

# **Influence Diagram Supporting the Implementation of Adaptive Campaigning**

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## **Abstract**

*Adaptive Campaigning describes the Australian Land Force response to the challenges of future warfare. It discusses the need for Army to perform successfully over various lines of operation and to maintain an adaptive approach in order to achieve its objectives in an ever changing complex environment. However, the novel nature of this approach poses some conceptual and practical implementation difficulties. A visualisation technique known as Influence Diagrams is employed to develop an Adaptive Campaigning Influence Diagram to abate some of these difficulties. The benefits of employing the diagram are illustrated by recent real world experiences of US Forces in Baghdad.*

**Key words:** Adaptive Campaigning, Australian Army, influence diagram, Land Force, lines of operation, insurgency, and influence pathway.

## **Introduction**

As we are already well into the 21<sup>st</sup> century, it is generally accepted, even by those that are non-military minded, that conflicts in recent times have moved from the conventional to those dominated by insurgency warfare. Although the enemies' military hardware is relatively low-tech compared to those of the Western Forces, they are still capable of preventing Coalition Forces from achieving their objective to dominate and control the environment. The insurgents are also able to inflict casualties on Coalition Forces. The use of traditional warfare tactics is no longer adequate when fighting in this uncertain complex environment. As the NATO commander General John Craddock stated, Western efforts in Afghanistan were disjointed and the battle could not be won by military means alone (Wyatt, 2008).

Although insurgency warfare has been fought for a long time, it is predominantly in recent years that Western Armies have started to consider capabilities needed to fight this type of conflict as important as the capabilities to fight conventional battles, and integrate the two together. In addition, tactics are evolving to include methods of defeating the enemy in asymmetric warfare campaigns that include utilising the Land Force to perform tasks beyond what would generally be considered typical military tasks. Adaptive Campaigning describes the approach that the Australian Army (AA, 2007, 2009a,b) considers will achieve this task more efficiently and effectively.

However, in view of the novel and non-traditional nature of the approach, its implementation might face a variety of conceptual and practical difficulties. As a means of supporting the implementation of Adaptive Campaigning, an influence diagram has been developed to highlight the need for Army to remain adaptive during a campaign and operate over several lines of operation and not focus solely on combat. As a case study, this Adaptive Campaigning Influence Diagram is discussed in a real world example (Sills, 2009) of US Forces fighting insurgents in a particular region of Baghdad in 2007 where two different tactics were used with varying success. The diagram illustrates the potential correlation between predicted outcomes for a particular tactic used. Hence, developing influence diagrams such as this one may prove to be a means to the implementation of Adaptive Campaigning.

### **Adaptive Campaigning**

Contemporary warfare continues to change and involves a larger number of more diverse actors all competing for control over allegiances and behaviours of targeted human population groups. For this reason future conflicts cannot be resolved solely on the battlefield and combat operations cannot be viewed as central and decisive. However, combat still remains an essential means of achieving the desired end-state – winning the hearts and minds of these populations. Therefore a war in the 21<sup>st</sup> century can be considered a human centric activity and necessitates the need to influence and control people and their perceptions. To enable these emerging requirements of modern warfare, a novel comprehensive approach was introduced – Adaptive Campaigning (AA, 2007, 2009a,b).

Adaptive Campaigning is the Australian Land Force response to the future conflict environment as part of the military contribution to a Whole of Government approach to resolving conflicts. It describes the reasons for the Army to adopt an adaptive approach to future military operations in the context of continuously evolving complexity and operational uncertainty (Grisogono and Ryan, 2007). The purpose of Adaptive Campaigning as a warfighting concept is to influence and shape perceptions, allegiances and actions of a target population to allow peaceful political discourse and a return to normality. Given the complexities of the environment the key to the Joint Land Force's success is expected to be its ability to effectively orchestrate effort across the five lines of operation: Joint Land Combat (JLC), Population Protection (PP), Information Actions (IA), Population Support (PS) and Indigenous Capacity Building (ICB).

Joint Land Combat (AA, 2008b) involves actions to remove organised resistance of both conventional and unconventional enemies, leading to effective interaction with the population and thus setting the conditions for the other lines of operation. The manner in which the Joint Land Force conducts combat operations may be just as important as the outcomes and the effect they have on the perceptions of the population. The Joint Land Force will fight and dominate any adversaries by seizing and retaining the initiative through simultaneity, multidimensionality and continuous battle.

Population Protection (AA, 2008c) includes actions to provide immediate security to threatened populations in order to control residence, identity, movement, assembly and the distribution of commodities and therefore setting the conditions for the re-

establishment of law and order. In communities disrupted by violence, Population Protection operations are the essential precursor to the restoration of normality.

Information Actions, previously referred to as Public Information (AA, 2008e), primarily inform and shape the perceptions, attitudes, behaviour and understanding of targeted population groups in order to reinforce actions within the other lines of operation. Information operations underpin every element of Adaptive Campaigning and contribute to several broad purposes essential to its success, for example win the psychological contest with any adversary, keep the trust at home and gain the local support, and win the IT application competition.

