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### **Call for attention , July 2006**

Within a week from July 12, 2006 Doctors in Lebanon and in Gaza denounced weapons previously unseen by Medical personnel which in both cases had long experience of emergency medicine in warfare situation. The question that reached us was: *“we never saw before wounds and corpses like those that arrive in the ward ...what are these new weapons that cause such wounding and horrible deaths? Help us to find out what to do for the people”* . The large majority of victims were women children and elders, in both locations, as direct consequence of the attacks on housing, markets, streets and communication roads and of the use of largely excessive force.

**In response** to this call independent scientists, doctors, information people and NGOs present in the territories in agreement with the local counterparts constituted a loose group of work that was called Newweapons which is working from the **“side of the victims”**, or from the **“other side of the weapons”**, not to count casualties, but to learn about the causing agents and in order to prevent further deaths and health consequences. Our work is mostly concerned with researching and analyzing reports and data to understand the agents utilized in the war and to promote risk assessment surveys for the effects on individuals and population of the weapons utilized. In order to know how to cure and protect survivors by medical and predictive studies. This implies actions at different levels and at different times and for different length of time and multiple professional actors and methodologies: information collection and information verification, survey, analysis and elaboration of data, sharing of all the tasks with concerned local partners, providing the results to tribunals or for other initiatives.

Vox populi, doctors and USA de-secreted audits and documents have reported the use some of these weapons in other wars and occupations but the field was always almost inaccessible for independent investigations.

### **Why investigation to obtain material evidences could be attempted only now?**

Because it is the first time that the professionals, the associations and the people on the victims side denounced the facts in real time and worked to collect information on the spot and because there has been a partial accessibility to the war theater.

This made possible collaboration. We sent protocols for treatment and precaution, asked to preserve materials and proposed surveys to assess the risk. They made available for release, with the aim of obtaining justice, their materials and reports.

**The features reported independently by many Doctors in wounded and killed people in Lebanon and Gaza were often common.** It lead us to think that a new generation of weapons could have been “fielded” in both territories, and we investigated the victims in both locations.

We issued an appeal to the scientific community, grouped some willing scientists, and sent **technical-medical recommendations** to the Doctors to help diminishing the sufferance and to find ailments for the wounded, and for rescue personnel to avoid health damages.

We also **asked to preserve proofs in the form of bioptic and other samples** to be studied by independent scientists with analytical tools, to attempt to learn anything about the weapons utilized.

The request for samples was to attempt to identify the nature of the damage caused, to study the chemical nature of the weapon and to **understand the risk in time** of further and extended consequences on the survivors of the attack directly wounded and, in general, on the population. It is known that some elements that have been spread widely in the area of war are toxic teratogenic and carcinogenic, it is unknown specifically both the level of contamination and the hot spots, and what chemical elements were present in the weaponry utilized. The task of these assessments should have been for the national and international institution to accomplish, but as I mention, nothing has shown that none of them was going to assume the task.

We had 3 missions in Lebanon, and 5 to Gaza, the first in October 2006 and one is underway while I talk here. All were directed to collaborate with scientists, health association and Doctors and all the information I bring to you, including photographic documentation, **is released with the permission to disclose it**, and was **verified** by us in multiple conversions.

### **Institutional lack of responses**

Doctors in Lebanon had preserved many bioptic samples. They told us that their Government asked these to have them analyzed by the World health organization. No results or information was ever released afterwards. As result we only obtained 6 bioptic samples from one bombing in Saida. We received bioptic samples from 4 different lethal attacks in Gaza.

We asked and did not have support from Lebanese institutions, and the Ministry of Health refused to see us.

Dr.Cham of Complex du Sud Hospital, Saida had denounced since July the finding of strange features in the victims he was receiving in the Hospital, through communications to the Doctors Order in Lebanon and to the Society of Belgian Surgeons. Dr.Mansour wrote to both the commissioner of the European Union for Foreign Affaires Javier Solana, and the United Nations Secretary general Kofi Anan, obtaining no answer up to March 2007.No answers arrived or investigations were undertaken.

The conclusions of the special commission of the Human Rights of the UN (2) set up for the evaluation of the crimes of which Israel was accused in the war to Lebanon and attacks on Gaza in July-August 2006, gave ground for criticism and were unsatisfactory to the victims.

Helped by the blurred confines of the legislation and the uncertain status with respect to legality/illegality of the contested weapons, the **recognition by the IDF of the use of fuel air weapons ONLY as carpet de-miners, of white phosphorus ONLY against/over military installations, of 'intelligent' small bombs/missiles ONLY with the aim to reduce casualties, was taken as good for the records.** Instead, for us it raises the suspicion of a convenient cover up for the documented presence in the battle fields of these illegal weapons and of a way for making acceptable eventual "mistakes or extension in modalities of their usage" that would eventually justify reiteration of their use.

