Earthquake in Pakistan controlled Kashmir: an emic testimony on the disaster response

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Summary

- October 8th, 2005 saw a devastating earthquake with a magnitude of 7.6 on the Richter scale, which hit the Pakistani North Western Frontier Province (NWFP) and the pre-Himalayan Pakistan and Indian controlled provinces of Kashmir.
- About 4 million people were affected, with an estimated 3.2 million left homeless. More than 100,000 people have died.
- Pakistan made a request for relief to the international community and Belgium, among many other countries, offered to send a medical Phase I team. This team was B-FAST (Belgian First Aid & Support Team), which is constituted of mainly civilian medical doctors and nurses.
- In addition a mobile (tent) hospital, International Dispensary Association kits, food, water and blankets were transported to Muzzafarabad, the epicentre of the devastating earthquake.
- The United Nations Headquarters dedicated the trapped border town Chakothi, lying at the Line of Control with India to the team. However Chakothi could not be reached because the road had been destroyed and covered with rocks. Instead B-FAST joined a Pakistani military base in Tandali valley at the border of the Jehlum River.
- More than 2,000 badly injured (27% younger than twelve years old) could be treated. About 5% of the patients in a critical condition could be stabilized and transferred to the international back-up hospitals (French, Turkish, and Russian) at Muzzafarabad or the University Medical Center of Islamabad.

Introduction

Dirk Danschutter (standing on left in Photo 1) is a fire-fighter senior instructor and has been involved in emergency care since 1991. He is also a combat paramedic in the active military reserve of the Belgian army (Elements for Medical Intervention). Dirk is a member of the Belgian First Aid and Support Team (B-FAST) and was in the Belgian reconnaissance team that worked in the tsunami-devastated area of northern Sumatra and Banda Aceh in January 2005. In October 2005 he was part of the disaster response team that went to the epicentre of the Kashmir earthquake.

Photo 1: Members of B-FAST

Housai Rahimi is an 18-year-old office clerk at the Belgian embassy in Islamabad, Pakistan. She is Afghani by birth but due to the ongoing war a few years ago she fled with her mother and brother to Pakistan. She learned to speak French at the local Alliance Française and English by communicating with her sisters living in the USA and Canada. She volunteered to translate for B-FAST during the Kashmir mission. She speaks French, English, Persian, Dari, Pashto and Urdu.

Background

On October 8th, 2005 a devastating earthquake at shallow depth with a magnitude of 7.6 on the Richter scale, hit the Pakistani North Western Frontier Province (NWFP) and the pre-Himalayan region of the Pakistan and Indian controlled provinces of Kashmir. This earthquake was the heaviest one during the last hundred years and struck an area that spreads over several hundreds of kilometers in the pre-mountain and mountain region.

About 4 million people were affected, with an estimated 3.2 million left homeless. Approximately 500,000 houses have been

Photo 2.

destroyed in 15,000 villages. Towns such as Balakot, Bagh and Muzzafarabad were 90-100% destroyed. Nearly 300 hospitals and more than 8,000 schools were destroyed. 600,000 of the affected people were children under the age of 5 and 9,000 women were pregnant. 75,000 of those affected lived above the mountain snowline. Half of the wheat stock was destroyed and around a quarter of the livestock. Landslides and rocks cut off roads and mountain passes. In mid November, only a few weeks after the earthquake, temperatures dropped, thunderstorms appeared and the first snow began to fall.

Photo 3.

More than 100,000 people have already died in the earthquake, and among the victims were 17,000 children attending Saturday school (The Lancet, 2005; Siddiqi, 2006). The total cost of losses and recovery for the affected areas in Pakistan and India has been estimated to be over US$ 5.4 billion. The international community has succeeded in raising US$ 6 billion in funds (Ahmad, 2005).

Disaster management and role of B-FAST

As the worst hit areas were the Himalayan Pakistan controlled Kashmir (PcK) and the NWFP, the access to the terrain was an immediate and major challenge to initiate both the relief and mitigation phases (Phase I & II) of disaster management. When a natural disaster occurs the international community will engage with either individual or joint civilian and military interventions if the affected nation(s) communicate an official request for help. In contrast to conventional war situations, the coordination during disaster management is guided by the Oslo guidelines.