Population Support (AA, 2008d) includes a range of actions to provide essential services to affected communities. The purpose of these actions is to relieve immediate human suffering and positively influence the population and their perceptions. Population Support operations are conducted as integrated actions by the Joint Land Force, other government agencies (OGAs) and non-government organisations (NGOs). During initial stages of a campaign it may be necessary for military elements to provide the majority of the effort required for this line of operation but as time progresses the military role is likely to reduce as OGAs and NGOs capacities grow.

Indigenous Capacity Building (AA, 2008a) includes actions taken to assist in the development of effective indigenous government, security, police, legal, financial and administrative systems and help set the conditions for transition to indigenous governance. In many cases success on this line of operation will be a fundamental exit condition for the Joint Land Force.

Conducting actions within one line of operation will have a strong influence on the ability to conduct actions on other lines of operation. Consequently, these five lines of operation must never be considered as a sequence of events with one line of operation only commencing when another has been completed. It is important to consider all five lines of operation from the beginning of a campaign. In an ideal scenario, all five lines of operation would be conducted simultaneously from start to finish of a campaign where the main focus of actions may vary at certain stages during the campaign due to particular needs at that time.

For Army to operate over the five lines of operation with greatest effectiveness in order to achieve mission success in an ever changing asymmetric complex environment, Army needs to be able to adapt to emerging changes during the campaign. This requires the ability to quickly shift the main efforts and focus within individual lines of operation as well as across lines of operation. The capabilities required to operate effectively over the five lines of operation include operational flexibility, responsiveness, agility and resilience (AA, 2007, p. 8).

Operational flexibility is the ability of Army to remain effective across a various range of tasks, situations and conditions and the ability to have the means to change the main areas of focus when needed. Operational responsiveness is the ability to rapidly change effort. This is essential for responding to emerging threats in an ever changing environment but is also the key to exploiting emerging opportunities that present

themselves as a campaign unfolds. Operational agility involves knowing when to, and being able to, shift strategy, by dynamically managing the balance and weight of effort across the lines of operation. Operational resilience can be defined as the ability to be resistant to shock. It is the capacity to sustain loss, damage and setbacks yet still maintain a level of capability above a given threshold (AA, 2007, p. 8). These four capabilities along with robustness, the insensitivity to enemy actions, are essential for having the capability to operate over the five lines of operation and to succeed in complex environment campaigns.

## **Influence Diagrams**

When dealing with large complex systems it is often very difficult, if not impossible, to grasp an understanding of all the components involved and how each of the components interacts with one another. Various techniques have been developed to try and unravel some of this complexity and allow a better understanding of the system as a whole. These techniques often involve the use of diagrams and pictures which assists the human mind at better grasping and understanding relationships, connections and effects (Coyle, 1996 and 2004, and Curtis *et al.*, 2006).

One of these techniques, known as influence diagrams, is used to identify influences one action or event has over other actions and events. They have some similarities with mind maps, impact wheels and why diagrams but the value added feature of influence diagrams that makes them useful when looking at complex situations is their ability to identify feedback loops. An additional property of influence diagrams is that the same situation can be examined at different levels. This allows greater understanding of the situation and also means that the most suitable diagram can be used to communicate the findings to a desired audience. This means that an influence diagram can be developed specifically for one particular audience group while a different influence diagram of the same situation can be used for a different audience.

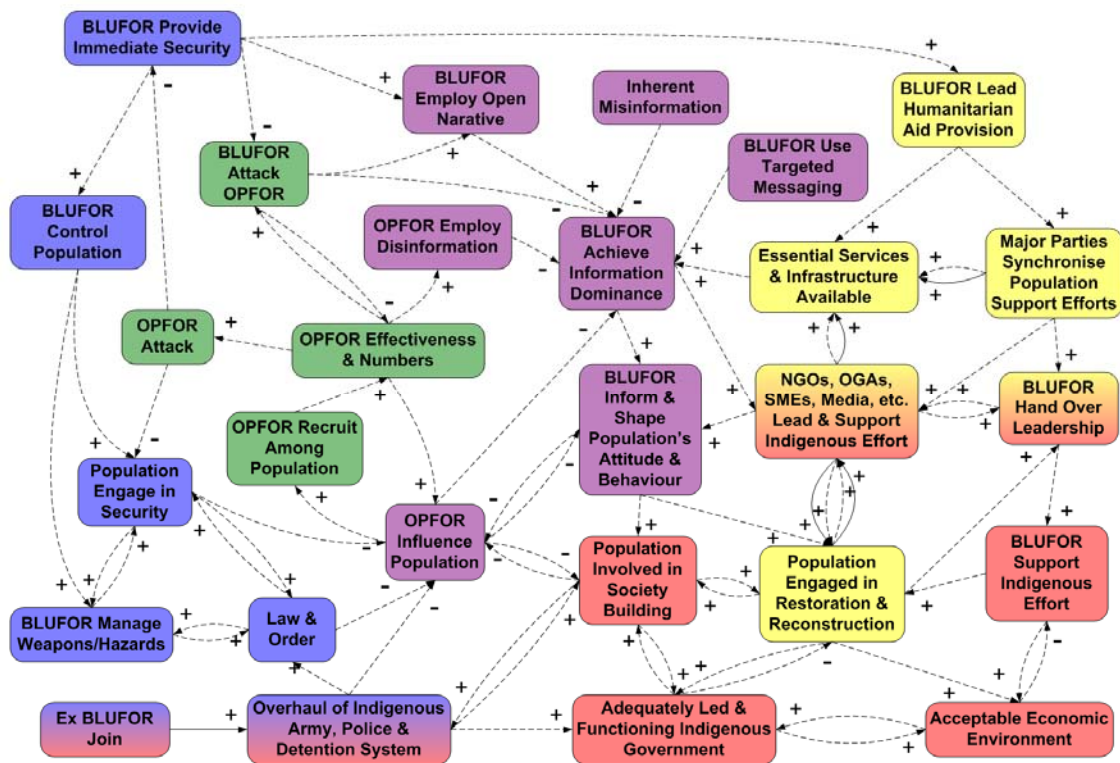
When constructing an influence diagram, we adopt the terminology described by Coyle (1996 and 2004). Where one action or event has an influence over another action or event, it is displayed with an arrow connecting the two. In addition, all influences between actions and events must include a positive or negative sign to highlight the nature of the influence. Once a feedback loop is formed, the presence of the influence signs allows loops to be identified as either positive (reinforcing or growth-producing) loops or negative (balancing or goal-seeking) loops. Dashed arrows, known as information or control arrows refer to the influence one group or action has over another. Full arrows are known as physical flow arrows and refer to the movement of people from one group to another.

