

A SPAGHETTI BOWL!



AFGHANISTAN STABILITY AND COIN DYNAMICS

Comparison of a Document Presented to General McChrystal
in Summer 2009 With Cartographies Generated
By the Analysis of the Measurement of the Signal

Renaud Barbat and Alexandre Dagiste
Researchers at GMAP

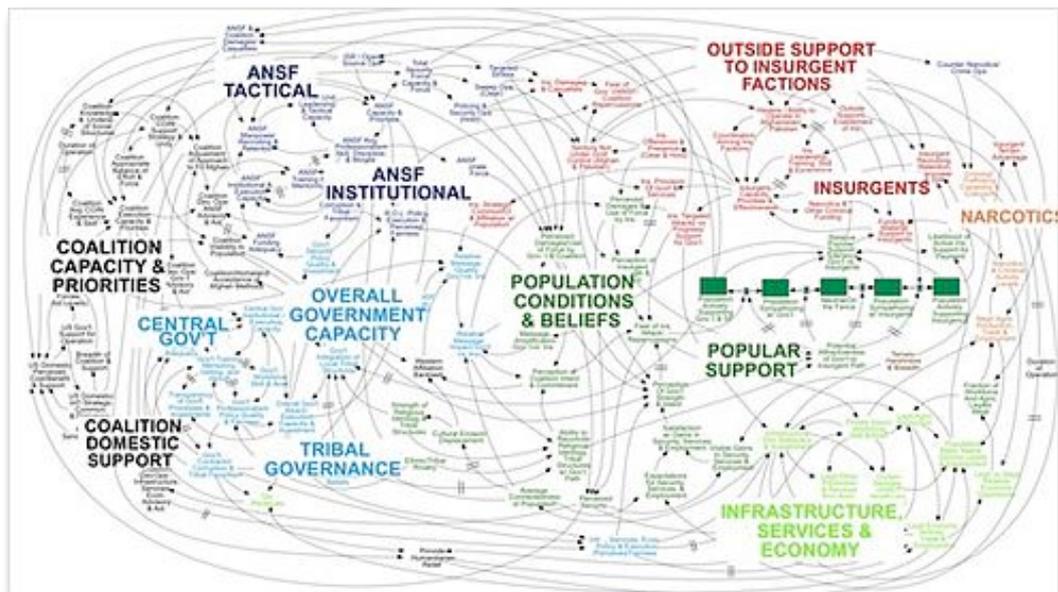


CONTENTS

P.4 - Objectives, Methodology and Parameters

P.5 - Frames of Reference

P.8 - Afghanistan Stability and Counterinsurgency



The New York Times published this map on April 26, 2010, under the title: “We Have Met the Enemy and He Is PowerPoint”, an article signed by Elisabeth Bumiller.

<http://www.nytimes.com/2010/04/27/world/27powerpoint.html?ref=global-home>

P.9 - Observations

- Relations of interaction centered on Afghanistan stability when looking at US Army references, 2009 simulation.
- Relations of interaction centered on Afghanistan stability when looking at US Army references, 2010 simulation
- Relations of interaction centered on Afghanistan stability when looking at Globe Expert references
- Potential power and influence balances with US Army references, in 2010 and 2013 (Prey and Predator Model).
- Potential power and influence balances based on Globe Expert references, in 2010 and 2013 (Prey and Predator Model).
- Heat map (hot spots) of the relations of proximity based on US Army references, in 2010 and 2013.
- Heat map (hot spots) of the relations of proximity based on Globe Expert references, in 2010 and 2013.

P.14 - Comments

FOREWORD

In summer 2009, a PowerPoint document was presented to general McChrystal in order to establish the stakes of stability and counterinsurgency in Afghanistan. McChrystal called this document a “spaghetti bowl”, as recounted in the New York Times, dated April 24, 2010. How could we resist the temptation to compare this delicious but incomprehensible Italian dish with cartographies generated by the cognitive system Globe Expert from the same references? In fact, this experimentation did bring to light accurate and truly significant elements.

