

RESEARCH NOTE

Network Without Centre? A Case Study of an Organizational Network Responding to an Earthquake

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Introduction

Organizational networks have become abundant, if not yet universal. Despite a lack of clarity – what exactly is it that is being networked: individuals cooperating on a task, organizations bound to each other by contracts or elements of coherent knowledge? – there is considerable agreement that networks are on the way to becoming a dominant pattern of organization (Nohria and Eccles, 1992; Sydow, 1997). Networks fascinate researchers for more than one reason: for the sociologist, they seem to constitute a new level of societal aggregation in addition to the familiar poles of interaction, organization and society. In the indeterminacy of their substance they are not unlike social movements, which too tend to eschew firm categorizations of their place in the social fabric. The 'knowledge worker' takes networks for granted where the electronic media work efficiently and the political scientist finds the guarantee of democracy in the wealth of networks that make up civil society.

The international human rights regime is an example in point. Respect for such rights depends on more than the advocacy of a finite set of organizations, no matter how well these are networked. Norms have percolated into the wider society. The degree to which they are enforced fluctuates widely, as human rights crises in recent history have shown. While the network is more than the sum of its formal human rights organizations, its writ is certainly not universal.

However, it would seem that it is in the world of business that the concept of organizational network has gained the most popular currency in recent years. The reasons are plainly to be found in changes of the global economic environment (Miles and Snow, 1992). Global competition forcing firms to cut costs through out-sourcing and rapid technological change have dramatically increased interdependencies among

organizations. Networks in a variety of designs have been a response to those changes. This ties in with themes of organizational learning, the assumption being that the 'learning organization' will be one of extended networking, ensuring that customers, suppliers and alliance partners can be tapped continuously for new ideas and insights (Prange, 1998: 1). In this view, the force that procreates novel types of social aggregation emanates from the growing turbulence in organizational environments and the desire to smoothen it out by forming adaptive networks.

The management of disasters is not exempt from the growing power of networks. Particularly in major humanitarian crises, the resources of any one of the largest relief organizations alone are not sufficient to mount an adequate response and, typically, pluralities of responders assume the task together, often with far-reaching operational understandings in the field while their headquarters continue to behave as competitors in the market for humanitarian funding. However, their language is less hyped with network concepts than it is in business publications, perhaps out of a sense of modesty that there is little in the way of good theory to explain the network behaviour of humanitarians.

Terminology apart, network thinking has been around in the humanitarian world for a while. Kent's (1987) *Anatomy of Disaster Relief* may be one of its early pioneers (he actually used the term in the subtitle: 'The International Network in Action'). These days an internet search using the keywords 'network' and 'humanitarian' quickly produces several dozen hits, returning some organizations, such as the 'Relief and Rehabilitation Network' (a UK-based NGO), that include the word 'network' programmatically in their name. Most of these, however, are research or advocacy groups, not responders at the disaster site. The fact that the Nobel Peace Prize for the campaign against anti-personnel mines went to a little known activist group with keen networking acumen, and not to any of the

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established jumbo agencies, bespeaks in itself the shift in effectiveness from stand-alones to network approaches.

As in business, disaster management has grown more acutely conscious of its turbulent environments. Issues of relief worker security in post-Cold War conflicts, unpredictable fluctuations of media interest and humanitarian competition have come to the fore. A recurring problem, for example, concerns the coordination of humanitarian activities in countries that are politically fragmented, such as Afghanistan (Donini, Dudley and Ockwell, 1996). Theoretical perspectives on humanitarian networks have remained relatively modest, confined to developing basic typologies of coordination arrangements (Bennett, 1995) or deliberately kept close to the practitioners' idiom (the studies of 'operational landscapes for humanitarian action' by the Minear and Weiss group at the Thomas J. Watson Jr. Institute fall in this line (Minear *et al.*, 1994)). A major theme has been the limited ability of UN agencies to coordinate in sudden-onset disasters which the UN, themselves, began to remedy after the Gulf War experience. In terms of conceptual development, these studies are situated somewhere midway between the insights from bureaucratic malfunctioning and an explicit network framework. The dominance of government organizations in disaster management and the relatively stable core of big agencies in protracted humanitarian crises are likely responsible for that approach. It ties in with an intellectual tradition that goes back to criticisms of the Weberian notion of bureaucracy (Tullock, 1965) and to the positive functions of conflict (Cosser, 1956), but such references are rarely made.