There is some relevant work published that relates to the use of influence diagrams to understand the complexities of modern warfare. This work can be grouped into two broad areas. The first uses influence diagrams to gain a better high level understanding of a problem. That is, more as a problem definition/scoping tool (Coyle 1985, Coyle 1996, Curtis *et al.* 2006, Bowley *et al.* 2003, Coyle 2004 and Baker 2006). The second use them as first step towards some form of quantitative systems dynamics model to conduct what will be referred here as sensitivity analysis (Alcantar Gil *et al.* 2005,

Anderson 2007, Kucik 2007, Minami and Kucik 2009, Paté-Cornell 2009, Shoenwald et al. 2009, and Maldonado 2009). The work in this paper falls in the former category and focuses at the conceptual level as defined in the Australian Army's new concept Adaptive Campaigning.

### Adaptive Campaigning Influence Diagram

The influence diagram in Figure 1 was developed based on Adaptive Campaigning and its sub-concepts (AA, 2007, 2008a-e, 2009a,b) along with essential tasks and activities needed to achieve the objectives. This is a model of the Adaptive Campaigning concept and is not the only possible model. All major influences within individual lines of operation and also influences across lines of operation are included in the diagram. The various lines of operation have been highlighted in different colours, namely: green for Joint Land Combat, blue for Population Protection, purple for Information Actions, yellow for Population Support, and red for Indigenous Capacity Building.



**Figure 1:** Adaptive Campaigning Influence Diagram.

There are two types of arrows in this diagram. Each of the influence arrows has a positive or negative sign attached to indicate the nature of the influence. A positive arrow indicates a positive causal relationship (more leads to more, less leads to less). A negative arrow on the other hand indicates a negative causal relationship (more leads to less, less leads to more). An example of a positive influence from the diagram is where 'BLUFOR provide immediate security' has a positive influence on the ability of 'BLUFOR to control the population' (BLUFOR stands for Blue Force in this diagram and represents a joint task force of Australian and coalition forces, while Ex BLUFOR

are former BLUFOR, currently employed as contractors). This means that the more security BLUFOR provides to the local population, the more BLUFOR will be able to control the population with regard to controlling civil unrest and the segregation of insurgents from the population. An example of a negative influence can be considered between 'law and order' and 'OPFOR influence population' (OPFOR stands for Opposing Force and represents regular enemy units, insurgents and criminals). What this means is that the more law and order is established, the less likely people will be influenced by OPFOR. The pressures on people living in regions with lawlessness and disorder which may have pushed some to sympathise with and support OPFOR are greatly reduced when law and order is on the rise.

