitor and Map: the minimal way to address needs for programme development is to find out who is working on a particular issue that is relevant to one's own programme. It may not be necessary to make changes to a programme if other organizations are addressing a particular programmatic need.
2. Modify/Expand: another way to address programme needs is to take direct action by modifying or expanding a programme to address variables not addressed or insufficiently addressed by the programme as currently structured.
3. Network: an alternative to modifying a programme is to work with other organizations to address a programmatic need. Networking is a useful way to address scale, holism or interdependence problems. Networks can be used to set up consortiums (or other arrangements) where the work of other organizations can complement the work of Mercy Corps (e.g. by adding scale, holism or addressing negative or positive interdependence). There are a range of possibilities for working with other organizations, including:
  - a. Information sharing: in addition to identifying organizations working in related fields, an organization can share important information (e.g. programme descriptions/updates, best practices, evaluation data, etc.).

- b. Coordination/Collaboration: a step beyond information sharing is deciding to act on this information by working together. This could include joint planning, coordinating activities, partnership, etc.
- c. Advocacy: in addition (or as an alternative) to establishing a collaboration with others, organizations can work together to advocate for policies, funds or programmes that address scale, holism or interdependence problems. For example, if a certain type of economic development work is needed, but not currently funded, organizations can advocate for the development of such a programme by donors.

Factor	Need	Response		
		Monitor/Map	Modify/Expand	Network
Conflict in communities, lack of voice for communities, poor economy	Holism: attitude change	Is there anyone working on building social capital in communities?	Are there ways to build more opportunities to get attitude change into the APPLE programme?	<i>Info share:</i> need to investigate what other groups are doing to build social capital in communities, understand best practices and communicate the design of APPLE and our needs for social capital work
Poor economy	Scale, negative interdependence	Who else is working on complementary economic development projects locally/regionally/ nationally?	Are there other economic development needs that APPLE can address at the local or regional level?	<i>Info share:</i> need to liaise with other programmes working on different aspects of economic development in our area  <i>Coordinate/Collaborate:</i> is there benefit in working in concert with other organizations working on economic reconstruction that would have a synergistic effect? Is there value in forming a loose consortium with other organizations working on different aspects of economic development in order to deal with scale problems?
Corrupt/ Ineffective Government	Positive interdependence	Who else is working on other elements of good governance? In our areas of operation? Nationally?	Provide training for governments and communities in negotiation and communication to improve community 'voice', build good relationships and improve effectiveness of local governments	<i>Info share:</i> share lessons learned and best practices in improving the effectiveness/lessening the corruption of local governments with other organizations  <i>Coordinate/Collaborate:</i> are there potential partner organizations that we can work with to build capacity for local governments? <i>Advocacy:</i> work with other NGOs to advocate for more resources/capacity building for local governments

		<b>Response</b>		
Armed Groups	Negative Interdependence	What is the status of formal attempts to work with armed groups? What is happening informally with relationships between NGOs/ governments and armed groups?	To what extent are our programmes working with members of armed groups? Is it appropriate to continue/expand such contacts?	<i>Info share:</i> Is it appropriate to share information with groups who are working with armed groups?

Figure 7: (Partial) APPLE Programme Planning Chart

Figure 7 contains an example of what this analysis might look like in relation to some of the areas for improvement identified in the holism, scale and interdependency analyses above. For each causal factor identified in the holism, scale and interdependence analyses, the chart identifies the nature of the programmatic need relative to that factor (e.g. scale, interdependence or greater holism) and then suggests possible responses (e.g. monitoring, modifying or networking). The chart provides potential ways to increase the likelihood that the APPLE programme will contribute to more significant and lasting impacts on PWL. The chart is meant to spur thinking and planning (as well as monitoring and evaluation) on how to maximize the lasting impacts of a programme and strengthen its ability to contribute to PWL.

## 8. Strengthening Programme Impacts: Building a Virtuous Cycle

All in all, the holism, scale and interdependence analyses highlighted ten conflict drivers on which the APPLE programme might strengthen its impact through some combination of mapping/monitoring, programme revision or networking.<sup>12</sup> The aim is to increase the potential that the APPLE programme will create a 'virtuous cycle' at the village level, in contrast to a stagnant or deteriorating cycle that prolongs or worsens the conflict. Figure 8 represents a simplified version of what this Virtuous Cycle might look like if MC were to implement the modifications that come out of the holism, scale and interdependence analyses. The diagram is an attempt to illustrate a new theory of change for the APPLE programme, which in turn can be monitored, evaluated and modified over time. A key difference between the Virtuous Cycle and the Pathways Analysis (Figure 3) is that in the Virtuous Cycle, the conflict drivers have been reworded as 'peace enablers' in order to represent the intended impacts of the APPLE programme and to depict the positive interdependence among these impacts.

In addition, the Virtuous Cycle in Figure 8 is a stronger theory of change than the one depicted in the original APPLE Pathways Analysis for several reasons. First, the Virtuous Cycle includes three key conflict drivers not included in the original Path-

<sup>12</sup> These conflict drivers include poor economy, conflict in communities, lack of voice for communities, corrupt/ineffective government, insecurity, divided government, active armed groups, lack of law enforcement/acceptance and international interference.

ways Analysis: active armed groups, lack of law enforcement/acceptance and divided government. The programme’s impact on these variables is primarily a function of modifying the programme to include networking with other organizations/programmes working directly on these factors and, through such coordination, strengthening the impacts of each programme. In addition, the Virtuous Cycle represents the improved impact of the APPLE programme through providing negotiation and communication training for local governments and joint sessions for these governments and the local communities they are meant to serve.