In May 2007, we have **challenged the HR Council** on the conclusions of their special commission on the July war on Lebanon and Palestine and **asked to reopen investigations on the ground of the unequal consideration given by the commission to the reports from Doctors and civil society and UNIFIL with respect to IDF sources and to the lack of fact finding and the poor methodology (3).**

**We report here evidences of the use of new weapons tested by Israel in the field during the July attacks, and even before in Gaza, and of already known weapons utilized illegally, specifically it: documents the use of thermobaric weapon on a civil structure and in open air illustrates attacks on civilians and the use of weapons that do not leave traces in the body shows circumstantial evidences of the use of LCD (low collateral damage) weapons and DIME (dense inert metal explosive)**

### **CASE STUDIES**

#### **I - USE OF THERMOBARIC (FUEL AIR) WEAPON ON CIVIL STRUCTURE AND USE OF WEAPON WITH UNCONTROLLED RANGE OF ACTION**

##### **Saida, July 17, 2006**

**Circumstances:** A van with 12 civilians was entering the Rmeileh bridge.

Eight of the 12 victims (3 children, 4 men and one woman) were transferred to the Complexe Hospital du Sud. Dr. Bashir Cham told to the Al Safir journalist H.Salman on July 17"One might think they were burnt, but they are not, only their color is dark, they're inflated, and they have a terrible smell. The hair is not burnt nor the bodies wounded". The director of the medical center, Dr. Ali Mansour, said that due to the strong smell of the corpses, he couldn't breath properly for at least 12 hours after these were handled.

**Clinical report:** Common features of all the victim's bodies were lack of main wounds, with the exception of the woman who had a main external lesion in the cranial area possibly resulting from the impact with some hard object or the ground when falling. All victims had serious internal edema and hemorrhage with loss of blood from all body orifices (here visible from nose, ears, eyes). All the bodies were covered of dark powder so to look black, but were not burnt. Clothes and hair were not damaged or burnt.

**Notes:** *Dr.Cham had denounced since July the finding of strange features in the victims he was receiving in the Hospital, through communications to the Doctors Order in Lebanon and to the Society of Belgian Surgeons. No answer obtained, nor investigations were undertaken. Dr.Mansour wrote to*

both the commissioner of the European Union for Foreign Affairs Javier Solana, and the United Nations Secretary general Kofi Anan, obtaining no answer up to March 2007.

**Analysis: histology** - Bioptic samples from the skin of 6 corpses were analyzed for histology in two independent laboratories: a forensic Laboratory in Germany and an University laboratory in Italy. These agree that histology shows no altered elements in the skin and derma, no sign of burns, for all samples. All samples showed particles of dark color covering the skin, histological staining for Iron.

**Analysis: Scansion Electron Microscopy** - Two samples of the skin were analyzed for metal content at the University of Ferrara, Italy. **P, Fe, and Mg** were found in the skin of the victims while these were below detection in the skin obtained from 2 healthy Italians as control. Analysis of the dark refractive material layered over the skin of one victim contained prevalently **C and O**, and lesser but significative amounts of **Fe, and Ca**.

The global security web site (4) describes the effect of fuel air energy bomb: "Those near the ignition point are obliterated. Those at the fringe are likely to suffer many internal, and thus invisible injuries, including burst eardrums and crushed inner ear organs, severe concussions, ruptured lungs and internal organs, and possibly blindness. The destruction, death, and injury are caused by the blast wave.

Reactive-surround warheads are thin-walled containers filled with combustible aluminum and nitrocellulose. Slurry-explosive warheads are a mixture of a high explosive or other explosive solid mixed with a combustible liquid"

"Common feature of thermobaric weapons is that the fire in the blast can be sustained by loading the bomb with **metal particles**. Common fuel additives: Boron, Aluminum, **Silicium**, Titanium, **Magnesium**, Zirconium, **Carbon, or Hydrocarbons**" (5).

The fuel contained in these bombs serves the purpose to diffuse the metal loaded in the casing and can be an hydrocarbon, which in burning deposits C on the skin.

Some fuels known to be used in FAE, such as ethylene oxide and propylene oxide, are highly toxic. A device using such fuels is very dangerous even if the fuel fails to ignite; the device then becomes essentially a chemical weapon (5).