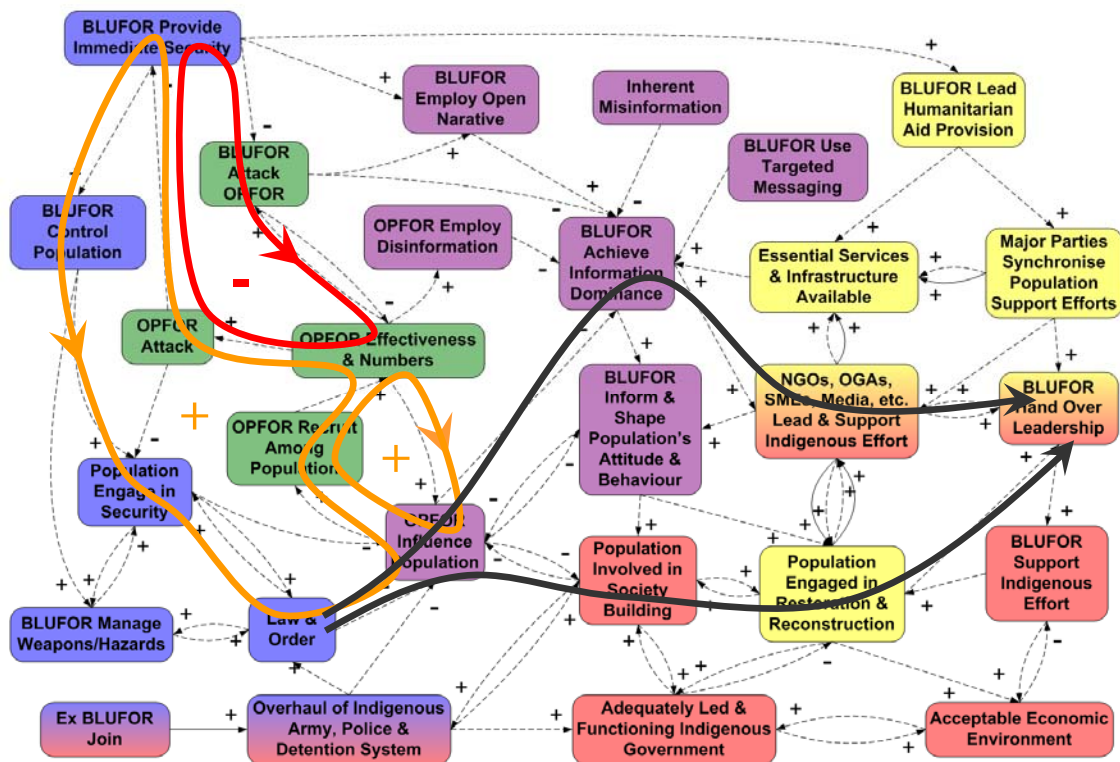
One of the key components of the influence diagram is a desired end state, a general objective upon which all major actions and events should inevitably impact. In most campaign scenarios involving the Australian Defence Force, the desired end state will be to restore a normal civil society. What is meant by the word 'normal' is a society which satisfies Australia's definition of a stable government and economy, and a particular level of law and order (AA, 2007). In addition, it is important that the local population is satisfied with the new government and have a level of infrastructure that allows the movement of people and goods to facilitate a level of economy which maintains the population well above a mere survival line. This influence diagram therefore uses the states of 'acceptable economic environment' and 'adequately led and functioning indigenous government' as the essential components of the desired end state, normal civil society.

Any military campaign will have multiple actions that take place from the very beginning and hence there is not a single specific starting point for the set of activities. This is also mirrored in the influence diagram as it too does not have a designated start. Although it is not necessary to have a single start to the campaign, it is still important to identify some of the initial actions which will take place. These actions will give the campaign a direction and thus lead to the desired objectives. Examples of initial actions on this influence diagram can include BLUFOR attack OPFOR, BLUFOR provide immediate security and BLUFOR lead humanitarian aid provision. Once an initial action is identified, it is then possible to identify what influence that action will have and therefore what other actions and events need to follow to be able to achieve a desired outcome. Identification of flows of influences can be conducted for all of the initial starting actions.

Flows of influence from initial starting actions to desired end states are known as influence pathways and there is often more than just one influence pathway from an initial start action to the desired end state. This indicates that there are various ways to conduct a campaign, and depending on what influence pathways are focused on, required resources to achieve the objectives through that pathway can be identified. Influence pathways do not need to be solely from initial start actions to desired end states. Influence pathways can be examined between any two actions or events on the diagram and can be used to examine how the success of achieving one action can influence the ability to achieve other actions. Identifying influence pathways such as these may be useful when attempting to gauge the current state of success in a

continuing campaign, or could even be used to identify that a particular action will increase in the imminent future, based on the current state of another action.

An example is what effect the current state of law and order has on the ability of BLUFOR to hand over their leadership role in both humanitarian aid provision and indigenous capacity building (Figure 2). Improving law and order increases the stability and feeling of safety in a region and will reduce the ability of OPFOR to influence the population and receive their sympathy and support. This enables BLUFOR to increase their ability to achieve information dominance, a state where information and actions by BLUFOR may change the perceptions and behaviour of the local people in such a way that it will enable BLUFOR to achieve its overall objective more efficiently. As information dominance and its effects increase, more non-government organisations and other government agencies will be able to lead and support the indigenous effort which will allow BLUFOR to hand over some more of the leadership role. This is not the only influence pathway that leads from law and order to BLUFOR hand over leadership. As law and order increases, and the ability of OPFOR to influence the population decreases, more of the population will be available and willing to be involved in society building. More people involved in society building will increase the population's involvement in restoration and reconstruction work and with more people involved in these areas, BLUFOR can progressively hand over their leadership roles.



**Figure 2:** Adaptive Campaigning influence diagram with two pathways of influence between ‘Law and Order’ and ‘BLUFOR Hand over Leadership’ highlighted; and examples of positive and negative loops.

One of the reasons why influence diagrams are highly suited for examining complex situations is the formation of influence feedback loops. These loops form when a

pathway of influence flows from one point, through other actions and events, and then flows back onto the original point. Because the nature of each influence is assigned as either positive or negative, each influence loop will also have a sign to identify its character. Positive loops are reinforcing or growth-producing loops while negative loops are balancing or goal-seeking (Coyle, 1996 and 2004).