Disaster response is divided and launched in 3 phases. Phase I response deals with immediate relief at the disaster scene such as urban search and rescue (USAR), mobile surgery, emergency care and heavy logistic support (road, fixed and rotary wing vectors). These tasks are traditionally carried out by fire departments, search and rescue teams, dog teams, and army and civilian medical personnel specialised in emergency care. Mobile and field hospitals and so-called surgical antennae are deployed at the scene. Phase II or the mitigation phase is initiated simultaneously by mostly non-governmental organisations (NGO), often combined with extended modules of Phase I army and civilian medical components. The mitigation phase is meant to attenuate or to weaken the global effect of the disaster. Specialised task forces or groups mainly dealing with water, food, clothing, medication and shelter distribution are involved and are especially focused on the avoidance of the second wave of death (prevention of bloody diarrhoea, acute respiratory infections, starvation, and launching vaccination campaigns). Phase III concentrates on rehabilitation to restore or to implement previous existing but destroyed infrastructures as soon as possible. It should be emphasised that all three phases are of equal importance and need to be activated at the disaster scene within the shortest time possible.

Pakistan addressed a request for relief to the international community and Belgium among many other countries offered to send a medical Phase I team. This team is known as B-FAST and is constituted of mainly civilian medical doctors, nurses and a few firefighters. B-FAST reports to the Belgian Ministry of Foreign Affairs, but is also connected to the Ministries of Healthcare and Defence, and the Prime Minister.

Experienced disaster medical personnel and young emergency and intensive care staff form this team, as one of its roles is to support and develop the field experience of new members. The core of the team had been active in former disaster or problem areas such as Turkey, Iran, Sumatra, Thailand, India, and Africa, and is also experienced in working in temporary joint civilian-military initiatives.

The B-FAST team was activated on a Sunday evening and departed for Islamabad the following Tuesday morning. A 12-ton load consisting of a mobile (tent) hospital, International Dispensary Association kits, food, water and blankets was first shipped by cargo plane. The team was then split in two with the fire-fighters accompanying the freight while the medical team headed to Islamabad via London. By noon on Wednesday the cargo plane had arrived, slightly delayed from Kazakhstan, due to a technical problem. The trucks chartered by the Belgian ambassador were then loaded with the precious freight and by dawn B-FAST headed

for the mountains. The unloading of the shipment had progressed quite uncomfortably with the Pakistan airport military pointing a vehicle-mounted machinegun towards the team and there were suspicious sentinels armed with AK-47s. A personal intervention by the ambassador seemed to relax the military, although this took a while.

B-FAST was divided between the trucks and vans and after a whole night of driving through both devastated and unaffected areas (like the Punjab National Forest), Muzzafarabad - the epicentre of the killer earthquake - was reached the next morning.

Volunteering for B-FAST: the perceptions of a young Afghani woman

A young Pakistani woman, called Housai Rahimi, who was previously unknown to the team, had joined soon after the debriefing at the Belgian embassy. She was introduced to us as a volunteer translator. She wore city clothes and carried a small brown suitcase, which looked odd compared to the heavy backpacks and semi-mountain gear of the B-FAST members. But everyone assumed that because she was a 'local' she knew what she was doing.

As an office clerk at the Belgian embassy, 18-year-old Housai was briefed on the arrival of a Belgian civil USAR team to Islamabad (the capital city of Pakistan) on day three following the earthquake. The Belgian Ministry of Foreign Affairs had been informed that a rescue team comprising of five doctors, a dozen nurses in addition to logistical staff and fire-fighters would arrive. The Belgian ambassador insisted on creating a few posts among his own personnel and staff to assist the Belgian disaster relief team that would be heading for the epicentre in Kashmir.

Young Housai volunteered to work as an interpreter for the Belgian team. Translation would be a major issue, particularly because the remote citizens of the north were not at all familiar with English. With Housai originating from Afghanistan but residing in Pakistan, Urdu, Dari, Persian, and Pashto, could be translated for the French- and English-speaking Belgian team.

Opposition to Housai's membership of the team, mainly from Pakistani colleagues and neighbours, quickly surfaced, and they continuously attempted to make the young woman change her mind. Their main arguments were rooted in questions about how Housai, as a youngest daughter, could leave her mother behind, and secondly how she could volunteer to accompany a team of foreigners including several men? Therefore, Housai had quite a lot on her mind before her departure: volunteering for a doubtful job, not being really able to evaluate the translation requirements versus her own skills, and the challenge of environment and opposition from relatives. Her mother, the ambassador, the consul and most of the Belgian staff at the embassy however, supported Housai's choice.