First of all, the experimentation offers an obvious evidence of the Globe Expert capacities for **clarifying the complexity**, when its system enlightens and maps the few core issues instead of dozens of interlaced arrows pointing to all directions. It also shows the Globe Expert capacities to singling out the most up-to-date considerations of the subjects as well as indicating the prospective stakes. In this way and moreover, the system makes to emerge the fact that complexity lies less in the ability to imagine the possible futures than in the capacity to get an objective perspective of our knowledge. **That is not the least to say that, in this case, the technology teaches us something of the cognitive process.**

Let’s get back to the Afghan spaghetti bowl: the Globe Expert cartographies and projections map truly the question of a new strategic view. Indeed, this report on Afghanistan presents two points: the clash between different strategic cultures about the attitude to adopt in Afghanistan, and the possible evolution of the American strategy, notably with the nomination of General Petraeus, concerning the importance of populations in a military strategy nowadays.

The second point lies in **the regional and global issues of local conflicts**. Beyond the reality of Afghan insurgents finding assistance in North Pakistan, nobody can ignore that the operations take place in one of the hot spots of a true fire belt running from Caucasus through Central Asia to Near and Middle East. Thus, the question is **how to conceive and reconcile a new local population-oriented strategy with a regional and global strategy in a highly sensitive context**. Mirroring a theory of virtuous dominos, we could also picture a dynamics of multiple fires, with a continuous motion of simultaneous stabilizations and wildfires.

The third and last point, which the analyzes and the cartographies of the Globe Expert system suggest, refers to **what is missing in the US army references**. If they take into account the “beliefs”, in the broad sense of the word and not only the religious one, they do not probe this question, even though it constitutes an essential issue of what could be a population-centered strategy. However, beyond what some promptly called a “**shock of civilizations**”, it would be interesting to make the analysis ahead in order to know **if the core question is not the one of the adaptation to future, that is to say the societal capacity to innovation, which constitutes the main challenge of the knowledge societies**. Of course, it is another debate that it is nevertheless worth being opened.

OBJECTIVES, METHODOLOGY AND PARAMETERS

OBJECTIVES

This report aims at comparing the PowerPoint document presented to general McChrystal in summer 2009, which he called a “spaghetti bowl”, with cartographies generated by Globe Expert from the same references. It also aims at analyzing the cartographies generated from a different organization - i.e. approach - of the issues. Globe Expert is an information technology, which manages and analyzes the flows of information. By crossing entropy, fuzzy logic and different models such as neural or genetic algorithms, it provides cartographies and forecasting analyzes.

METHODOLOGY

1. Preparing a **semantic frame of reference** structured by axes, segments and associated keywords.
2. Starting from this frame of reference, a first search is executed on the whole database (3 million documents) in order to retrieve the most relevant documents matching with each reference. Thus, a **documentary repository** is carried out. It includes about 500 documents by segments.
3. Provided with this “base of learning”, the system executes new queries and searches for the most relevant and complex documents with respect to the references. In this way a **mini database** (20.000 documents) is carried out.
4. Keywords expressing the **core question** of the study are associated with the frame of reference and the mini database before the full process starts.
5. The process takes into account **concepts** and not only words. It is not binary - yes or no, white or black - but **fuzzy**: i.e. rendering a wide scope of colours. It is **comparative**.

PARAMETERS

1. In order to operate a comparison as correct as possible, we executed a query complying with the title of the PowerPoint: **“Afghanistan Stability and Counterinsurgency”**.
2. Likewise, the analysis based on the same references than the original document was first limited to the 2009 second semester, and then extended into May 2010. The analysis based on a different approach of the issues was not limited.
3. We also limited the projection by 2013: that is the end of President Obama’s term of office.
4. Regarding the “behavioural simulations” (genetic algorithms) we opted for the “Prey and Predator Model” based on the Lotka-Volterra equation and associated with the Malthus model, i.e. an unlimited growth of the “predators”, which can prey upon each other.

5. We did not balance the weight of the different predators, just as we did not modify the selection of the preys and predators that the system had carried out.