Enabling positive influence loops within the influence diagram is one possible way to increase campaign effectiveness and achieve the desired campaign objectives. An example of a positive influence loop is described as follows (big orange loop in Figure 2). For BLUFOR to restore a normal civil society, one of the primary actions of BLUFOR will be to provide immediate security. The more BLUFOR can provide security, the better BLUFOR will be able to control the population. Controlling the population by reducing riots and separating insurgents from the populations will entice members of the population to return to security services such as the police force which they may have feared being associated with during the rebel dominating periods. The more the local population is engaged in security, the greater the law and order that is exhibited. Greater law and order has a negative influence on OPFOR's ability to influence the population because the population feel safe and this increases their satisfaction rating of the current administration government, thus reducing the likelihood that they will be convinced that OPFOR can provide a better environment. If there is a reduction in the ability of OPFOR to influence the population, it will mean that there is a reduction in OPFOR's ability to recruit among the population. This inevitably leads to lower OPFOR effectiveness which reduces OPFOR's ability to attack. The less OPFOR attack, the more BLUFOR can provide immediate security, the more BLUFOR can control the population, and the cycle continues. Although this loop contains two negative influences, it is still considered a positive loop because the overall effect is reinforcing. In general, all loops which do not have an odd number of negative influences are positive or reinforcing loops. In the example just given, this means that the provision of immediate security by BLUFOR will influence actions and events that will provide an environment that will allow BLUFOR to increase their ability to provide immediate security, and the cycle will continue to grow.

However, while BLUFOR is involved in establishing the conditions to allow this positive loop to take place, OPFOR will be working at implementing their own actions in the region and these actions will have various influences that will also form influence loops (small orange loop in Figure 2). For OPFOR to be able to effectively attack the population, the indigenous government or BLUFOR, they need to increase their numbers and effectiveness by recruiting more people. However, to be able to recruit among the population, OPFOR must try and influence the population in a manner to extract some form of sympathy for their cause. This can involve OPFOR providing food, water and other necessities to the population, employing people or establishing some sort of secure environment for the population. Assisting the population better than what the current government is capable of, may increase the population's dislike of the current government and at the same time increase the population's acceptance of OPFOR. This will increase the ability of OPFOR to convince the population that OPFOR's causes and beliefs are plausible and favourable and to receive sympathy and support. Influencing the population in this manner will increase OPFOR's chances of recruiting some members of the population and this will lead to greater OPFOR



numbers and potentially effectiveness. With greater numbers and effectiveness OPFOR is able to spend more time and resources influencing the population which will result in more recruits joining OPFOR, leading to greater OPFOR numbers and effectiveness. This cycle contains all positive influences and is again a positive or reinforcing loop. Once the cycle initiates, it simply grows and grows thus providing for sufficient numbers and effectiveness to launch decent level attacks.

The two loops described above involve three of the same actions and events: OPFOR influence population, OPFOR recruit among the population and OPFOR effectiveness and numbers. The intention of BLUFOR is to use the first reinforcing loop to reduce these three actions and events, and in doing so increases BLUFOR's ability to provide immediate security which in the long term assists BLUFOR in achieving their overall goal of establishing a normal civil society. However the intention of OPFOR is to use the second reinforcing loop to increase these three actions until they have sufficient numbers and effectiveness to attack. OPFOR and BLUFOR are competing against each other in an attempt to dominate the components of the loops that overlap. But if OPFOR is winning this battle, that is to say that the ability of OPFOR to influence the population is increasing, OPFOR are recruiting more and OPFOR numbers and effectiveness are increasing, this will mean that OPFOR have greater ability to attack. This will reduce BLUFOR's ability to provide immediate security and control the population, less of the population will be engaged in security, law and order will decrease and this will mean that OPFOR will be more successful at influencing the population. Once the positive loop that BLUFOR is involved in begins to spiral unfavourably, the reinforcing nature of the loop will mean it will continue to become increasingly harder for BLUFOR to provide security, through each cycle of the loop. For BLUFOR to gain the upper hand over OPFOR they must activate a balancing (negative) loop to bring the situation to some level of equilibrium and then once this is achieved, reactivate their reinforcing loop where BLUFOR providing immediate security will initiate a influence pathway that will provide the circumstances that allow BLUFOR to increase their ability to provide immediate security.

The negative loop BLUFOR could activate to achieve this involves BLUFOR attacking OPFOR (red loop in Figure 2). If this occurs then it will inevitably lead to a reduction in OPFOR numbers and effectiveness and therefore a reduction in the ability of OPFOR to attack. With OPFOR attacking less, BLUFOR have more time to provide immediate security. In doing so BLUFOR will have less time and therefore opportunity to attack OPFOR, but by increasing their provision of immediate security, BLUFOR will increase their control of the population which leads to increased levels of law and order, a reduction in OPFOR's influence of the population, recruiting ability and therefore numbers and effectiveness. This reinforcing loop will then continue to cycle, each time making it easier for BLUFOR to provide immediate security which will inevitably have an influence on BLUFOR achieving a normal civil society.