Second, the revised APPLE programme also contains more robust interconnections between programme impacts, which reflects the new programme’s ability to counter negative interdependence (e.g. from formerly unaddressed factors like ‘active armed groups’). In addition, the revised Apple programme builds greater positive interdependence among the factors it affects. Lastly, through networking and coordination with other programmes/organizations that work on governance, security and economic issues beyond the geographic reach of the original APPLE programme, the revised programme is better able to deal with problems of insufficient scale.

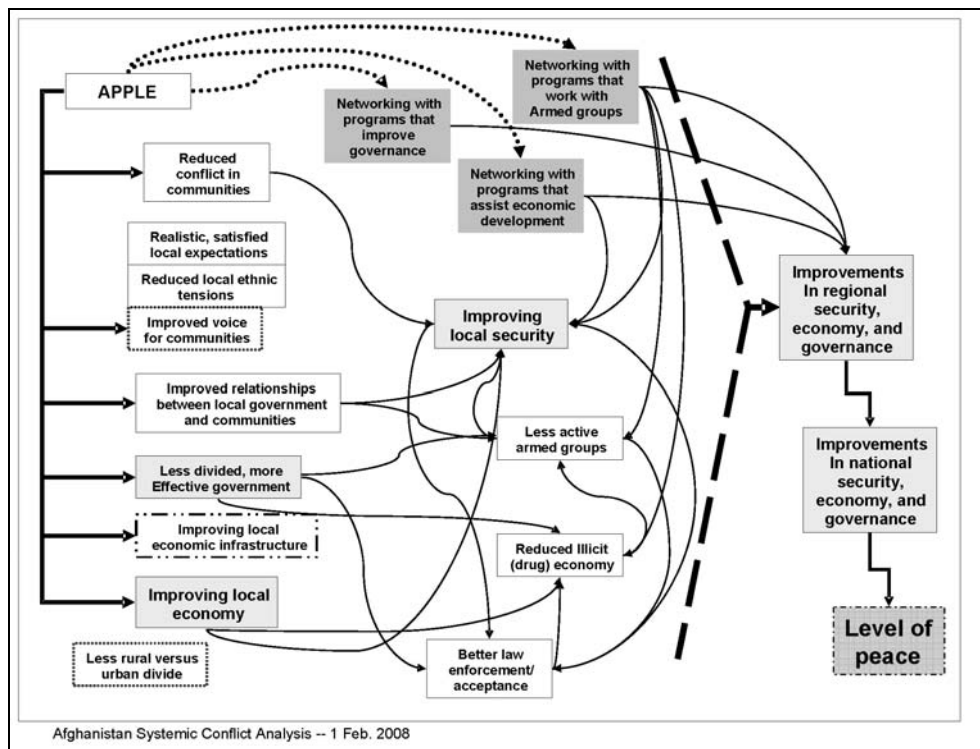


Figure 8: APPLE Program Potential Virtuous Cycle

## Conclusion: The Need to Sharpen and Expand our Thinking

As noted above, systemic conflict analysis is not an exact science. Some of the judgements regarding which factors to include in a systems map and which not to include can be based on hard, quantifiable data, while others are more intuitive assessments. In addition, any planning tools for increasing a programme's systemic impact on PWL are only as good as the conflict analysis they are based on. For some, this uncertainty may leave too much room for human subjectivity. However, the worth of these tools is not only determined by their ability to represent reality. Rather, their worth derives mainly from their ability to make subjective and unarticulated judgements explicit and testable. If a theory on how a programme will have lasting impact on both the micro and macro (PWL) levels is explicit, then it can be monitored and evaluated. If that theory and the programmatic actions based on it are not successful, then they can be changed. If they are successful, they can be replicated.

Despite their lack of precision, systematic analysis and planning have the benefit of sharpening our thinking about peacebuilding programmes and facilitating our learning about what works and what does not. In addition, by assisting peacebuilders to think in systemic (rather than linear) and holistic (rather than narrow and discipline-bound) terms, systemic tools force peacebuilders to think beyond their core competencies or pre-determined mandates when they design and implement programmes. Too often peacebuilders accept donor or other organizational constraints as permission to ignore reality. Once when working in eastern DRC, we put together a peacebuilding programme that combined economic development aid, environmental protection, demobilization of armed groups, civic education, and conflict resolution. The donor worked to overcome many obstacles to combining work that was traditionally funded separately. Ultimately the donor came back and said that they would fund the programme, except for the conflict resolution work which was outside their funding mandate. While that was undoubtedly an accurate statement of their donor policy, it was simply out of line with reality and put the programme they ultimately funded at great risk.

What was interesting with regards to the MC Afghanistan work is that they realized the potential of systemic and holistic analysis tools was not diminished by possible conflicts with grant restrictions or other policies. In their view, it was perceived as more dangerous to proceed with a programme without knowing about the potential obstacles to making a lasting impact. Additionally, as indicated in the Programme Planning Matrix section above, an organization has an almost limitless ability to address potential programme needs through some form of mapping the landscape of other peacebuilding programmes, revising one's own programmes, or networking.

In short, it is better to be aware of the obstacles to effectiveness and prepare to deal with them rather than to ignore them. Furthermore, the difficulty of making the connection between individual programmes and PWL is not an excuse to avoid the question of whether, and if so how, a programme can maximize its potential to have a lasting impact on PWL. The SAT model, systemic conflict analysis mapping, and the planning tools for systemic impact (e.g. pathways, holism, scale and interdependence analyses) are helpful ways to cope with the complexity of bridging the gap between micro-level programme impacts and macro-level systemic change. Peacebuilding as a field is only on the cusp of developing and perfecting these tools. If nothing else, the

rigour these tools bring should help speed the learning process for how to better enable peacebuilding programmes and achieve ‘peace writ large’.

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