NOTA BENE

This report constitutes a **first approach**. On its base, **new hypotheses for research can be established**, notably by taking into account a specific selection of predators with individual weights. **New queries can be also executed in order to deepen the analysis of some issues.**

ANALYTICAL FRAMEWORKS

US ARMY REFERENCES

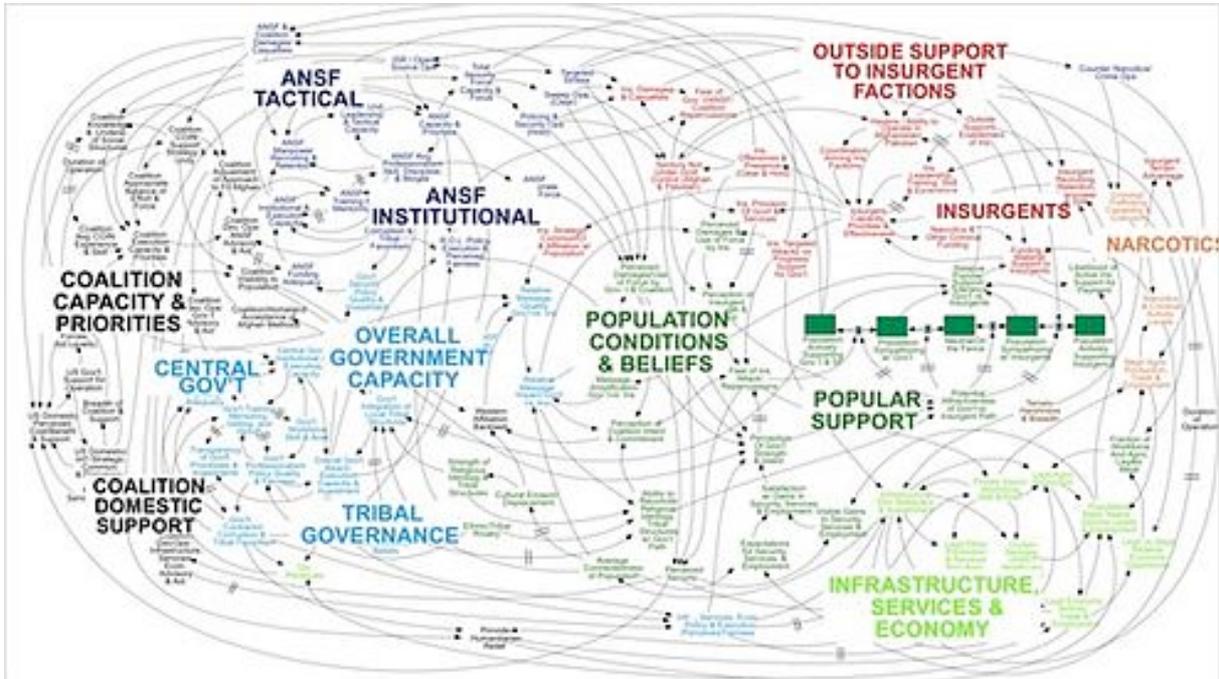
Axes	Segments	Keywords
Population/popular support	Population conditions AND Beliefs	Damages AND population AND perception; public AND opinion AND satisfaction; beliefs AND ethnic AND groups
	Governmental support	Election; legitimacy
	Tribal support	Counter AND power (balance) AND opposition; integration;
Infrastructure, economy and services	Private sectors	Attractiveness AND recognizing
	Public sectors	Public AND services AND people AND access
	Civilian services	Education; health
	Societal factors	Unemployment; poverty; middle class
Government	Central government	Transparency AND corruption; policy quality AND fairness; policy AND allies
	Tribal governance	Tribal areas AND control
	Overall government capacity	Integration AND local structures
Afghanistan security forces	Tactical forces	Strength; weapons; integration AND local support; institutional control
	Institutional forces	Corruption AND favouritism; security OPS; partnership AND recognizing; political control.

Coalition forces and action	Coalition capacities	NATO AND EU; Visibility AND acceptance; strategy AND intelligence; domestic policy AND end of war
	Coalition priorities	Stability AND policy; terrorism AND war
	Coalition domestic support	International opinion AND Afghanistan
Insurgents	Outside support	Allies AND international; tribal areas AND Pakistan
	Inside support	Organization AND strategy; vulnerability AND visibility
	Capacities AND priorities	Strength; weapons; political supports; material supports
Crime and Narcotics	Criminal activity levels	Narcotic production; trafficking capability; drug production
	International traffic	Boundaries AND Pakistan; drug growing AND tribal areas
Physical environment	Duration of operation	War AND coalition; public opinion AND terrorism
	Humanitarian action	NGO AND Afghanistan; public opinion AND humanitarian action AND war
	Geography	Boundaries AND mountains