### **Real World Example**

This section considers an account of events recently experienced by US forces in a district of Baghdad known as East Rashid (Sills, 2009). It describes the original actions taken to combat the emergence of strong sectarian violence and when the scenario

continued to worsen, it moves on to describe the new tactics that were taken to achieve the goals of restoring security to the district and transitioning security responsibilities over to the local government. These actions are mapped on top of the Adaptive Campaigning Influence Diagram to identify if there is any correlation between actions taken and the resulting outcomes observed, and what you may predict the outcomes would be by examining the diagram. The real world actions described in the paper have been translated into Adaptive Campaigning terminology within the square brackets to allow the reader to follow the actions on the influence diagram (Figure 3).

In November 2006, the US 1<sup>st</sup> Light Reconnaissance Squadron, 4<sup>th</sup> Cavalry Regiment (1-4 CAV) arrived in theatre in Iraq as part of a Multi-National Division – Baghdad (MND-B). They soon encountered the presence of sectarian violence between Sunni and Shi'a extremists in the East Rashid neighbourhood of Baghdad.

The original objectives were to transition military presence over to Iraqi Security Forces as the situation continued to stabilise [within Adaptive campaigning this corresponds to overhaul of indigenous army, police and detention systems – within the Population Protection and then the Indigenous Capacity Building line of operations; BLUFOR hand over leadership – Population Support and Indigenous Capacity Building; and BLUFOR support indigenous effort – Indigenous Capacity Building]. However, following the strong emergence of sectarian violence, the primary goal became to return security to the people and therefore 1-4 CAV focussed on protecting local Iraqis. They stopped thinking about Population Support and Indigenous Capacity Building, and focused solely on Population Protection. This change in focus was implemented by an increase in BLUFOR providing immediate security, while their strategy also included placing a large number of barrier walls throughout the city [BLUFOR control population – Population Protection] and hiring local citizens to protect their community [population engage in security – Population Protection].

By June 2007, attacks against the city's population had decreased by 58 percent (Sills, 2009) which would tend to indicate that the taken population protection measures were effective. However, during the same time, attacks against coalition forces increased by 59 percent (Sills, 2009). This suggests that OPFOR had sufficient numbers and effectiveness to continue to launch attacks and over time were also able to maintain, if not increase numbers and effectiveness to be able to increase attacks on coalition forces.

According to the Adaptive Campaigning influence diagram, by focussing on Population Protection actions such as providing immediate security, controlling the population and engaging the local population in security activities, these actions should all have a negative influence on the ability of OPFOR to influence the population. However, because OPFOR numbers were high to start with, they were able to launch attacks on both the local population and on coalition forces, thus closing this positive influence loop. But because OPFOR attacking has a negative influence on BLUFOR's ability to provide immediate security, this would lead to lower levels of population control, less locals would be engaged in security activities and this would mean that OPFOR would have greater ability to influence the population, recruit more people and launch more attacks. This reinforcing cycle would continue to spiral against 1-4 CAV's plans and would make it continually more difficult for them to provide immediate security and

protect the local population. To escape from this downward spiralling circumstance, according to the diagram 1-4 CAV would need to initiate a balancing loop by focussing on attacking OPFOR to bring down their numbers and effectiveness. Once some form of equilibrium was established, then the focus could revert back to providing immediate security. However, if these population protection actions are insufficient at reducing OPFOR's ability to influence the population under the current circumstances, then their numbers will continue to rise and attacks on coalition forces would rise once again. To gain the upper hand in this environment, other actions need to be taken other than just population protection that will also have a negative influence on OPFOR's ability to influence the population. According to Adaptive Campaigning, to achieve an overall objective such as establishing a secure environment and handing over security to the indigenous government, the coalition forces need to operate over the five lines of operation rather than just focus on one line at a time, as was the case in this example with the Population Protection line of operation. By operating over more lines of operations, actions taken on these lines have the potential to influence actions taken on the Population Protection line of operation and will more likely lead to overall objectives more efficiently.

Following the increased number of attacks on coalition forces, 1-4 CAV were forced to change their tactics. They decided to implement concepts from the US Field Manual 3-24 *Counterinsurgency* (FM 3-24) in order to both protect residents of the East Rashid district of Baghdad and also defeat al-Qaeda in Iraq.

Many Sunnis believed that the government of Iraq was under Iranian influence. In addition they felt that the Shi'a dominated national police were actually Shi'a militia as they would harass Sunnis at checkpoints and were strongly believed to be behind many kidnappings as either national police or people wearing nation police uniforms were responsible for many of them. In addition to the constant violence, the use of bombs, including car bombs by al-Qaeda in Iraq had rendered many essential services inadequate for the locals. These include electricity, potable water and a working sewerage system. Regular rubbish collection and other community works also waned as a result of government workers refusing to work due to the lack of security in the neighbourhoods. To restore some form of order to the district, 1-4 CAV worked on reconnecting the local population with government institutions [Information Actions and Indigenous Capacity Building].

One of the key areas of focus was separating insurgents from the local population [BLUFOR control population – Population Protection] (Figure 3). When 1-4 CAV cleared an area, instead of moving onto the next block or district, leaving a vacuum behind for al-Qaeda in Iraq to return, 1-4 CAV maintained a 24/7 presence in these cleared regions to show to the local community that they were there to stay for some time [BLUFOR employ open narrative – Information Actions]. A constant presence had the added benefit of reducing the number of roadside bombs that were planted thus reducing both local and coalition forces deaths. Other population control measures included extensive gathering of intelligence and taking photographs of military aged men. This reduced the ability of al-Qaeda in Iraq to hide among the population and helped separate insurgents from the population.



