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Practical Challenges in Predicting Violent Conflict FAST: An Example of a Comprehensive Early-Warning Methodology

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1 Introduction

The Swiss Peace Foundation (SPF) launched a political early warning project called FAST (*Früh-Analyse von Spannungen und Tatsachenermittlung*) in 1998.¹ The driving force behind the FAST project, funded by the Swiss Agency for Development and Cooperation (SDC, Department of Foreign Affairs), was the destructive experience of violent conflicts (mainly in Rwanda) that led to immense human suffering but also to loss of investment as well as enormous and costly post-conflict emergency requirements. In Switzerland, the SDC realized that without being aware of potential crisis situations in countries it supported through development cooperation, it could lose its investment and jeopardize its staff. Thus it aimed at integrating early warning and conflict prevention analysis in its own assessment capacities, mandating the SPF to develop an external early warning system as a control mechanism and decision-support tool.

In light of the above, the objective of FAST is early recognition of impending or potential crisis situations in order to act early and prevent violent conflict. More specifically, FAST aims at enhancing political decision makers' ability to identify critical developments in a timely manner so that coherent political strategies can be formulated to either prevent or limit destructive effects of violent conflicts or identify windows of opportunity for peacebuilding. Only by involving policy makers in the process of formulating policy options and case scenarios can we fine-tune early warning by adapting to client needs, build trust in the analysis and recommendations, influence overall policy planning, and also function as a pressure mechanism (Schmeidl and Adelman, 1998). Close interaction with decision-makers through meetings and consultations may ultimately minimize what frequently has been called the warning-response gap.

Still, it is important to separate analysis from the decision-making process in order to prepare policy options that are as objective as possible (Gurr, 1996; Adelman, 1998). Thus, as FAST is hosted by a non governmental organization, it enjoys a level of political independence which in-house early warning mechanisms generally lack. In addition, FAST does not focus on advocating specific policy options but simply

¹ FAST presently focuses on the following regions: Southern Africa, Central Asia, and Southern Asia. Depending on customers' needs, other countries or regions can be easily added.

provides independent analysis, case scenarios, and policy options. With this emphasis, FAST keeps in line with the general functions of early warning (among others see Schmeidl, 2001):

- Collection of information
- Analysis of information (attaching meaning, setting into context)
- Formulation of case scenarios
- Formulation of response options
- Communicating findings to decision-makers.

2 Unique Features of FAST

In order to establish a solid foundation, FAST aims to answer basic early warning questions: Who to warn, when, of what, and how. As FAST is funded and mandated by the SDC, the often so difficult question of to whom the warning should be targeted was easily answered.² Since the SDC deals mainly with development cooperation linked to long-term structural prevention, FAST focuses on both short- and long-term perspectives; short-term in order to complement the SDC time-frame and long-term to allow for policy options that balance short-term objectives with long-term strategies. Thus, answering the question of when to warn, FAST monitors both potential short-term (three to six months) and long-term crises as well as structural and operational strategies for conflict prevention.

While it is important to be clear about the nature of early warnings, most decision-makers are generally assigned to prevent and respond to complex multidimensional humanitarian disasters without trying to force them into specific categories. As the SDC is concerned about a certain level of stability in target countries in order to successfully implement its projects, FAST focuses on armed conflict in general, *i.e.*, intra- and inter-state war, ethno-rebellion, genocide, etc.³ Such a focus realizes that conflict is not necessarily negative in itself or something that must be prevented. Moreover it is possible, that especially development assistance can lead to social conflicts that reflect change and development. This is positive, and even necessary, as long as institutions are in place to allow channeling and eventually transforming such conflict in a peaceful and non-destructive way. Only when a country's government and political and legal institutions prove unable to cope with conflict so that violence escalates in a destructive manner should a warning be issued and preventive action

² This, however, does not suggest that FAST cannot expand its products to other clients. Its flexibility allows adapting the overall methodology with ease. Furthermore, FAST products are designed to serve diverse clients (e.g., state authorities, non-state actors such as NGOs or private business companies) as a decision-making instrument or as a comparative analysis tool for existing in-house early-warning mechanisms.