Bureaucratic malfunction and the effects of conflict have been studied for much longer than organizational networks (or, rather more correctly, than the emergent qualities of networks in our era). It is, therefore, tempting to do a little transplanting work from the fertile gardens of organizational studies to the barely cultivated swathes of network-thinking. In the disaster management field, hypotheses formed along the lines of Rosenthal, 't Hart and Kouzmin's (1991) 'Bureau-Politics of Crisis Management' and 't Hart, Rosenthal and Kouzmin's (1993) 'Crisis Decision Making: The Centralization Thesis Revisited' should at least have some heuristic value, even if they need more translation into the phenomenology of networked disaster response. For example, where they speak of 'inter-agency tensions' (Rosenthal *et al.*, 1991: 211), one might see 'conflict among networked organizations'. They contend that such 'inter-agency tensions' may fulfill various positive functions: they put crisis agencies to the test; they serve to counteract 'groupthink'

tendencies; and they foster a certain degree of openness. Their key assertion is about 'polycentric approaches' (Rosenthal 't Hart and Kouzmin, 1991: 213), disaster response organizations with more than one centre of power. Such approaches have considerable 'problem-solving potentialities' beyond what the traditional reflexes of centralizing power in emergencies let us expect. The variable 'centralized versus polycentric' can be used also to characterize different types of organizational networks. How does it affect the problem-solving performance of the network?

The 't Hart, Rosenthal and Kouzmin (1993) study reviewed the evidence that crises provoke centralizing reflexes. They found an important number of disasters for which the commonly assumed upward shift in authority did not happen. The responses were much more varied. Yet they fell into several types that recurred frequently. Not all of them are of concern here, but, importantly, these researchers also identified three factors that seemed to determine authority structures:

- *Time pressure.* 'When the degree of perceived time pressure is high, structures that appear to enable rapid responses are adopted. This usually entails a larger role for *ad hoc* improvisation' ('t Hart, Rosenthal and Kouzmin, 1993: 32). Conversely, more formal, pre-planned arrangements tend to be followed when the pressure is low.
- The ability to keep *strategic and operational decision-making* levels separate. If the low-level operators lose control, senior officials have to confront awkward operational decisions.
- The *organizational structure prior to the outbreak* of the crisis. Some responder systems rely on 'routine-oriented bureaucratic hierarchy and formal chains of command and communication' ('t Hart, Rosenthal and Kouzmin, 1993: 33); the authors call such structures 'mechanistic'. Others are part of looser arrangements such as matrix or project organizations, for which the term 'pragmatic' is used.

This paper explores some of their ideas further by examining the response that a network of humanitarian organizations gave to a major disaster. This was an earthquake in Afghanistan, in other words, a sudden-onset natural disaster embedded in a protracted humanitarian crisis. This intricate backdrop made for an organizational set-up easily characterized in terms of the variables specified for in the 't Hart, Rosenthal and Kouzmin (1993) model of crisis decision making. The major agencies involved in the Rostaq earthquake of 4 February 1998 had been running large programmes in the country for many years and, therefore, were able to inform

this research with detailed accounts of their pre-crisis structures and procedures (Benini, 1998; Gentiloni *et al.*, 1998).

Our central concern is with the operational prowess of the organizational network, for that is where the victims are effectively assisted or not. 't Hart, Rosenthal and Kouzmin (1993: 34) offer two specific hypotheses that are pertinent to the Rostaq situation:

If, in a crisis, the degree of perceived time pressure is high and the pre-crisis system authority structure mechanistic, operational crisis management will be characterized by *paralysis*.

If, in a crisis, the degree of perceived time pressure is high and the pre-crisis system authority structure pragmatic, operational crisis management will be characterized by *situational dominance*.

The hypotheses are pertinent because paralysis was indeed observed, side-by-side with stunning major relief action. We need not dwell on whether time pressure was high (it was, after a severe earthquake in Afghan winter conditions), but the reader will want to know what 'situational dominance' means in this context. It denotes behaviour that is between routine performance, observing traditional formal rules of consultation and command, and outright paralysis. Under situational dominance, actors abbreviate or bypass many of the formal rules in favour of direct responses to a given situation. Importantly, in a networked response, all of the three states – routine performance, situational dominance and paralysis – may occur concurrently and, in the Rostaq action, they did.

Similarly, organizational networks mix the two types of authority structures more readily than unitarian organizations do. The next section will illustrate that, in the words of 't Hart, Rosenthal and Kouzmin (1993: 33), the organizations in point relied equally on 'routine-oriented bureaucratic hierarchy and formal chains of command and communication' and on 'some form of matrix or project organization'. They mobilized sub-offices and field delegates who clearly were in line positions *vis-à-vis* their delegation heads. At the same time, they would use cross-cutting arrangements, both pre-existing and *ad-hoc* ones.