**Figure 3:** Adaptive Campaigning influence diagram highlighting the actions taken by 1-4 CAV over several lines of operation which proved more successful at bringing security to the East Rashid district of Baghdad rather than just focussing on Population Protections actions.

To enable better separation of insurgents from the population it is important to have support, or at least understanding by the local population. The initial perception of coalition forces by the East Rashid population was negative, mainly due to the method by which raids and searches were conducted. Initially, the coalition along with the Iraqi Security Force support would surround an area and then gather military aged men and transport them all to holding facilities, and from here they determined who to release and who to detain. This process made Sunni citizens feel that they were being targeted by coalition forces as well as Shi'a militias and Shi'a dominated the national police. To alleviate this perception, 1-4 CAV conducted raids which focussed only on capturing specific and known individuals for interrogation and detention. Within a few days of capturing an individual they told their families what had occurred and the reason for the detention [gaining support from the locals through actions is expressed in the influence diagram by BLUFOR employ open narrative in the IA line of operation]. Obtaining the local population's support was enhanced by 1-4 CAV through genuine compassion and desire to understand their motivations and what they really needed and wanted [BLUFOR employ open narrative – Information Actions]. This proved very effective in the fight against the insurgents.

To alleviate the distrust of Shi'a dominated national police by residents of East Rashid, local residents were hired to provide security and protect their neighbourhoods [population engage in security – Population Protection]. And in the long term those providing this form of security would be integrated into the national police. With

coalition forces restoring security and improving conditions in the districts, there was less reason for locals to sympathise with, support or join the insurgents.

With trust from the locals building and insurgent attacks on the decline, 1-4 CAV could commence to shift focus onto other areas such as restoring essential services, improving the quality of life and improving the economic environment. Although the host nation and international aid organisations will generally be responsible for addressing these essential services, while the local environment is still unstable, coalition forces may need to take a leading role in providing this service [BLUFOR lead Humanitarian Aid provision – Population Support; essential services and infrastructure available – Population Support]. Once the environment stabilises they can then transition that role over to local government agencies, non-government organisations and other government agencies [BLUFOR hand over leadership – Population Support / Indigenous Capacity Building].

One of the first population support actions was to remove the sewage in the streets caused by insurgent bombs and the overflowing septic tanks resulting from the refusal of local government workers to clean neighbourhoods due to security issues. For this case 1-4 CAV provided security escorts for sewerage pumping trucks and in doing so, some relief was resorted to the community. A reliable electricity supply was also restored by providing the communities with small power generators. Other major infrastructure projects included repairing road, electricity, water and sewerage networks. Projects to improve the quality of life for locals included removal of accumulating rubbish from streets, updating soccer fields, renovating gyms and even community artwork (Sills, 2009).

Following the collapse of the Iraqi government in 2003, the economic situation deteriorated while unemployment increased and thus many people were available for recruitment by insurgency groups. Therefore projects to improve the economic environment were also initiated [acceptable economic environment – Indigenous Capacity Building]. A combination of grants, contracts and projects were issued to kick start a local economic recovery. The number of open shops along the main street in East Rashid increased from ten in May 2007 to 117 by March 2008 (Sills, 2009).

The new tactics employed by 1-4 CAV above involved conducting operations over several lines of operation (refer to Figure 3) and furnished a better outcome than when the actions focussed solely on one line of operation. This illustrates the importance of conducting operations under the guidance of Adaptive Campaigning and also illustrates how the influence diagrams approach can assist in understanding why it is essential to operate over all five lines of operation.

### **Potential Benefits of the Adaptive Campaigning Influence Diagram**

We developed the Adaptive Campaigning influence diagram using the Adaptive Campaigning documents and its sub-concepts. The purpose of the diagram was to represent the interdependence of the sub-concepts within Adaptive Campaigning and hence the need to plan and conduct campaigns over the five lines of operation. We also developed the diagram with the intention that it could be used to support the design of

future campaigns by mapping actions taken onto the diagram and identifying on what aspects of the environment it would have an influence. The diagram was based entirely on doctrinal publications and only when complete, it was compared against a real world military campaign describing undertaken actions and their outcomes of which we had no prior knowledge. Thus the influence diagram approach was consistent with the example we examined.

When 1-4 CAV's actions were to focus predominantly on the population protection line of operation, Adaptive Campaigning and the influence diagram would have suggested that such actions could not have achieved their overall objectives. And this was exactly what happened. Even though attacks against the population decreased, attacks against coalition forces increased and security to the region was definitely not restored. The introduction of new tactics involved actions over more lines of operation which had a greater overall influence on suppressing insurgent activity and restoring a secure environment to the district. Analysis of the Adaptive Campaigning concept and the utilisation of the influence diagram would have suggested that the new tactics employed could have increased the likelihood of successfully achieving the objectives. Hence, a strong correlation emerges between the actions and outcomes in this real world example, and what might be predicted by interpreting the Adaptive Campaigning influence diagram. Next we consider how else the diagram could be used and what other benefits it could reveal.