³ More specifically, FAST wants to identify critical events and developments that increase or decrease the likelihood of armed conflict in the near future while also looking for "windows of opportunities", *i.e.*, events and developments that contribute to reducing violence.

considered. In summary, "it is not disharmony *per se* that needs remedy; it is rather its resolution through armed force and other forms of coercion that calls for prevention" (Lund, 1996, p.383).

The "how" of early warning is often more complicated (see methodology discussion). Believing in a comprehensive approach and the benefit of using multiple methods, FAST combines qualitative and quantitative elements in its methodology. This enables FAST to work comparatively and take advantage of the benefits of either method by seeing general structures (the forest and not just the trees) while being sensitive to country-specific elements (seeing individual trees, understanding their unique features).

This formulation of client- and mandate-specific policy options⁴ is what links FAST methodology to an integrated response development. Instead of working from a generic toolbox, FAST makes recommendations with a general strategy, taking the action framework of its clientele (here SDC) into account. While other aspects of the FAST approach remain more or less standard, it is policy options that are specifically adapted and fine-tuned for new clients. This can best be described with the analogy of planning food for a dinner party. We not only need to know how many people are coming but *who* is coming (*i.e.*, dietary restrictions for vegetarians or people of a particular cultural/religious background), the time of the day (e.g., whether or not to serve alcoholic beverages), and the season (such as refraining from serving a heavy turkey dinner on a hot summer day), etc. Without such knowledge, we may prepare the perfect dinner for the wrong set of people. In policy language, such a process may be defined as an analysis of stake holders (on the response side) and surrounding political environments influencing the likelihood of action and response potential.

⁴ Aside from SDC or Swiss-specific policy options, FAST also provides a few more generally applicable recommendations, and the SDC has begun to share FAST reports with like-minded governments.

3 FAST Products and Methodology: An Overview

The mix of methods applied within the FAST-framework and the corresponding products are shown in Figure 1:

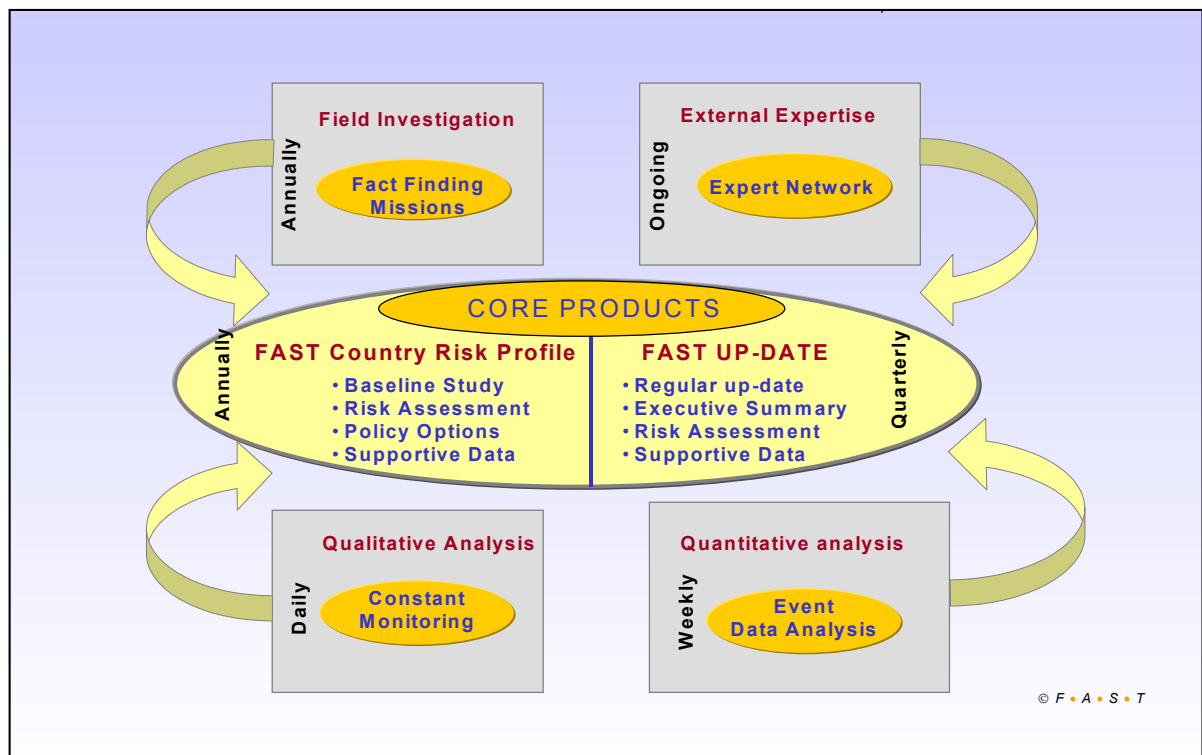


Figure 1: Methodological Overview

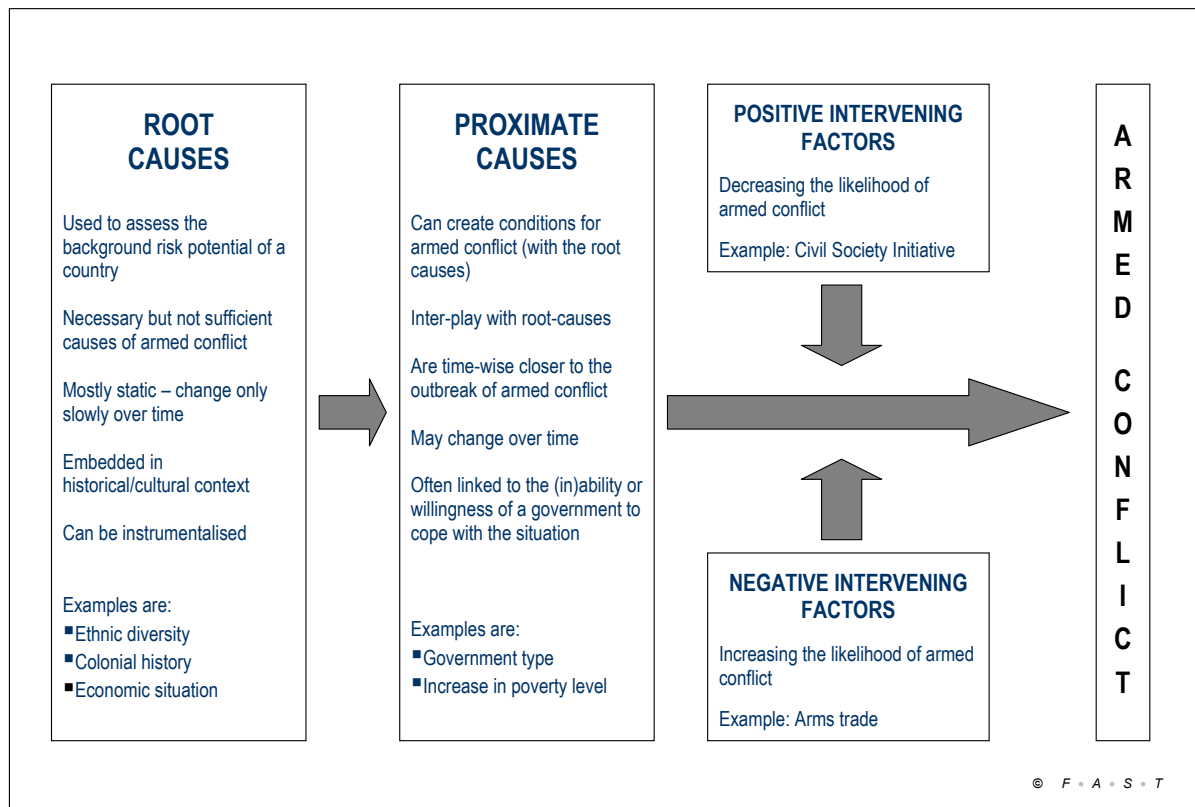
As Figure 1 demonstrates, there are two FAST core products for each country monitored: FAST country risk profiles and FAST updates.