This will force us to look not so much for unambiguous outcomes, but for trade-offs between elements of structure and partial outcomes for which a causal link can be detected. Why are trade-offs important? Networks do not only have benefits, they also come with costs. In part, these are transaction costs that the coordination of several relief providers impose beyond the cost of a unitarian provider. Ultimately, these are footed by the donor community. Another type of cost concerns the

comparative effectiveness of the assistance for the disaster victims. In many situations, this cost may go unaccounted. If routine performance, situational dominance and paralysis can co-exist in networks, the relationship between the organizational set-up, decision making and outcomes will be much more complex than in a one-to-one arrangement between provider and beneficiary.

Despite that proviso, the Rostaq experience speaks clearly to the 'centralization thesis revisited' of 't Hart, Rosenthal and Kouzmin (1993) There was a network; it did not, as we shall see, have a centre yet the response worked fairly well. *Why* it worked is much harder to explain and this case study can only suggest a few possible cause-and-effect relationships.

The Rostaq Earthquake: Disaster and Response

On 4 February 1998, an earthquake measuring 6.1 on the Richter scale devastated a number of villages in the surroundings of the town of Rostaq, northern Afghanistan. An estimated 2,223 persons were killed and another 818 injured among a most severely affected population of 17,600. The disaster created a humanitarian challenge to which several organizations responded, under excruciatingly difficult conditions from weather and terrain. Moreover, for a remote, difficult-to-reach area like Rostaq, the disaster drew surprisingly high international media attention, with the number of foreign journalists surpassing that of aid workers during part of the critical mobilization period.

The victims belonged to mountain communities which were agro-pastoralist, in a district then not much affected by direct violence in the war. The survivors were threatened by the cold of the Afghan winter, by the loss of their food-stocks and cooking facilities, as well as by trauma and disease. Several thousand were evacuated to public buildings and to relatives in and near Rostaq town; others had to wait for days until the first contact with outside agents. Search and rescue was confined to what relatives and neighbours could do, often with their bare hands.

The main responders included the local authorities, the member organizations of the Red Cross/Red Crescent and United Nations families, as well as Doctors Without Borders from Belgium. Smaller NGOs also arrived to make significant contributions as time went on; and while many donors responded quickly and generously, one of the important donor organizations in Afghanistan, the European Community's ECHO, had a direct operational involvement on-site.

The initial humanitarian goal was to avert the threats to life and health. Subsequently, the return of the displaced persons to their villages and, in variable measure for the organizations involved, rehabilitation assistance became guiding posts for the action. The relief proceeded in phases, some of which would overlap:

- Between 6 and 14 February, the medical emergency was handled, with Doctors Without Borders – Belgium (MSF-B) leading the effort.
- From 6 February to 1 March, resources were mobilized for emergency food and non-food aid. The major distribution activity took place between 25 February and 4 March. An air-drop by the International Committee of the Red Cross (ICRC), starting on 19 February, was the highlight of the period.
- After 4 March, and until disaster struck again, the response continued in separate strands. The UN carried out an air-lift, and later withdrew. The Red Cross/Red Crescent kept a presence in Rostaq until 24 April, shortly after the end of its distribution of handtools. After some turnover, a small NGO presence continued into rehabilitation programmes, chiefly for village water supplies.

Rostaq is about 40 km southeast, in a straight line, of the river Amu Darya, which marks the border with Tadjikistan and over 250 km from Kabul. Over the course of the first ten days after the earthquake, a number of logistics scenarios surfaced, posing difficult choices over security, distance, vehicle, route, cost, stocks, suppliers, fuel, staff and competing uses. Five major facilities offered themselves with highly varying degrees of knowledge about their capacity, cost and reliability:

- road transport from depots within Afghanistan, some involving the crossing of military frontlines;
- airlifts to a nearby airfield and, from there, by road;
- airdrops from Pakistan;
- helicopter transport from Tadjikistan; and
- road convoys from Tadjikistan, with river crossing.

Eventually, the supplies came to rely on four out of the five channels, whereas helicopters were used chiefly for distributing goods from Rostaq to the villages. By 4 March, the quake survivors had received 708 MT of relief.