GLOBE EXPERT REFERENCES

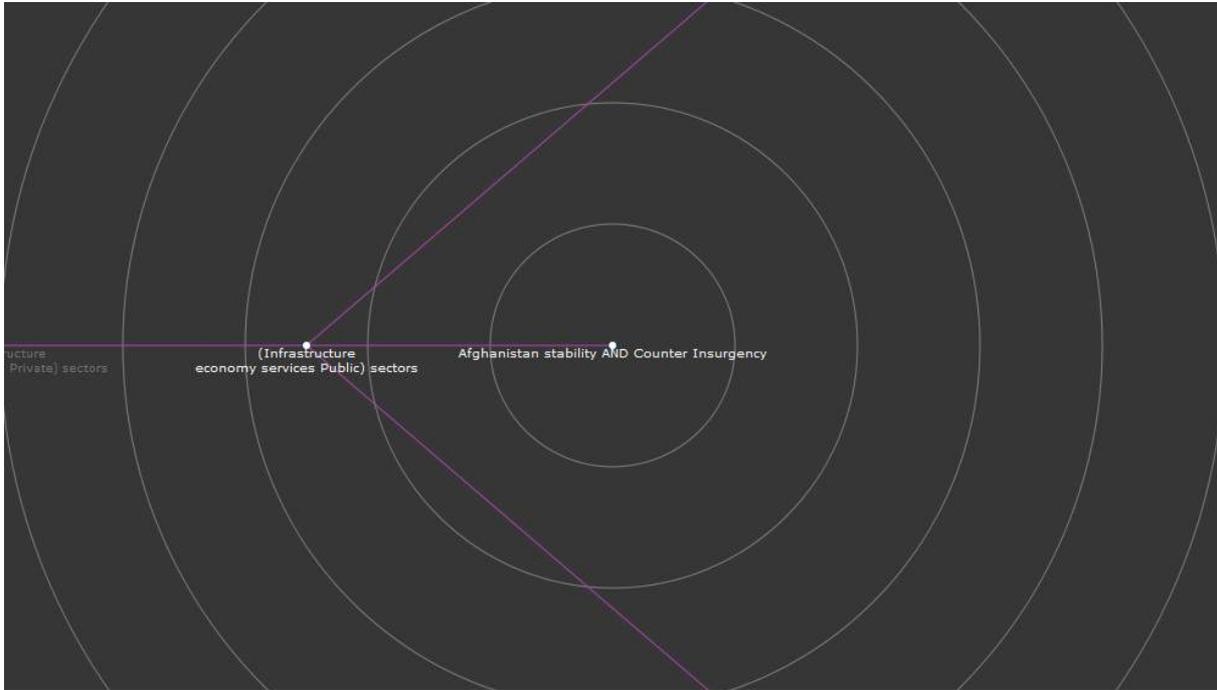
Axes	Segments	Keywords
Coalition forces	International organizations	UN NATO
	Domestic support	Financial AND support Public AND opinion AND support Pressure AND groups Breadth of coalition
	US government support	Leader AND coalition
Coalition actions	Policing and security ops	Troups AND field AND policing Contact AND population
	Psy-ops	Against AND insurgents Towards AND population Message AND impact
Population	Tribes	Tribes AND rivalry Not under government control
	Perception of coalition	Support AND coalition Helpful AND coalition Against AND coalition Coalition AND killers Beliefs
	Perception of security	Vulnerability AND insurgents Fear AND retaliation
Aims and targets	Narcotics	Drug AND producers Drug AND dealers Illegal AND agriculture Funds AND insurgents
	Insurgents	Talibans Foreign AND fighters Al Qaeda Outside AND support
	Corruption	Government ANSF
	Care for population	Humanitarian AND help Give AND good AND perception Fairness Perceived AND damages
Government and ANSF	Improve professionalism	Transparency Democracy, Legitimacy, Elections Skills Recruit
	Finance	Find funds
Environment	Geography	Mountains Pakistanese AND border (Waziristan) Large territory
	Infrastructures	Civilian AND services (SWET) Employment

AFGHANISTAN STABILITY & COUNTERINSURGENCY



The PowerPoint presented to general McChrystal in summer 2009 and called the "spaghetti bowl".