3.1 FAST Country Risk Profiles

The annual FAST country risk profile presents an in-depth base-line assessment of the situation in target countries. It discusses root, proximate, and intervening factors that may lead to armed conflict, hamper conflict mitigation, or provide a window of opportunity for de-escalation and peace-building efforts (see Clark, 1989; Gurr, 1996; Rupesinghe and Anderlini, 1996; Schmeidl and Jenkins, 1998). The latter set of indicators is divided by the importance of increasing or decreasing conflict escalation (see Figure 2 for a more detailed explanation of these factors). Identification of intervening factors is often the first step to policy options, as these factors focus on conflict-mitigating or -inhibiting factors.

As FAST target countries are not all in pre-conflict situations, intervening factors take on a different role, depending on the conflict cycle. In pre-conflict/post-conflict countries, intervening factors determine the likelihood of (renewed) armed conflict escalation, while in in-conflict situations, intervening factors track indicators that either increase or decrease the likelihood for armed conflict or peacebuilding. In all cases, however, intervening factors are not simply negative events or developments that can lead to violent conflict, but also windows of opportunity for positive developments (signals of hope).

Figure 2: Backbone of FAST Analysis: The Analytical Framework



Core indicators derived from the background analysis are depicted in the analytical framework (see above) and are used to guide daily monitoring and continuous updates. In order to keep the FAST analysis flexible, the frameworks are updated if novel important factors appear. This is mostly done for intervening factors, some for proximate causes but not for the more static root causes. FAST establishes more than one analytical framework for countries with multiple-conflict potential (e.g., domestic and international, or multiple domestic conflicts). This is done as the underlying analytical explanations most likely differ, even if the rough categories remain the same.

A crucial feature of the annual assessment is formulation of case scenarios and detailed policy options identifying an overall strategy, steps toward implementation (including obstacles to be overcome), and specific tools/programs. In addition, key actors are profiled⁵ and

⁵ It is crucial to focus on actors and know stakeholders in the process that may lead to conflict. Here it is equally important to know their attitude(s) on the conflict/peace process as well as their resources to accomplish their goals. Furthermore, for the purpose of early warning, one needs to be familiar with spoilers who lack interest in

a set of additional background (supportive) information is provided (see below). As the purpose of this paper stresses FAST methodology, it will not go into more detail about these aspects of the FAST overall early warning system.

One of FAST's strengths is the uniform structure of all products, allowing for an easy cross-country comparison and information retrieval.⁶ The annual country risk profiles are structured as follows:

- **Executive summary** (one page)
- **Risk assessment with**
- **Supportive information** (analytical framework, map).
- **Analysis including the following sections:** root causes, proximate causes, intervening factors, analysis of major actors, outlook – future scenarios.
- **Policy options including the following sections:** General strategy, obstacles to achieve such strategy, steps to implement the strategy, tools/programs linked to this strategy.
- **Appendix** with chronology of events, descriptive actors list, tension barometers, (graphical depiction of conflictive and cooperative interactions in the countries), strategic information on political, economic/ecological, socio-demographic, and military aspects of a country, references).

3.2 FAST Updates

In order to keep clients in touch with developments in the countries monitored, FAST provides quarterly updates of the situation on the ground. This frequent analysis is necessary in order to stay in

peaceful conflict resolution as well as potential actors willing to work for conflict prevention (Rubin, 2001; Stedman, 1997, 1998).

⁶ In addition, each FAST regional team can decide on what area to focus its assessment (entire country or trouble spots). It can also alter the balance between assessment and policy options, elaborating in more depth on those aspects deemed more important.

touch with current developments and to avoid missing important events. As Gupta (1997, p. 375) fittingly said "It is extremely difficult to forecast, especially the future, but if you forecast, forecast often."