Decision-making within and among the responding humanitarian organizations took place in a complex network that extended to three countries – Afghanistan, Pakistan and Tadjikistan – as well as to headquarters in Western capitals. Although all the major responders had been running important

programmes in Afghanistan prior to the Rostaq disaster, their areas of concentration were not always in close neighborhood. The ICRC, for example, had its hub in Kabul; the UN worked out of Islamabad; and within the ICRC and UN delegations in Afghanistan and Pakistan, only the World Food Programme (WFP) had a tradition of working closely with Tadjikistan. Moreover, within the UN system, the office that assumed the lead role – the Office for the Coordination of Humanitarian Affairs (UNOCHA) – had very little operational capability of its own. Table 1 lists the major responders together with their political and operational mainstays.

In this multi-actor, multi-location set-up, the ICRC stood out as having by far the largest operational capacity in Afghanistan, including an on-going air operation ex-Peshawar, its well-developed logistics base in Pakistan. Its operational leadership on the ground, therefore, came to be recognized almost naturally. However, the ICRC struggled with its internal complexities as a humanitarian organization perfected to helping war victims, but not routinely tuned to responding to fast-onset natural disasters and having to allow for the interests of the wider Red Cross Movement. Rostaq was seen as the first test case of a recent high-level agreement on the division of labour within the Movement; in shaping the response, the ICRC headquarters followed strategic considerations of which the field was barely aware in the initial stages. In Geneva, half a dozen different departments played a role in decision-making. Critically, the Afghanistan and Tadjikistan delegations were supervised by different regional departments and, in the absence of a sufficiently empowered task-force encompassing both of them, the Amu Darya river formed a barrier on the mental maps in the first week after the disaster just as strongly as it created a physical one in the field.

In Kabul, and particularly in Islamabad, the ICRC, UN agencies, NGOs, donor and diplomatic representatives, as well as some of the media workers followed a well-proven tradition of close information- and resource-sharing. This humanitarian intelligence symbiosis had a positive function for both preparedness and response. For example, the ECHO representatives in Kabul were appreciated for their in-depth country knowledge; it was their office which provided the first set of useful maps for Rostaq, and the inclusion of one of their expatriates in the first ICRC team flying from Kabul was instrumental to the quick release of EU funds in Brussels. However, the scenarios for joint action that key players in Kabul and Islamabad worked out through their close, trusting and knowledgeable relationships were

Table 1: Major Responders

Organization	Headquarters	Afghanistan Delegation Centre	Major Logistics Bases for Rostaq disaster
ICRC	Geneva	Kabul	Mazar-I-Sharif (northern Afghanistan), Kabul, Peshawar (Pakistan)
International Federation of Red Cross and Red Crescent Societies	Geneva	Kabul	Mazar-I-Sharif (northern Afghanistan), various in Central Asia
UNOCHA	New York, Geneva	Islamabad	(none)
UN World Food Programme	Rome	Islamabad	Faizabad (northeastern Afghanistan), Tadjikistan
Doctors Without Borders, Belgium	Brussels	(Formally:) Kabul, (de facto:) Mazar-I-Sharif (northern Afghanistan)	Taloqan (near Rostaq), Mazar-I-Sharif (northern Afghanistan)
European Community ECHO	Brussels	Kabul	(none)

not all endorsed by their respective headquarters or, when acceptable, were decided on too late to be useful. For example, on three occasions – a joint appeal to the donors; the handing-over of an aircraft contract from the ICRC to the UN; the request by the UN to use ICRC-chartered helicopters rather than hire them itself – ‘the UN and ICRC wanted to work together at the field level, and where it was logical to, but administratively, or institutionally, found it difficult to’ (Longford, 1998: 43).

Closer to the disaster, the symbiosis between organizations became even more complete. In Rostaq, the concept of an organizational boundary protecting the identity and internal configuration of the organization was almost meaningless. The dissolution of boundaries happened in various ways, by the mixing of relief teams, by the co-optation of representatives of other types of organizations such as journalists, by the sharing of authority with the coordinator from the government side in the daily coordination meetings and by the far-reaching, flexible and creative exchange of resources. For a while, that had serious repercussions on the organization of the work locally while, at the same time, it may have accelerated donor decision-making and may have placated the media initially not understanding why the relief was late. There was very little in the way of an internal sphere for any of the relief organizations.

Less than a week after the disaster, more than thirty western journalists, including five TV crews, arrived in Rostaq via Moscow and Dushambe, Tadjikistan. Virtually at the same moment, the weather turned against the relief workers, miring their trucks in snow and mud for

several days. The media presence created enormous pressure for the agencies to be seen doing something; at the same time, the complexities of their set-up, with different geographical hubs, incongruence between political mandates and operational capacity (UNOCHA was given the lead role for the UN system, but relief goods and transportation capacity were primarily with the WFP) and divergent headquarters and field perspectives, amplified the coordination loads. Several initiatives were taken concurrently in order to get the relief moving, over land, from northern Afghanistan, from Kabul through the Hindukush and from Dushambe across the Amu Darya, as well as by air using local carriers from Pakistan.