Housai had never visited other places in Pakistan, and had only been to Islamabad where she lived and worked. She could not conceptualise what the North and the mountains, the weather, the forthcoming winter would be like, and had no real idea about the physical and mental strains that would be involved. To further complicate matters, Housai was not medically trained and her most haunting thought was that she would not able to anticipate how she would react in the midst of death, devastation and badly injured people. In a country like Pakistan, the whole society revolves around families and family structures, where the elderly make the important decisions - even marriages depend on relationships between families. Housai's ability to deal with people's misery and family disorganisation – especially when many people lost many family members, including the heads of the families, was in question. In summary, Housai held fearful and desperate feelings about this mission that was taking her to the epicentre of the earthquake.

Praying to Allah

Praying to Allah helped Housai to gather the courage to engage in this mission. Her belief was that in prayers the strength to help people can be found as God was, and is, all around her. This omnipresence of God gave the young woman the faith that she would achieve all she was putting her mind to. As Allah is also revealing his existence through others, Housai was convinced that her mother's blessings would play a key role in Muzzafarabad and her mission. These blessings and the firm, unconditional belief in Allah's graciousness and power armed Housai against the physical and mental assaults, even before she took off with the Belgian team. Especially, the prayers of her mother, Lailoma Hashemi – as prayers are ways to connect to Allah – and her mother's appreciation and support for her youngest daughter, made it possible for Housai to participate. Without the permission and the appreciation of her beloved mother, Housai would never have joined this team of foreigners and men.

Photo 4.

Muzzafarabad

After a night of driving slowly through Kashmir, travelling through both devastated and unaffected places, the team reached Muzzafarabad's former courthouse where the first earthquake victims had been treated. Policemen guarded the place as a large amount of hastily donated relief goods were stocked in and around the building. The place was a silent witness to suffering as children's shoes, empty infusion bags, catheters and intravenous lines laid in the grass field or hung in the branches of the trees, which apparently served as improvised intravenous infusion holders. The team was told that many people had lost their lives here.

While the chief of operations (CO) and the senior medical doctor headed for the United Nations Headquarters (UNHQ), some of the exhausted members fell asleep because the group had been awake for two days in a row by now. The ones staying up asked the local policemen for the long bamboo sticks they had seen, as these could be useful in securing the hospital perimeter or as additional supports. Once the CO had returned to the courthouse, the team was briefed on the further mission, which was a trapped town.

In the North of Pakistan the highest mountains of the world can be found, like the renowned K2. So it is not surprising that in such a mountainous region most of the towns are accessible by only one or two roads or mountain passes. Now, following the earthquake, huge rock and landslides had cut off these towns from the outside world, leaving them completely isolated and deprived of help or rescue missions. One of these trapped towns, which was known to have suffered many casualties, was Chakothi, on the Indian border. It was to this town that UNHQ despatched B-FAST.

Then two problems then arose. First, a tyre from one of the trucks was punctured and secondly, even more troubling news: the drivers did not want to continue the journey! The young woman that had volunteered at the embassy, who had gone quite unnoticed until now, first listened carefully to the CO. Then she started to discuss the situation with the drivers, becoming very assertive and agitated. So much so, that the policemen came over and suggested to her that she was going beyond what was acceptable. However, she was undeterred. And, as things seemed to be looking worse and more complicated, the translator suddenly - to everyone's surprise - explained that the drivers had agreed to continue the journey.

The drivers' main concern was the fact that Chakothi is a border town lying at the so-called Line of Ceasefire, also referred to as the Line of Control (LOC). India and Pakistan have fought two wars for control over the strategically important Kashmir (Indus River); while the Kashmiri claim independence. The Kashmir region is known as dangerous territory with Muslims and Hindus accusing each other of abductions, raids, and random killings and rapes. The amazing thing was that the young woman had argued with the men to continue a mission into an area of danger – a mission that she was also personally troubled about – especially because she was an adopted Pakistani. When the team members asked her how she had convinced this protesting group of drivers, she explained that she had called them cowards and a bunch of lazy men, not willing to help their own people, whilst foreigners from far away and she, as an Afghan woman, had volunteered to help.