FAST updates use the analytical framework as their basis and mainly focus on factors that either increase or decrease the likelihood of armed conflict in the short run. Intentionally kept short, FAST updates do not exceed three pages of text and provide only essential supportive information in the form of a short chronology of main events and tension barometers. Thus, FAST updates are meant to "keep abreast" with the situation, taking into account the time constraints faced by policy makers. Similar to the country risk profiles, updates also feature a common structure:

- **Analytical framework** (put here first to remind the reader of the analysis's underlying elements).
- **Risk assessment** mainly along intervening factors (2-3 pages).
- **Supportive information** in the form of a brief chronology of main events covering the past three months (1-2 pages), and selective tension barometers (1-2 pages).

The lean structure of FAST updates allows even the busiest policy maker to stay informed about the target countries. As SDC still considers FAST to be a proprietary product, FAST currently posts only a one-page executive summary for each country of the three regions monitored onto the web at present (<http://www.swisspeace.ch>).

4 FAST Methodology: A More Detailed Discussion

As Figure 2 shows, FAST core products are based on a combination of quantitative and qualitative methods. This choice of methods as well as a decision on how to balance the methodologies used emerged from challenges posed to early-warning analysts. In order to illustrate how FAST tried to tackle these challenges - and continues to do so - they are briefly outlined below:

- *What to warn about (type of conflict):* As stated above, it is important to be clear about the nature of an early warning, as it affects model specification, indicator selection, timing of warning, and preparation of response options (the latter may be linked to the mandate of the organization expected to respond). Thus, while one in an academic setting must distinguish between various types of conflicts (inter- or intra-state, ethnic, religious, genocide), in real life, when attempting to warn early, it may not necessarily be clear from the beginning which type of conflict is likely to emerge. In addition, one could further argue that even if we can select core indicators explaining specific conflict constellations, they may nevertheless differ, depending on specific settings (countries, regions).
- *What to warn about (intensity of conflict):* For the sake of early warning, peace and conflict must be considered a continuum and not a dichotomy (especially as early warning functions throughout the stages of conflict). Furthermore, it is important to focus on latent and simmering conflicts as pre-cursors of greater violence in the monitoring exercise. This means there are gradual developments in either direction, and one can identify both early warning signals of an impending crisis or signals of hope that show windows of opportunity for strengthening peace efforts. The question that remains here is how to establish a threshold value on when to issue a warning if a simmering conflict escalates. Yet finding threshold values on when to warn of conflict (or destructive armed conflict in particular) is one of the most difficult tasks of any early warning model. This is most likely appreciated by students of armed conflict trying to distinguish between low, medium, and high-intensity conflicts.

- *Predicting vs. anticipating conflict:* Quantitative analysis has largely been used for predictions, using deductive principles. However, quantitative and systematic modelers admit that the main purpose of their research is to rank countries by "risk" potential, because static models are unfit to make proper forecasts (see Gurr and Moore, 1997; Schmeidl and Jenkins, 1998). Furthermore, while there are important core indicators that can be used to establish the risk for certain countries, anticipating the outbreak of violent conflict must more likely be based on prevailing context-specific indicators.
- *Stake-holder Analysis:* It is crucial to focus on actors and know the stakeholders in the process that may lead to armed conflict. Here it is equally important to know their attitude(s) on the conflict / peace process as well as their resources to accomplish their goals. For the purpose of early warning and conflict prevention, one needs to be especially familiar with spoilers that lack interest in peaceful conflict resolution as well as potential actors willing to work for conflict prevention and peace building (Krummenacher, 2001; Rubin, 2001; Stedman, 1997, 1998).

In light of these challenges, FAST currently focuses heavily on context-specific qualitative assessments using quantitative analysis (event-data) merely as a supportive element. The next sections describe the approach in more detail.