They did succeed in sending some trucks. Also, part of the decision complexities were simplified by a rapidly agreed-upon division of labour, the United Nations taking care of food, the Red Cross and Red Crescent of the non-food (chiefly tents, blankets and cooking sets) and Doctors Without Borders of the medical needs. The coordination of relief movements from several directions and sources, however, absorbed considerable managerial attention while only modest quantities of goods were reaching the victims. Equally disturbing, the search for a viable joint UN/ICRC airdrop from Pakistan delayed such logistical alternatives as using a long-time western partner firm for airdrops and renting helicopters from Tadjikistan.

A week after the disaster, and under close media scrutiny, the slow speed of the relief came to be seen as the result of decisional paralysis rather than of bad weather and the initial

approach became untenable. The ICRC opted out of its common approach with the UN agencies and commissioned a US carrier. The first goods were dropped over Rostaq on 19 February, two-and-a-half weeks after the disaster and one day before the first WFP overland convoy arrived from Tadjikistan. Although airdropping was 60 times more expensive than overland transport, the operation gave the relief community renewed stability and direction. Learning processes were accelerated. The ICRC proved strongest at logistics, orchestrating the airdrop brilliantly and supplementing distribution logistics with large donkey caravans. UN and NGO workers increasingly contributed local knowledge, analysis of the relief process and documentation. This is best illustrated by the way the agencies dealt with a collection of village societies with which they never became very familiar. Unable to penetrate the devastated communities to the level of individual clients (except for the medical), the agencies came to terms with the difficult-to-ascertain needs by a system of village categorization that admitted only three types of communities in need, according to the percentage of houses destroyed. Admittedly coarse, these foreign definitions were accepted with surprisingly mild resistance. The voice of Afghan staff members became increasingly heard and, at their suggestion, relief goods were distributed through mosque committees rather than individual village commanders, guaranteeing a measure of popular control.

Looked at together, the multiple small beginnings, the decisional paralysis, the liberation of forces by an expensive, high-tech choice and the subsequent elaboration of the relief action towards an eventual rehabilitation phase left a particular signature on the Rostaq response. This can be uncovered most easily through its delay structure. Using a phase scheme proposed by Comfort (1990), Table 2 details the time that elapsed since the disaster till certain functions were filled.

A number of anomalies stand out. It took four weeks to complete the emergency assistance. The isolation of Rostaq is already apparent in the fact that news of the disaster reached the agencies only after two days. Thus, in large measure, geography and weather accounted for the long period of time, but the initial coordination difficulties added to it. The by far most striking deviation from what one would expect in the way of a normal response timetable, however, concerns the needs assessment. Although the area to be surveyed was relatively small, the relief community took two-and-a-half weeks to come up with a comprehensive needs estimate.

Several factors were pushing the assessment back. Although the organizations present in

Table 2: Rostaq earthquake response: Delay structure

Function	Days after disaster
Notification of key event	
News breaks of quake	2
ICRC Kabul starts crisis cell	2
Assessment of needs	
First expatriate team reaches Rostaq (Doctors Without Borders)	3
Village categorization leads to first comprehensive needs estimate	17
Mobilization of resources	
ICRC, with Federation, launches appeal	9
Major delivery mode (ICRC airdrop) decided	9
First ICRC airdrop	15
First WFP convoy arrives from Tadjikistan	16
Performance of tasks	
First Doctors Without Borders and Afghan Red Crescent activity for victims	4
First ICRC trucks reach villages	11
Feedback on performance	
Surgical crisis is over	10
Emergency phase is over	27

Source: Benini (1998: 55)

Rostaq took part in daily coordination meetings, several of them started damage assessments in the villages on their own. The aid workers involved had to share their time and energies with many competing duties. Although one of the NGOs had working contracts with the local schools, nobody had the circumspection to form what the military would call light reconnaissance teams, composed of expatriates, translators, teachers and village guides and assign each of them a sector to be surveyed in a uniform format. Instead, the government coordinator, fed-up with the haphazard partial reports from village visits, opposed any further assessment activity for a while. The pieces needed for a systematic assessment would not fall in place until after about two weeks when the ICRC received its first helicopters from Tadjikistan and a UN disaster specialist with good survey skills arrived.