Moving out

With the joint efforts of the team the tyre was replaced and the convoy headed Eastwards, passing the Eastern checkpoint of heavily destroyed Muzzafarabad and following the Jehlum River upstream towards Chakothi. As the convoy progressed through the Tandali valley, many people coming from the opposite direction signalled for assistance, begging for the gear that was piled upon our trucks. The B-FAST members gestured back as if they were injecting themselves with virtual syringes, trying to explain that we were transporting medical equipment. But further on people tried to jump on the moving trucks and the team members had to spread over the cargo to protect it from theft. Then, the last truck of the convoy got isolated and was halted by a hastily assembled tree blockade on the road. The convoy stopped and, very luckily, was met by a Pakistan army convoy (commando and engineering battalion) coming from the opposite direction. With their help, the truck was released, but the soldiers explained that there was no more road ahead, as it had been destroyed by the earthquake and was covered with rocks. This was disappointing news, meaning that Chakothi could not be reached; we were at least 30 km away at this point.

Photo 5.

The CO held a meeting with the group, as it appeared that B-FAST had to turn back for the UNHQ at Muzzafarabad to be given a new mission. There was disagreement about this among the team members, as some believed that B-FAST, as a true mobile field hospital, should negotiate with the Pakistani troops. Equipment and personnel could then be transported via helicopters from a base camp all the way over the blockades. So, B-FAST started negotiating with the battalion's colonel. As this was a military camp of engineering platoons, helicopter transportation could not be arranged immediately: the soldiers' primary mission was to clear and repair the road to Gahri Doppota and subsequently Chakothi with the shortest delay. There was very dense air traffic over the valley between Muzzafarabad and Chakothi, carrying out the vital task of dropping and transporting goods (Phase II), and the transfer of critically ill patients to the advanced field hospitals of the French, Russian and the Turkish support teams that were centred in Muzzafarabad (Phase I). The battalion's colonel designated a corn field on the opposite side of the road next to the military camp where B-FAST could deploy its field hospital. and one of the lieutenants and his platoon were charged with the protection of the field hospital.

Photo 6.

Photo 7.

Immediately after the first truck was unloaded, people (local residents from a small village but also homeless people who seemed to come from upstream Jehlum River) came into the camp. Among these first visitors were heavily wounded patients, many with pelvic and hip fractures. The first patient we saw was gasping for breath and was clearly dying. A small group of nurses and doctors was dedicated to treat these incoming patients, while the rest of B-FAST started to further unload the trucks and to set up the hospital. In the middle of the night the hospital was built and a considerable amount of patients were treated.

Indigenous wound treatment

The next morning, and the days after, the hospital was flooded with patients requiring an immediate implementation of a triage post. Only the severely wounded were given access to the intra-hospital facility. Retrospectively, 27% of the patients we treated were shown to be younger than 12 years of age. Most of the patients were severely cut by the breaking windows of their houses (see Photo 7), but also from jagged edged limestone fragments that shot away from buildings like shrapnel. Some small children were severely burned due to accidents with open fires and boiling water. A majority of the patients had fractured legs, arms or pelvis and, especially the children, suffered from massive scalp wounds (see Photo 8).

Photo 8.

There was a great concern about the spread of major disease such as bloody (typhoid) diarrhoea, tetanus and acute respiratory infections. All injured patients were vaccinated against tetanus and all the children under the age of five were vaccinated against typhoid fever. There were relatively few acute respiratory conditions; despite the fact that most of the victims were homeless and heavy rainfall had started with significant temperature drops at night.

Nearly all the patients with open wounds presented with severe but mostly localised infection. This was very probably due to the indigenous wound treatment. Almost all open wounds were smeared with a paste of cow dung, herbs and plants. Other wounds were treated with human or cow hair, with ashes or with sand. Most dressings consisted of paper or cardboard applied directly on even the most extensive of wounds. Although at the B-FAST field hospital the cuts and lacerations appeared to be severely infected, these infections were mainly localised (not systemic) with an abundant formation of pus.

In his many chronicles, the medieval theorist Paracelsus described indigenous wound treatment with animal dung, milk, herbs and honey in the 'ancient world'. In the 15th and 16th century the treatment of severe cuts and lacerations (in soldiers or camp fighters) with dung plasters appeared to be custom medical practice, and Paracelsus reported that the wounds closed within three days. Nowadays wound treatment and ointments of the umbilical cord with cow dung are still traditional in certain African and Asian regions as well (Bennet et al., 1999).

It seemed bizarre, but these mountain people had no experience of basic treatment (immobilisation) of bone fractures. Most of the broken limbs were not reduced with the help of (improvised) splints. Instead they were wrapped in cotton or paper.