4.1 Qualitative Analysis

As stated above, qualitative analysis is necessary for maintaining a context-specific understanding of countries monitored and for anticipating even minor changes that can be initiated by local, regional, and international actors. The qualitative understanding of the FAST analysts is enhanced by the following set of supportive tools:

4.1.1 *Constant Monitoring of Events and Developments*

Aside from tracking relevant literature and secondary sources for analytical purposes, it is essential to stay abreast of developments in

target countries through daily monitoring of events and developments based upon information from various news agencies or gained from the "local information network" (detailed description follows). Early warning, and thus monitoring of countries, needs to be a constant and on-going process. Crises can emerge seemingly out of nowhere, which means that *ad-hoc* analyses may miss crucial developments at a conflict's early stages. Jongman (2000), for example, showed that five of the PIOOM⁷ classified as low-intensity conflicts escalated into high-intensity-conflicts within the past year: Chechnya, East-Timor, Kashmir, Kosovo, and the war between Ethiopia and Eritrea. Notably the *coup d'etat* in Fiji during May 2000 was not predicted by the world community, as nobody paid very close attention to this small island.

4.1.2 *Local Information Network*

In areas poorly covered by international news media, FAST uses local information networks where indigenous analysts track and report relevant information on a specific set of indicators that feeds into graphs called tension barometers (this aspect is discussed in more detail in the quantitative section). However, the local networks also provide a different way of interpreting events and thus also function as external advisors or experts to the FAST team of analysts.

4.1.3 *Expert Network*

Frequent exchange with external experts (from both the target region and other internationally renowned individuals) is a crucial part for the FAST analysis in order to discuss information received, analytical insight, case scenarios, and response options. This leads to synergy between local understanding and outside expertise and results into a very nuanced analysis. The practice of balancing internal assessment with outside opinions helps FAST counter the problem of "mental blindness" that traps many analysts and is considered a major obstacle of early warning. The phenomenon is usually considered as a cognitive

⁷ *Projecten Interdisciplinair Onderzoek Oorzaken Mensenrechtenschendingen* (Interdisciplinary Research Program on Root Causes of Human-Rights Violations) in Leiden, the Netherlands.

structure that impairs our perception and judgement. In some cases this can be seen as wishful thinking or a hope for the best that averts the "worst possible case" scenario (e.g., not wanting to see genocide in Rwanda). Aside from psychological reasons or even fears, "mental blindness" can also be caused by political considerations or fear of failure. "Because policy choices in a crisis are often so difficult to make, individuals (as well as small policymaking groups and organizations) may discredit information that calls into question existing expectations, preferences, or policies" (George and Holl, 2000, p.24).

4.1.4 *Fact-Finding Missions*

In order to obtain hands-on-knowledge, assess the situation on the ground, and make contact with local analysts, FAST analysts travel once a year to the region they cover. These fact-finding missions are of particular importance in countries with difficult outside access by international news media (e.g., Kashmir in Pakistan, Northeast India) and countries with a potentially one-sided view by Western news media (e.g., Afghanistan). In addition, visits to our clients' local projects allow for a better formulation of targeted response options.

5 Quantitative Analysis: Event-Data Analysis

While continuing to develop the quantitative element within its methodology, FAST currently mainly uses event data counts to supplement its qualitative analysis. Use of automated event data analysis has significant implications for early warning due to its consistency, transparency, speed, and interactivity. Automated event analysis promotes timely evaluation of information that is extremely important for early warning purposes.

The basic logic of event-data analysis⁸ is that all relevant events are coded by identifying the initiator and recipient of action, the action itself, and the time and scope of action. Each action corresponds to a specific event-type (indicator), and in this is assigned a numeric value. By aggregating all relevant events on a weekly or monthly basis, we get an accurate picture of overall conflict potential or stability in a given country. The advantages of event-data analyses (especially for early warning) are as follows:

- Event data allows speedy tracking of specific violent or cooperative incidences over time and supports qualitative assessments.
- A multitude of information is broken down in its component parts and depicted in easy-to-read graphs, demonstrating aspects of conflict and cooperation within and between countries.
- Event data counts and respective graphs provide checks -and balances against a desensitization toward violence and/or media hypes.
- "Event-data analysis challenges the analyst's perception so that he or she might become aware of his or her own 'blind spots', biases, and

⁸ see <http://www.ukans.edu/~keds/intro.html> for more detail) This paper refrains from a more detailed discussion of the purpose and merit of event-data, as this has been already covered in Schmeidl and Bond (2000). More information on VRA is provided at <http://vranet.com/>.

assumptions" (Siegfried, 2001, p.110). This is another way to counter the problem of "mental blindness" discussed earlier.