The influence diagram approach can be used to measure the success of a campaign. With current warfare tending to sway toward the side of insurgent asymmetric campaigns, traditional measures of success such as ground taken and kill ratios are less adequate at gauging campaign progress. Because the influence diagram contains the desired end state and initial actions taken, some of the actions and events between these two states may potentially be used to measure the success of a campaign. In a similar manner, gauging the effectiveness of some actions and events can be used to predict what will happen in other areas of the campaign and therefore actions can be taken to prepare for these events. For example, because 'law and order' has a pathway of influence onto 'BLUFOR hand over leadership', as levels of law and order begin to rise with increasing pace, BLUFOR should commence activities and delivery of equipment which will allow them to increase the implementation of tasks associated with this hand over. This potentially has the ability to increase both efficiency and effectiveness of actions which will save time, money and possibly lives in the long run.

One of the components of Adaptive Campaigning which has not been discussed at great lengths in this paper is adaptability. For the Land Force to operate over the five lines of operation most effectively in a complex environment requires that Army be adaptable. The characteristics that enable adaptability are operational flexibility, responsiveness, agility and resilience. Because there are many pathways that can influence a particular action or event, this increases the flexibility of Army by allowing them to choose the one, or more, of many pathways that will allow them to best influence and achieve their desired outcomes with the current capabilities available. As capabilities and the environment change, the multiple available pathways allow Army to change their tactics and actions and continue to achieve the same influence although through different pathways. The presence of many pathways enables Army to be flexible by allowing

them to rapidly change their actions to always produce the greatest desired effect with current capabilities and environmental conditions. Moreover, identifying the variety of available pathways to achieve the desired influence makes alternate choices more explicit. This allows Army to be more responsive by providing the opportunity for more rapid changes to their actions when needed. One of the benefits of utilising more than one pathway simultaneously to influence a particular action or event is that it increases the resilience and robustness of the actions taken to achieve that objective. If only one influence pathway is actioned between two events, then any disturbance by OPFOR somewhere along that influence pathway will hinder Army's ability to influence the situation to their intention. However by having several influence pathways actioned simultaneously between two points, if OPFOR are able to disturb one of the influence pathways, the intended influence can continue through the other pathways unaffected. This allows the intended influence to continue whilst Army resolve the disturbance and re-establish the influence flow through that pathway again.

Highlighting all possible influence pathways has the added benefit of identifying many of the areas that OPFOR may try to exert their own influence. Although not all pathways are actioned by BLUFOR, at least key areas of certain pathways that are not actioned can be identified as needing monitoring for OPFOR influences. Doing so may leave Army less vulnerable to novel OPFOR actions.

The Adaptive Campaigning influence diagram could also be used for pre-deployment purposes. Prior to a campaign commencing, the influence diagram could be examined in the context of the new mission and assist in campaign planning. Aspects that could be considered include possible major influence pathways to focus on, possible alternative influence pathways to fall back on, identifying possible regions where enemy actions will have the greatest effect at hindering mission progress, and identifying areas where measures of effectiveness could be in place. This will also influence the allocation of resources to achieve these outcomes and may also assist in establishing a mission timeline.

Taken one step further back, the diagram could be used to prepare Army in general for any future campaigns to be conducted within the framework of the Adaptive Campaigning doctrine. The diagram can be utilised when conducting Army experimentation such as computer wargaming, or seminar wargames where they can also be used for adjudication purposes. The diagram may be able to assist in determining the force structures required to best achieve an adaptive force. Doing so may also highlight capability requirements that would further improve the adaptability of the force and their ability to operate over the five lines of operation. The influence diagram could also assist in decisions regarding the purchase of equipment needed to maintain an adaptable force.

In addition, the influence diagram can be used during the training of individual soldiers and officers. They can be taught from an early stage what is required to be adaptable, flexible and robust, how to conduct operations beyond simply Joint Land Combat, how to interact and cooperate with NGOs and OGAs, and when to shift focus as the campaign progresses. Once army has committed itself to a specific campaign the

influence diagram can then be used for pre-deployment training with the exact context of the upcoming mission in mind, to focus the generic training already conducted.

## **Conclusion**

Adaptive Campaigning is a means for fighting human centric warfare in the 21<sup>st</sup> century. Its foundation is the need for an adaptable Army to operate over five lines of operation in order to achieve the desired end state. To highlight the influences between lines of operation, the sub-concepts of Adaptive Campaigning along with enabling actions have been displayed in the form of an influence diagram.

To test the applicability of the Adaptive Campaigning influence diagram we considered the recent experience of the US 1<sup>st</sup> Light Reconnaissance Squadron, 4<sup>th</sup> Cavalry Regiment in Baghdad as a case study. Overlaying the military tactics employed in the East Rashid district onto the Adaptive Campaigning influence diagram showed strong correlation between the actions taken and outcomes observed, and what might be predicted by examining the diagram before these tactics were implemented.

This highlights the potential benefits of the diagram and suggests it could be used in future campaigns. Potential uses for the diagram include: identifying ways to measure campaign success; gauging current effectiveness and preparing for following stages; increasing overall adaptability by increasing flexibility, responsiveness, resilience, agility and robustness; spotting enemy actions; campaign planning; experimentation; and training.

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