Crush wounds were associated with gangrene and required immediate amputation of mostly fingers, toes or occasionally a hand or foot. But many, and especially small children, had survived impressive scalp wounds with large loose skin flaps without fluid resuscitation or blood transfusions. They were not comatose or somnolent, did not appear to be anaemic, but instead were vivid and alert. It was hypothesised that dung, ashes, hair or sand all act as a haemostatic dressings, drawing the infection outward in the way that ichthammol ointment does. A major concern with these types of natural wound treatments is tetanus infection, but, as noted above, all patients with wounds presenting at the B-FAST hospital were vaccinated.

Translation

As English was an unspoken language in this region, young Housai listened carefully to most of more than 2,000 patient histories. Then she translated them to the nurse or the doctor. After the treatment, she again needed to explain to the patients what kind of tablets they had been given and how many to take, and when the patient needed to present for a second time at the hospital. She also had to run back and forth to the triage tent, because most of the patients presented there without an obvious condition, and it was her role to determine what their symptoms were (such as abdominal or back pain, episodes of fever, depression, diarrhoea, headache, vertigo, pruritus et cetera). She also needed to convince some patients to have fingers, feet or hands surgically removed.

About 15 patients per day required transfer to the international field hospitals in Muzzafarabad or the University Medical Center of Islamabad for major amputation and surgery, endomedullar nailing, mechanical ventilation, severe burns or haemodialysis. This too, she needed to explain, combined with telling awakening

people in the post-operative recovery tent what had happened and what they could expect to happen in the future. In between she found time to motivate the military guards and accompanying men around the field hospital, as they did not seem to be very keen to help or to carry patients on stretchers. In fact the mutiny scene with the truck drivers at Muzzafarabad was similarly replayed with the men in the camp, and she appeared to have great success again. After a few days, and with an intelligent CO distributing food packs and blankets to the soldiers too, they became highly motivated helpers.

Ramadan

Pakistan, as a nation and society, is very faithful to its traditions. It was during Ramadan when the earthquake struck. Despite their global misery, their loss of property and goods, none of the Pakistini (adult) citizens and military ate or drank during the daytime. B-FAST, as a typical sample of a Western population needed to eat and to drink. This was done in a covert way during the morning and afternoon. The team members had supper together when darkness had fallen, so this was not a potential offence because at this time the military also had their meals cooked (after the 1700 prayers). As for Housai, she initially did fast, but because her work was too demanding and the nights were too short, she abandoned her religious tradition. According to the teachings of Islam that are based on humanitarian principles, exceptions such this are allowed. Housai had to remain very active during the daytime and it was important for her to keep alert and focused. She rationalised that, at this time of need, it was appropriate to break the rule.

Since B-FAST could not evaluate the way local residents were observing this team, Housai reported how men were curiously looking at the female nurses. The nurses were mostly blond and were 'from miles away', contrasting markedly with the local population. It is also highly unusual for women to work out of home in this particular and mainly agricultural area of Kashmir. Nevertheless, Housai drew our attention to the fact that most of the injured men were very comfortable with these blond nurses treating them! As a matter a fact the men tried to communicate with discrete gestures, but they particularly wanted to prolong the 'conversation' with the female nurses. To quote Housai, "The men showed an extraordinary interest in trying to prolong the conversation with them, it was a natural feeling of happiness that used to show upon the face of the men."

On a different occasion it was quite the opposite, when a husband and his pregnant wife presented at the field hospital. This happened during the period of the B-FAST mountain missions in cooperation with the Pakistan soldiers, who had by now become friends and colleagues. As a result of these remote missions up to Balakot and Gahri Habdullah, no female nurses were left in the base camp. The woman, who was suspected of carrying a dead baby, needed to be examined by one of the male nurses and all of Housai's skills were necessary to convince the husband. Again quoting Housai, "The Belgian team was very sensitive towards the cultural aspects of the country, for example in having female staff available for female patients, and not smoking or laughing loudly in front of the patients. They had a sincere attitude towards work."

Housai also reported on issues unobserved by B-FAST, who obviously did not understand the Urdu language. On one occasion a local medical doctor connected with the Pakistan Red Crescent took Housai aside and suggested that B-FAST was not communicating properly with the patients and therefore it was not providing them with proper treatment. Housai evaluated this conversation as non-constructive since the major issue brought up was the fact that the team came from the West. According to that particular doctor a Western team does not know Pakistan tradition, culture and values and therefore could not treat the patients properly.