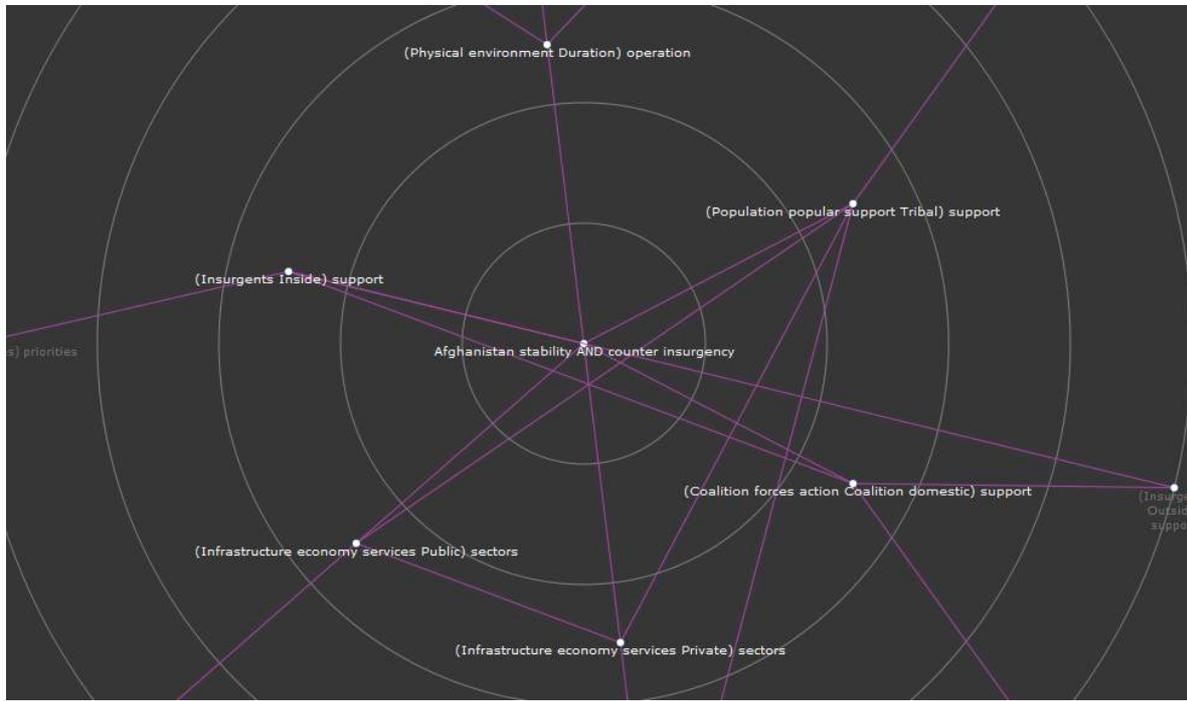
1. OBSERVATIONS



Map 1: relations of interaction centered on Afghanistan stability when looking at US Army references, 2009 simulation.

This kind of cartography renders a graphic visualization of the way the different segments interact with each other. It is based on the analysis of the concepts contained in the information regarding each segment.