In the second half of February, the relief action became much more secure of itself, its rhythm

being paced by the ICRC airdrop and by road convoys breaking through the Afghan-Tadjik border. A few new players 'slipped in' through the hole in the border fence, including a high-powered Russian government emergency response team. But they either were short-lived or could be integrated in the total effort. On the ground, distributions were effectively targeted to communities with the greatest needs and most of the displaced persons returned to their villages. After the emergency phase was over, the networked response quickly unraveled. The agencies' attention was diverted by other developments, notably a dramatic security evacuation of aid workers elsewhere in Afghanistan. As already mentioned, only some minor strands continued separately.

On 2 May, another, worse earthquake struck the same region. This time, the international agencies responded in more coordinated ways. Helicopters were quickly procured for needs assessments and relief deliveries; the Swiss Disaster Corps was brought in to connect all activity centres with telecommunication; and Islamabad was made the command centre for both UN and ICRC. The relief community had learned some lessons from its earlier experience.

Discussion

The networked response during the emergency phase of February and March 1998 manifested characteristics that were clearly different from those which a unitarian organization would display. Its dynamics was special in all dimensions – temporal, social, as well as substantive. Contrary to the expectation of continuity and steadfastness inherent in the ideal of a Weberian bureaucracy, the network partners followed a curve of highly variable speed and intensity. The slow initial phase, much hampered by the multi-actor, multi-location decision set-up, was followed by a time of glory, reigned by the ICRC airdrop, with intense, very focussed activity on which all participants were able to align themselves. It gave way to an end phase in which energy and attention collapsed almost completely. The major players withdrew from the devastated communities under the cover of the belated UN airlift and of a tools distribution.

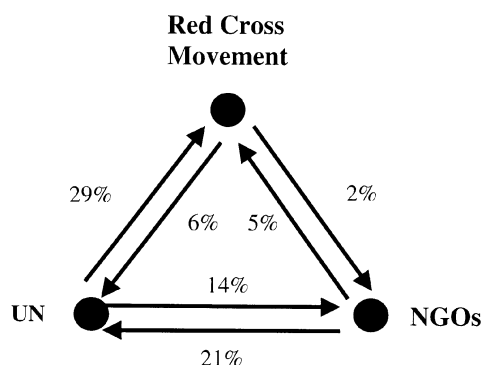
Similarly, the social connections within the network were of unequal strength. The coordination meetings in Rostaq did ensure that all the organizations – big and small – felt they were partners, but they did not all look to each other as equally important sources of direction and support. While the ICRC's operational leadership remained uncontested, it did not very much trust, nor enjoy the trust of, the smaller NGOs. These, seeing the ICRC's close

relationship with the ECHO representative as a threat to their funding, kept their reserve *vis-à-vis* the mighty leader. As a result, at the time of moving into the rehabilitation phase, the ICRC did not have an effective NGO interface to relay capacity for projects in the destroyed villages. All the same, the loose coupling also had some positive effects. It allowed the UN/NGO cooperation to produce innovations in relief accounting and village-side distributions that mitigated ICRC deficiencies on the assessment/distribution side while the ICRC kept its superior performance in logistics and supplies. The following graph of sociometric choices (Figure 1) affirms both the leadership position of the Red Cross (chosen most often) and the intermediary role of the UN (choosing others most often).

In the substantive dimension, the dynamics of the Rostaq response network were such that it lost much of the brief life-saving window. The ICRC and UNOCHA delegations instantly mobilized when the news of the disaster broke, but by the time the first relief workers reached the villages, several days had gone by. The decision not to do search and rescue, therefore, was correct because it was too late for it. Still thousands of survivors were holding out in open air and makeshift shelters. Help for their immediate survival was limited to what the first few trucks brought in; for on top of the slow notification and the bad roads, paralysis in finding an effective air-carrier mired the action.

The response, therefore, concentrated on the use of the next window, the quality-of-life window, assisting survivors to return to, and withstand the rigors of, the Afghan winter in their villages. The quality-of-life measures, once adopted, were carried out on an emergency footing, preferring a speedier, and costlier, airdrop to inexpensive, but unpredictable, road convoys. Here was a manifestation of the well-known trade-offs between the number of decision-making partners and speed, as well as between reliability and cost. In a model calculation base-lining the Rostaq fatalities against another earthquake of very similar local circumstances, but faster response (Erzurum-Kars, Turkey, 1983) as described by Mitchell (1985), the author calculated an excess mortality of about 700 that the Rostaq communities incurred due to the particular speed and institutional environment of the response in February 1998. However, such comparisons have to be taken with more than one grain of salt and it is only fair to stress that the relief did save countless other lives.