Stigma

As the mission came to a close Housai returned back to her desk at the Belgian embassy in Islamabad. At home many of her close relatives and her colleagues at the office were primarily concerned that Housai had gone off with a team of foreigners. And, even more troubling, was that the team consisted mainly of men. There was little interest in the accomplishments or merits of Housai in contributing to this mission's local success. The pictures of the injuries or the bad weather and field conditions did not impress even the closest of her mother's friends. A local nurse and family friend objected to the fact that Housai had lived in a community of foreign men and felt that Housai's mother was to be blamed for such a poor decision. Furthermore, Housai was now a disgrace to the Rahimi and no family would agree on granting her a husband. There was also much commotion because Housai had embraced the male B-FAST members when it was time to say goodbye. Housai described how little people were concerned about the actual work she delivered, and were preoccupied with the way she dressed or to whom she talked. Surprisingly, even the overseas aunts and uncles, including a sister living in Canada, strongly disapproved of Housai's choice to join B-FAST and to head for Muzzafarabad.

However it was not all bad news. The B-FAST mission was visited by Arabian television network and our work was broadcasted on Al-Jazheera, which was considered by both the Belgian and Pakistani diplomats to be of high diplomatic value. Housai's mother continued to support her youngest daughter, as did the Belgian embassy staff. Her best friend Ghalib (a German/Pakistan student) applauded her courage, perhaps more the courage to join a foreign team of men, rather than joining a journey to the epicentre of a killer earthquake in an area of ill repute and danger. Housai is very thankful to the support of her friend, who has assisted in a mission of Médecins Sans Frontières and thus understands what she has been through. However, this friendly relationship is also disapproved of, "It is always associated with physical intimacy but what they don't understand is that Ghalib is [one of] only a handful of people who always has and will support me for work that I did selflessly and not for the banal things as my sex (gender!) or young age."

Discussion

In the words of Housai:

"I have realised that even though being a girl, I achieved that I could help as an interpreter, who has a crucially important job to understand the problems of the patients and communicate effectively with the medical staff."

"Also, the experience of working in the B-FAST team taught me not to lose hope, despite the opposition of my close relatives or not being able to help people financially."

"I learned to appreciate even the little things that one can do to help people."

"The honest appreciation from the team has made me believe that what I did was vital indeed and also needed in the future. I will selflessly work towards saving the lives of the people, in whatever capacity I can."

It is not always clear how local residents of a disaster-affected area interpret the arrival of a Western rescue team. A disaster relief team, perhaps more so than many of the other teams involved, is probably less well adapted to foreign culture or tradition. The recruits are likely to be active medical personnel retrieved from typical Western hospital settings, while members of Phase II and Phase III teams are more often likely to be NGO 'Africa' nurses or doctors or in the military by profession. Even though teams like B-FAST or the SAMU of the French are very aware that they are prone to a certain degree of ethnocentrism. Ethnocentrism is to be expected due to both the appearance and habits of the foreign team (like eating and drinking among men and women; especially during Ramadan) and how this team is perceived by other cultures. Having someone like Housai not only translating the language but also the cognition and feelings of the local people was of extreme value. Small changes could be managed properly to help the team to make adaptations before they became disturbances. Thus it is important that for cultural support people like Housai, who are specialists in the area 'by birth', are incorporated into international rescue teams.

An issue involving the work with volunteers originating from the disaster area has been documented by Housai's story. Being congratulated by the ministers of Health and Foreign Affairs, the diplomatic corps of both countries for outstanding performance on the field, under difficult conditions and without medical training, Housai is now a disgrace to her family. All because she went to Muzzafarabad with a team of foreigners and worked together with men. Several people warned her, but despite those warnings she persisted in working for a good cause.

Housai showed her strength in the way she moved both the military of the Pakistan army, the drivers, and the Pakistan Red Crescent by shocking them. Male patients appreciated the foreign nurses while an autochthon female, apparently a key member of a Western team, confronted soldiers and local residents with their passivity. Combined with intelligent management by the CO, hard work of the team the local residents and soldiers became more and more helpful even pleasantly surprising Housai. Lethargy in disaster victims however, who have lost everything from family members to property, has been observed by rescue workers on other occasions. This kind of 'numbness' following a disaster can often last for weeks. The affected people seem to have lost the capacity to be constructive especially if mitigation and rehabilitation teams do not engage in firm action.