- Event data graphs permit comparison among countries.
- Event data analysis, if further developed, enables forecasting conflict trends.

Currently, event data is provided for FAST by an automated coding method developed by Virtual Research Associates (VRA®), a Harvard-based group of academic analysts (see Bond, Bond, Silva, and Oh, 1999 for a more detailed description).⁹ There is a multiple set of individual events depicting conflict and cooperative behavior within and between countries. These events feed into tension barometers as raw data but also as composite measures (some merely a compilation of indicators while others are based on more complicated analyses). Non-standardized graphs show fluctuations depending on the current numerical value of events coded as well as the number of events within a given time-period. In order to allow for cross-country comparison, standardized graphs rely on the current numerical value of a given set of events in proportion to the total number of events. As the number of graphs based on single indicators is rather large (based on WEIS [World Event Interaction Survey] but now extended into IDEA [Integrated Data for Event Analysis] categories, see Bond *et al.*, 1999 for more detail), only the summary graphs currently used by FAST are listed here:

- *Cooperation*: captures various forms of accommodative or cooperative behavior between diverse domestic or international actors. Such behavior can vary from verbal agreements, meetings to specify joint efforts, or operations to promote mutual benefits between domestic actors (based on Goldstein, 1992).
- *Conflict*: captures contentious or conflictive interactions (e.g., antagonism, contradictory action, or disagreement) between diverse domestic or international actors. The type of conflict can vary from verbal antagonism, disagreements, or contradictory action to outright

⁹ Automated monitoring of events (social, political, and economic) has emerged over the last decade as a viable approach to early warning, spurred in large part by pioneering efforts of the Kansas Events Data System or KEDS (Schrodt and Gerner, 1994).

physical force with various levels of intensity (based on Goldstein, 1992).

- *Conflict Carrying Capacity (CCC)*: reflects the stability of the system or polity rather than a particular regime or administration; a CCC trend line approaching 1.0 suggests 100% (based on Jenkins and Bond, 2001).
- *Forceful Action (FA)*: refers to the proportion of any and all uses of physical force and any associated manifest violence by any actor (based on Jenkins and Bond, 2001).

However, the automated data currently generated by VRA using Reuters ® news service has certain draw-backs, the major one being lack of satisfactory coverage in all the world's countries due to the following reasons (for more detail, see Schmeidl and Bond, 2000):

- The VRA parser can only read English-language news wires at present.
- Event-data analysis is based on the principle of daily logging, news dispatches often tend to be based on the principle of interval reporting. The intensity of coverage may increase as a crisis occurs ("blood sells") but is weak or non-existent during more peaceful times (thus not all important events leading up to conflict escalation may be reported; see Siegfried, 2001).¹⁰
- International journalism is based on the principles of covering events believed to be of general interest to the rest of the world (not all countries and regions are).

¹⁰ For example, the number of coded events in Kyrgyzstan jumped from 6 to 35 in 1999 when a group of Muslim rebels belonging to the "Islamic movement of Uzbekistan" intruded Kyrgyz territory from Tajikistan. Thus, when coded events from news-wires produced a peak in the graphs, the crisis was already ongoing. More drastically, in the Horn of Africa, the border-conflict and later war seemed to have come out of nowhere – at least for event-data analysis based on Reuters. The number of codable events alone jumped from zero in April 1998 to 31 in May of 1998 when the border dispute began and from six in January 1999 to 53 in February 1999 when the border war broke out. This illustrates the assumption that news media naturally feed into earlywarning analysis by focusing on crises more heavily than on peaceful developments. It can be a dangerous downfall – the problem of late warning.

- As a guiding principle, Reuters only needs to report those events with a greater connotation at the national level. Yet this eliminates possible important events at a district or provincial level that can also be of importance – especially since early warning tries to track those tensions that could escalate later.