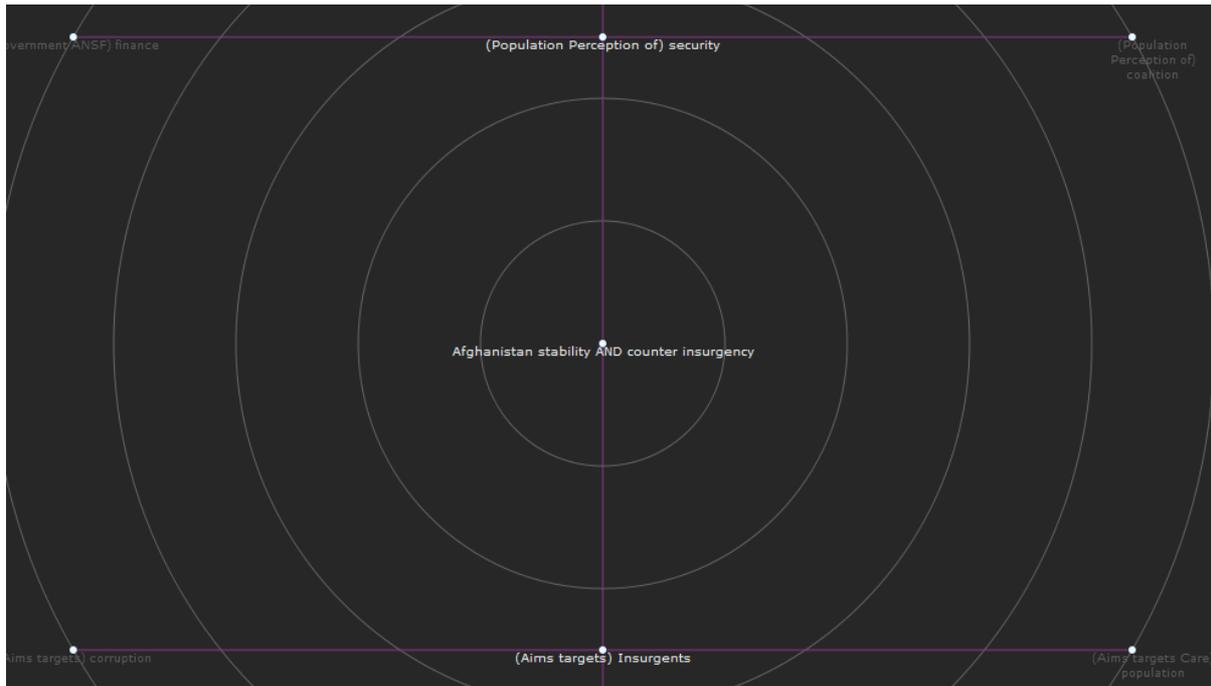
The simulation on the last 2009 semester shows that the coalition's objectives, and notably the American one, are directly linked to the stabilization in Afghanistan, linked to the counterinsurgency, and associated with the public sector. In addition, these objectives are indirectly linked to the development of civilian services (education, health...) and private sector, in order to get closer of the population, to stop the popular support to insurgents, in tribal areas notably.



Map 2: relations of interaction centered on Afghanistan stability when looking at US Army references, 2010 simulation

This kind of cartography renders a graphic visualization of the way the different segments interact with each other. It is based on the analysis of the concepts contained in the information regarding each segment.

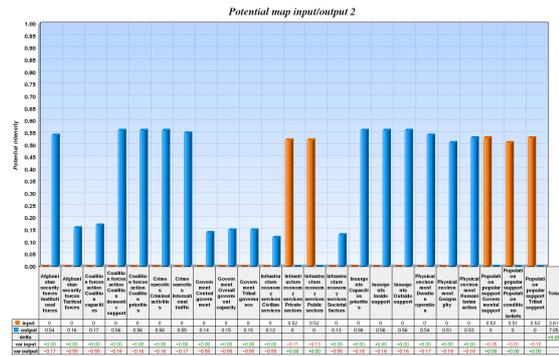
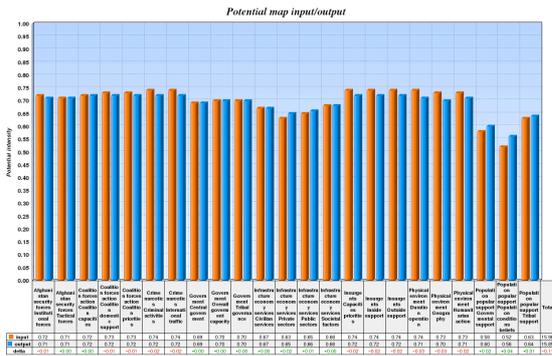
There appears that the priority for the Afghanistan stability is the fight against insurgents, the reconstruction of key sectors to win the adherence of populations and to stop tribal supports.



Map 3: relations of interaction centered on Afghanistan stability when looking at Globe Expert references

This kind of cartography renders a graphic visualization of the way the different segments interact with each other. It is based on the analysis of the concepts contained in the information regarding each segment.