During our two-week mission the B-FAST treated more than 2,000 severely injured Kashmiri people, mainly from upstream areas, from Gahri Doppota, and from the surrounding mountains. As the hospital became less flooded with new casualties, two mountain missions in the direction of Gahri Doppota were organised in association with the Pakistan army. Many patients could be vaccinated and treated for injuries similar to those presented down at the hospital. Reconnaissance missions to Gahri Habdullah and beyond Balakot were organised, but there was little help that could be added to the already present rescue teams (Spanish, British, Saudi-Arabian and Iranian). Beyond Balakot constant landslides prohibited further progress by the team. The Pakistan army proposed to drop small B-FAST antennae in the surrounding mountains for relief missions for about three to four days. Unfortunately B-FAST had to return before the deadline of Sunday 23rd October as most of the personnel had to recommence their regular work on the coming Monday morning! With regret at not to being able to fulfil the Pakistan request, B-FAST returned back to the base camp, dismantled it and rebuilt it during the last mission day in cleared Gahri Doppota.

In March of this year the severely affected military hospital of Gahri Doppota was again operational. Until that moment the B-FAST field hospital, which was previously handed over to the Pakistan Red Crescent, treated more than 8,000 civilian patients at Gahri.

Housai is still working at the embassy, dreaming of studying in the West, while paying the rent for her mother's apartment. In the meantime B-FAST is sending two mitigation teams with high capacity hydro-pumps to Romania where the Danube has flooded huge areas of land. Muzzafarabad is by now history for many but influencing the future of some.

References

Ahmad K. (2005). Quake victims reach help too late to save crushed limbs. *Bulletin of the World Health Organization* 83(12), 889-891.

Bennet J, Ma C, Traverso H. (1999). Neonatal tetanus associated with topical umbilical ghee: covert role of cow dung. *International Journal of Epidemiology* 28, 1172-1175.

Siddiqi K. (2006). The Pakistan earthquake: a personal experience. *The Lancet* 367(9515), 986.

The Lancet (2005). A forecast of disaster for Pakistan (editorial). *The Lancet* 366(9498), 1674.

Further information/reading available from:

Centre of Excellence in Disaster and Relief Management (2006). [Online] available at: http://www.coe-dmha.org (accessed June 2006).

GeoTV (2006). Earthquake in Pakistan. [Online] available at: *http://www.geo.tv/quake/pukar.asp* (accessed June 2006).

International Committee of the Red Cross (2006). [Online] available at: *http://www.icrc.org/* (accessed June 2006). [Online] available at: *http://www.reliefweb.int* (accessed June 2006).

International Federation of Red Cross and Red Crescent Societies (2006). Pakistan Earthquake. [Online] available at: *http://www.ifrc.org/news/southasia/index.asp* (accessed June 2006).

Medecins Sans Frontiers (2006). [Online] available at: *http://www.msf.be/* (accessed June 2006).

NASA Ames Research Center (2006). Disaster Assistance and Rescue Team. [Online] available at: *http://dart.arc.nasa.gov/* (accessed June 2006).

North Atlantic Treaty Organisation (2006). [Online] available at: *http://www.nato.int/* (accessed June 2006).

Oxfam in Belgium (2006) [Online] available at: *http://www.oxfam.be/* (accessed June 2006).

Relief Web (2006). [Online] available at: *http://www.reliefweb.int* (accessed June 2006).

UNHCR (2006). The United Nations Refugee Agency. [Online] available at: *http://www.unhcr.org* (accessed June 2006).

UNjobs (2006). [Online] available at: *http://unjobs.org/news/1137478283.28* (accessed June 2006).

United Nations (2006). [Online] available at: *http://www.un.org/* (accessed June 2006).

United Nations Development Programme (2006). [Online] available at:

http://www.undp.org/ (accessed June 2006).
United Nations Joint Logistics Centre (2006). [Online] available at: *http://www.unjlc.org/* (accessed June 2006).
United Nations Office for the Coordination of Human Affairs (2006). [Online] available at: *http://ochaonline.un.org* (accessed June 2006).
United Nations International Children Emergency Fund (2006). [Online] available at: *http://www.unicef.org/* (accessed June 2006).
United Nations World Food Programme (2006). [Online] available at: *http://www.wfp.org/english/* (accessed June 2006).
USAID (2006). South Asia Earthquake. [Online] available at: *http://www.usaid.gov/locations/asia_near_east/south_asia_quake/* (accessed June 2006).