Taken together, the temporal, social and substantive dimensions yield the tableau of a highly variable performance, but, nevertheless, one that achieved the overall goals to a surprisingly high degree, given the adversity



Source: Benini (1998: 34)¹

Figure 1: Looking To Others as Most Important Partners

of nature and the complexity of the responder network. The concurrence of effective routine performance, situational dominance and paralysis was apparent not only in the grand picture, but also in operational details. An instructive example is provided by the UN Disaster Assessment and Coordination team. UN regulations provide for such teams to be sent to major disaster areas to assist the resident offices in their response. However, the team for the Rostaq earthquake was delayed by UN-internal bureau-politics and was eventually limited to work in Pakistan and in Rostaq, the Tadjikistan offices rejecting the need for assistance (paralysis). When the Finnish UNDAC team member arrived in Rostaq twelve days after the disaster, he set up a reporting system that was to greatly facilitate distribution planning (effective routine). He also introduced a coarse, but very helpful, village categorization scheme adapted to the degree of complexity that distribution planners could handle (situational dominance) and which became the basis for the first complete needs assessment.

One now must turn to the centralization thesis that 't Hart, Rosenthal and Kouzmin (1993) want us to revisit. The Rostaq experience gives qualified support to their thesis that under crisis conditions, decision making does not necessarily become more centralized. In fact, the network that we are looking at did not spontaneously centralize. Although team leaders were appointed for the relief workers in Rostaq, and task forces were formed in some agency headquarters, the networked organizations remained without a clearly recognizable centre. This was true particularly during the first week after the disaster and applied to the functioning within large organizations having several offices in the region, as well as to the inter-play between them. For example, within the ICRC,

the communication network was not free of inconsistencies, with the headquarters' Afghanistan desk speaking with Kabul and Islamabad, but not with Dushambe, the relief department with Kabul and Dushambe, but not Islamabad, and both having insufficient contact with the Tadjikistan desk. Between the ICRC and the UN, uncertainty was imported through points of close information symbiosis, such as when UN offices in Islamabad each favoured a different logistical arrangement and the ICRC then received mixed signals from them.

Such uncertainties would amplify each other across organizational boundaries and the resulting oscillations were difficult to dampen. While decision-makers were reeling with high uncertainty, there was no call to centralize. Also, the shape of the response did not 'involve direct operational leadership on the part of top-level officers' ('t Hart, Rosenthal and Kouzmin, 1993: 18). For example, early in the crisis, the ICRC had a choice to send to Rostaq a senior member of its Afghanistan delegation who happened to be in the northern part of the country. It chose not to do so. Instead, it left the on-site command in the hands of its trusted local field delegate, immediately reinforced with specialists from Kabul. Similarly, at the country-level, the network produced a helpful division of labour among the major responders by means of concertation among peers and, in the ICRC and Federation headquarters, the deskmen remained in charge, with higher echelons trouble-shooting through occasional meetings as needed.

Our support for the position of 't Hart, Rosenthal and Kouzmin (1993) is qualified, however. The qualification is about the effectiveness of a decentralized response. In the Rostaq earthquake, the system of partially, and sometimes inconsistently, networked players, without a clear centre, processed a fair number of scenarios in parallel, often using considerable local knowledge and individual creativity for each of them. It did, however, not work out one major scenario that the combined effort could have brought to fruition. This happened only when the ICRC defected from the coalition with the UN and decided to go it alone for the airdrop. In other words, using the terminology of evolution with its three constituent functions 'variation', 'selection' and 'retention', such a system may be good at creating variants, but it does a poor job selecting from them and retaining the selected options. The network without centre traded lower effectiveness during the early life-saving window for higher effectiveness during the subsequent quality-of-life window. It achieved that thanks to the greater scope that it provided for learning than a centralized arrangement would have.

Finally, a counter-intuitive finding deserves note here. This concerns the levels of coordination and cooperation. By now, it should be clear that the response network was struggling with very serious problems of coordination, particularly during the first ten days after the disaster. Moreover, psychologically, the situation was tense. Frustrations ran high, in Rostaq and elsewhere, until the first airdrop on 19 February instilled a general feeling of breakthrough. Surprisingly, then, cooperation among the organizations was intense and constructive in all phases, as interviewees consistently described it. They did encounter a fair number of conflicts, and sometimes painful ones, such as when politics or technical factors thwarted projects for joint action, but the conflicts did not apparently reduce the high levels of common planning and resource exchange. I cannot fully explain this paradox. An obvious factor that facilitated cooperation was the high levels of shared values and country knowledge across responders. That made for good pre-programming decisions but more was needed for the good cooperation to withstand the strains of coordination. One assumption is that networks without a strong leader offer its members areas of indifference that buffer cooperative arrangements against the potential of escalating conflict. A possible example is suggested by the reaction that a small NGO received in Rostaq. This group made several contributions, not all of which were equally appreciated. Severely criticized for using scarce transport to carry coal to villages (area of conflict), it was allowed to bury animal carcasses (area of indifference) and was highly lauded for its repairs of the roads the relief trucks needed to negotiate (area of positive cooperation). A more unified command structure might have come down heavily on conflicting behaviour, thereby also eliminating niches for positive cooperation. More decentralized regimes, one may speculate, are better able to elicit cooperation in the face of coordination conundrums.