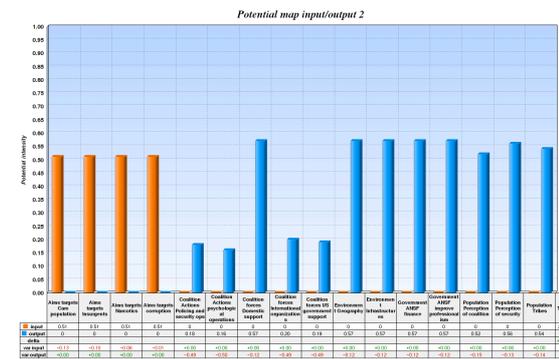
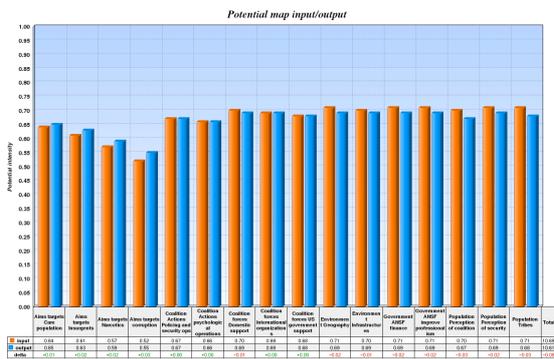
This map reveals that the coalition has to put the stress on fighting insurgents and reinforcing the **security feeling** within the population. Dealing with these issues will lead to handle the way population sees the coalition, financial questions and corruption.



Map 4 (left): potential power and influence balances with US Army references, in 2010. Map 5 (right): predators and preys in 2013, all things being equal.

These charts render a graphic visualization of the genetic algorithm known as the “Prey and Predator Model” (Verhulst model), based on the Lotka-Volterra equation.

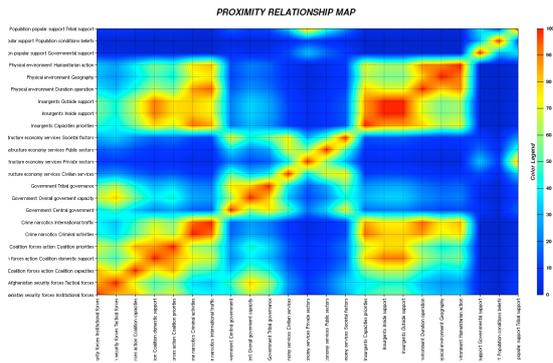
The 2013 simulation shows that the fight against insurgents will depend on the cooperation between the international forces and the afghan security forces, asking the question of their recognition by the population. In addition, the **development of infrastructures, of the economy and of services** will essentially depend on problematic linked with **government** (corruption, popular support) and with **tribal areas** (popular support, options against the governmental position).



Map 6 (left): potential power and influence balances based on Globe Expert references, in 2010. Map 7 (right): predators and preys in 2013, all things being equal.

These charts render a graphic visualization of the genetic algorithm known as the “Prey and Predator Model” (Verhulst model), based on the Lotka-Volterra equation.

The most revealing aspect is that predators to this geopolitical environment are **domestic constituencies**: Care population, Insurgents, Narcotics and Corruption. Stats also show that three of these predators (Narcotics, Corruption and Insurgents) are major destabilizing factors.



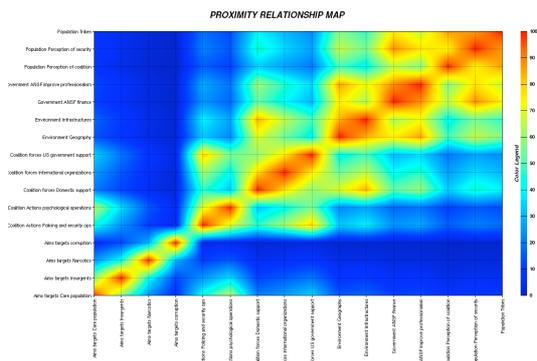
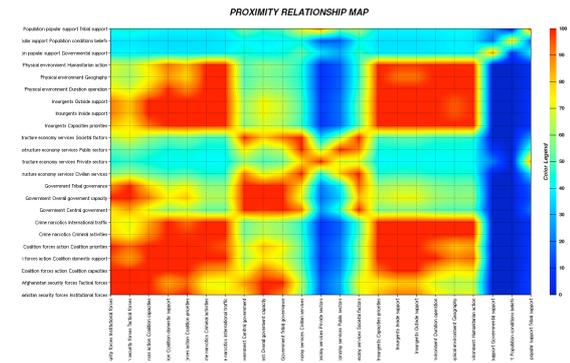
Map 8 (left): heat map of the relations of proximity based on US Army references, in 2010.