In light of these constraints, the event-data principle of no report meaning no event does not hold true in countries or regions of lesser interest to (English-speaking) news-services. It may simply mean that no English-speaking journalist was present or that on-going events were deemed to be of no particular international interest or importance. This was to some degree the downfall in Rwanda, as journalists focused on South Africa and only reported about Rwanda on the side (for more detail, see Schmeidl and Bond, 2000). It follows that the sole use of news-service coding provides clear drawbacks for early warning requirements. Thus event-data analysis will remain a supportive element for early-warning efforts for a long time at best.

FAST had to tackle precisely these problems, as many countries it monitors are not covered sufficiently by Reuters. Central Asia, for example, is covered well by media in the Russian language, but this would require analysts (or machines) to read Russian. Similarly other language news-wires (French, Portuguese) may be more relevant for certain parts of Africa than English ones are. Thus the English-language requirement for the current VRA parser is clearly something event-data analysis can improve upon. However, other language news sources may nevertheless adhere to the same principle of English-language news – "blood sells" – so it might be difficult to overcome this particular problem of sensational information production in general; unless one uses other input than news services.

Hence FAST chose a second option to improve upon Reuters' data feed. In collaboration with VRA, it created an alternative news-feed in the form of local information networks of field-monitors that log relevant information after the same principles as the VRA parser (to allow for compatibility of data). Currently all Central Asian countries monitored have such a network, and Pakistan has just reduced its news feed to two underreported provinces (NWFP and Baluchistan). Networks are also being currently set up in Mozambique and Madagascar, and a proxy network for Afghanistan is being implemented from Pakistan (using refugees, other migrants, and traders as sources).

This system's experience has shown better coverage overall in numerical terms as well as diversity of events reported. For example, the local information network for Uzbekistan logged 53, 126, and 196 events for the months of March, April, and May 2001 respectively. By contrast, Reuters only logged 9, 5, and 4 events respectively, making efforts of statistical analysis obsolete.

In light of the above, while human-assisted field coding clearly allows use of local expertise (and also provides the aspect of capacity building), automatic coding improves upon the speed of digesting information and allows impartial assessment, as the machine does not make interpretations beyond indicators it has been programmed to track. A combination of both allows for optimum data-feed. Thus event-data generation based on a local information network seem an excellent solution to the early-warning information problem, one that needs to be further strengthened. However, it does not solve all analytical problems linked to forecasting conflict escalation or de-escalation processes. These are some challenges that must still be met before FAST can place greater reliance on event-data analysis for its assessments and use tension barometers to their maximum potential.

6 Instead of a Conclusion: Remaining Challenges

Since automated event data efforts have only recently been placed into service for anything close to real-time monitoring, there is little evidence of its actual benefits for forecasting crisis escalation. As long as analysts lack appropriate methods to evaluate trends presented to them by event-data, they must rely on their qualitative judgement to make conflict assessments. Thus FAST's future goal is to improve its forecasting ability by developing quantitative methods that help (a) to verify if developments are significantly different from those in the past and (b) to propose trends for the future. While VRA has begun to work with FAST on an interim solution that involves tracking the mean of event-data inputs over time (mainly through use of Z-scores to establish threshold values), Gary King from the Center for Basic Research in the Social Sciences at Harvard University (USA) has agreed to work on a collaborative project to develop a more sophisticated approach to solve the methodological problem.

The idea is to use modern statistical methods to reveal underlying patterns instead of using the human eye to try to parse patterns from data with a low signal-to-noise ratio. Identification of these patterns is important for forecasting. Preliminary analysis has shown that this is not easy but also not impossible. One FAST analyst (Siegfried, 2001) searched for conclusive patterns of crisis escalation using the Goldstein scale for conflict and cooperation and had difficulty identifying one specific constellation. Even within the four patterns identified, great ranges existed. This illustrates the problem that still exists in forecasting armed conflict properly. In conclusion, while the future obviously won't be entirely predictable, reduction of uncertainty may prove quite valuable. In the years ahead FAST will attempt to reduce this uncertainty and improve upon its existing forecasting ability.

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