Conclusion

Theorizing about the behaviour of organizational networks borrows from two traditions. Some students of networks take their point of departure from environmental turbulence. This is true, as was shown at the outset, of Miles and Snow (1992), who look at global changes causing networks to emerge. While increasing turbulence is claimed as an almost secular trend in many organized fields of life, it applies to disasters almost by definition. From an economic angle, networks respond to transaction cost concerns. In the humanitarian world, too, the question 'Make

or buy?' has been asked. The co-existence of a few major operational agencies with a host of small NGOs sub-contracted by donors seems to repeat the response already familiar from the world of business. If one has not seen this pattern very widely developed in Rostaq, it had more to do with season and geographical isolation than with intrinsic limitations of humanitarian networks. The massive descent of the media, however, was a turbulent event of the first-order. Future theory development in this line should attempt to form more specific hypotheses about the relationship between the complexity and speed of changes in the environment (Aldrich, 1979; Warriner, 1984) and the behaviour of networked disaster responders.

The other tradition built on in this paper is from the more inward-looking study of bureaucracy, concerned with the capacity to coordinate and learn; and reviewed, with a particular eye to government disaster management, in the quoted studies by Rosenthal, 't Hart and Kouzmin (1991) and 't Hart, Rosenthal and Kouzmin (1993). When elevated to the level of organizational networks, the language in which such theories can be developed may yet have to be invented. Modes of behaviour, of which unitarian organization are capable one at a time, may present in a network several of them concurrently; and a good theory must take care of that possibility. The case study has exemplified that for the area of operational decision making, but such multi-faceted behaviour may obtain also in other areas. Moreover, such states are attributable not to the individual member organization in the network, but to the network as a whole. This is particularly true of organizational learning. The evolution of a multi-mode transport system, stretching from the C-130 airdrop to donkey caravans, was an achievement of a learning process in which all were teachers and students alike, and, similarly, the more aggressive use of helicopters was evolved from the first to the second Rostaq earthquake response through the network of participating organizations. This inter-organizational quality of learning has been established also for other human endeavors, such as in bio-technology (Powell *et al.*, 1996). In disaster management, more research may be warranted into the quality of learning, particularly the degree of retention of lessons learned, as a function of organizational and personnel turnover in networks. This should devote attention also on the notoriously difficult transition from response to recovery.

This paper is entitled 'Network Without Centre?'. The network in point was a temporary alliance from a pool of partners, each capable of contributing something valuable to a short-term project. It was a dynamic network, with most

partners recruited within days from the disaster and starting to disband after less than two months (and eventually reactivated by the accident of a second quake). Miles and Snow (1992) believe that the operating logic of the dynamic network is linked to that of the divisionalized firm, with its 'combination of central evaluation and local operating autonomy'. These two levels are similar to those of strategic and operational decision-making evoked by 't Hart (1993) for crisis management. However, in the Rostaq earthquake response, there was no one and sole centre of evaluation. Although one may see a weak parallel between the prominent role that one of the donor agencies played, and the role of corporate management as an investment banker for growth and redirection, this would be a far-fetched comparison. Essentially, during the response to the first quake, the network was without a centre – and it worked. The decentralized form is not a given, however. Strategically, the leadership of the larger humanitarian agencies has some, though limited, discretion over the form of network arrangements. They should use it in an awareness of both costs and benefits that their options carry.

Note

1. Based on 238 sociometric choices elicited in interviews with members of the Red Cross Movement, United Nations and NGOs active in the Rostaq dossier. Interviewees were asked who from among the persons of all organizations involved were the three most important partners for them personally, and why. They were then asked if that set of key partners changed over time. The answers were then reviewed during the interview, to see if the respondents maintained his choice, but also to make sure that they nominated persons (most of whom with an organizational affiliation), not just organizations. The final choices, three normally, more in case of significant change over time, were then coded for place, function and affiliation of both interviewee and his/her most important partners.

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