Map 9 (right): 2013 projection, all things being equal.

This kind of cartography renders a graphic visualization of the proximities between segments. It allows to see the segments whose the information is close, not intrinsically -i.e. same words - but in terms of manipulated concepts

The map 8 shows that the reconstitution of Afghan authority, and so the fight against corruption, is not a consequence of the fight against insurgents, but a precondition, to *win the adherence of populations* and the internal support of coalition's countries.

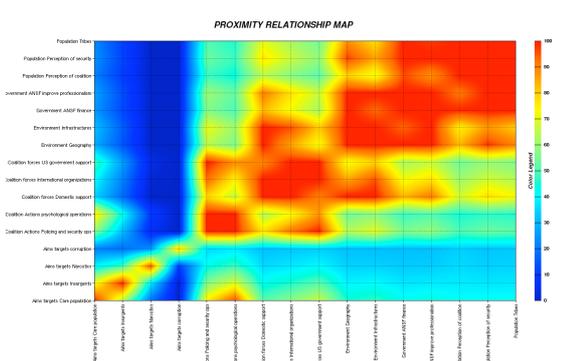
The map 9 shows that the fight against insurgents will concern at once coalition's forces and internal and regional one.



Map 10 (left): heat map of the relations of proximity based on Globe Expert references, in 2010. Map 11 (right): 2013 projection, all things being equal.

This kind of cartography renders a graphic visualization of the proximities between segments. It allows to see the segments whose the information is close, not intrinsically -i.e. same words - but in terms of manipulated concepts.

As stats show, **Professionalism** is one of the best ranked segments in terms of proximity with the others. On the 2013 projection map, this is materialized by the red color on most of this segment. Hence professionalism is a major underlying factor to stability.



2. COMMENTS

On the base of *US Army references*, it appears that the Afghanistan stability and counterinsurgency have to be linked to an *internal, a regional and an international response*. The adherence of the population, and the acknowledgement of afghan authorities by a majority of the population, by fighting against corruption, has to be a precondition to actions (militaries and humanitarian ones).

In addition, the *strategic regional aspect* is more important for the fight against insurgents in tribal areas, than for the promotion of the reconstruction and the civilian expertise. The 2010 simulation also shows that the *strategic and economic contexts* are still important in the question of the stabilization of Afghanistan, where the official speeches focus on the demographic and cultural one.

Finally, the 2013 simulation shows that the *objective defined in 2009* (development of civilian services) will not be accomplished, and even *dropped*. In the one hand, that failure clearly shows the *incapacity of coalition's forces to win the adherence of population* and, in the other hand, it shows the American will to *refocus efforts on more strategic and safe sectors*.

The study based on Globe Expert references points out domestic factors as core issues as regards of Afghanistan stability. Thus counter insurgency must be done by putting the stress on help and **development**. This policy will lean on a few key points. On the military field, the coalition has to make its forces get closer to the population so as to improve their image and the perception of security, and also marginalize insurgents. Indeed, Globe Expert showed that the population was a major common "target" for both insurgents and the coalition. Each one will try to get the Afghan people on its side because it is a core stake in such a type of conflict. Concerning development, there has to eliminate corruption and narcotic traffics by professionalizing civil servants, from government officials to police officers. Investments will also improve the living conditions of the population. These objectives will help winning against insurgents, but they do not imply that fights have to stop.

Interestingly, on May, 11th 2010, when President Karzaï came in Washington, Secretary of State Hillary Clinton hold a speech defining the new strategy of the US and the coalition for Afghanistan. She insisted on long term commitment towards the population, and mentioned every single objective coming from this Globe Expert study.

IF you wish to know more about Globe Expert, its different functionalities and applications, its analysts, please send an email to contact@globe-expert.com.