**The composition of the powder covering the bodies of the victims is compatible with the use of hydrocarbon fuel and those in the skin with Fe, Mg and Si in the loading of the bomb. We do not know the origin of the P, also found in the skin of the victims and not in the normal skin. We have no elements to say if the bomb had an heavy metal penetrator head or not, jet this is relevant for the possible future effect on health of the population in the area.**

*Based on the agreement of clinical, analytical and circumstantial evidences and of the known characteristic of this bombs the agent for the killing on Rmeileh bridge was a Fae (fuel air explosive) also called thermobaric or vacuum bomb*

#### **More cases than just at Saida**

The case of Saida is not the only one with victims which reported similar features, and Dr.Faraj reports that 5 dead people from one same attack were brought in the Hiram Hospital in Tyre, in the last week of July. They all had no wounds, their skin was covered by black powder. Internal pulmonary edema was common to all and clinically and ecografically diagnosed by him (witness recorded).

#### **II - TARGETING CIVIL HOUSING, TARGETING CIVILIANS AND USE OF WEAPONS THAT DO NOT LEAVE TRACES.**

##### **5 cases of survivors from Hiram Hospital, Tyre**

The following are 5 cases of survivors from Hiram Hospital wounded with weapons that leave no traces in the body, illegal according to the protocol I from the Geneva convention. Medical reports and photos are from Dr. Ibrahim Faraj, surgeon, with his permission. Dr Faraj was directly interviewed by Marcello Sordo in September and by myself in November, 2006 and march 2007. We have a film record of the first interview.

**Tyre Hiram hospital survivor n.1 and 2 are brothers Mostafa M., 6y old and Hussein M., 9y old**  
**Circumstances:** They were together with other brothers, their mother and their grand parents in a the lower floor of their house on the 13 of July when they were wounded by a missile. The two children

reported wounds without splinters and burnings. There is a CNN video with interview to Dr.Faraj showing the destructed house, 5/09/2006.

**Clinical reports:** Mostafa M.- 6 - arrived with hemorrhagic shock- showed a wound with an entry hole of less than 1 cm in the abdomen, without an exit. An explorative laparotomy revealed a lesion in the liver but no splinters, fragments or X rays detectable object was found.

Hussein M. -9 -arrived in comatose state and respiratory shock, with 2°-3° degree burns over more than 45% of the body and a serious open wound plus a burn on the side of the abdomen. The exploratory laparotomy showed a lesion in the liver but no splinters, fragments were not detected in the body at the time of first inspection, nor by X rays analysis.

#### **Tyre Hiram hospital survivor n.3 Nabil S.9y, male**

**Circumstances:** The boy belongs to a Lebanese-American family living in USA, which was back for a visit in Bent Jbeil when the war started. His young brother, the mother, the grandmother and himself had left Bent Jbeiland were walking in the open road towards the embarcadero of Tyre (11km) in order to board the ship that was taking away foreigners. The boy was operated and the Hospital workers themselves provided to drive the family next morning to ship. Recorded on video.

**Clinical report:** Nabil S. 9y, male Maxillo-facial wound without snarpels by TAC and by visual inspection.

#### **Tyre Hiram hospital survivor n.4 Rida M. male, 15/07/06**

**Circumstances:** Rida was wounded while folded towards the front in order to rescue the body of his killed sister from under the debris of her bombed house.

**Clinical report:** Rida M -65 y, male is diabetic. He reported multiple serious burns along the whole of the posterior side of the body, from neck to feet. Skin and derma at the touch melted in a black mud which continuously essudated a black liquid of rotten smell (up to 2 liters a day). He also had a liver lesion without any fragment or bullet in it. After 2 days the patient was transferred to an other hospital in Saida and he eventually recovered.

#### **Tyre Hiram hospital patient n.5 Z.S., 77y, female**

**Circumstances:** she was at home

**Clinical report:** She was diabetic and cardiopathic and with serious osteoporosis. She was seriously wounded in the gluteus and the pelvis, arrived to the Hospital bleeding and with serious lesions to the uterus, intestine and bladder. The wounds had burnt margins and no splinters. Died for cardio respiratory block 4 days after recovery.

#### ***In summary:***

***the victims were all civilians alone or in group of few in an open space, in a rescue activity or inside a civilian house. All their wounds were due to weapons that do not leave detectable traces inside the body, but cause internal wounds.***

These kind of wounds can be due to chemical weapons or to metal particles loaded weapons, which have the characteristics of illegal weapons according to the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977 (6,7), which says that:

*Indiscriminate attacks are prohibited. Indiscriminate attacks are:*

*(a) those which are not directed at a specific military objective;*

*(b) those which employ a method or means of combat which cannot be directed at a specific military objective; or*

*(c) those which employ a method or means of combat the effects of which cannot be limited as required by this Protocol;*

or according to the the Protocol Additional to the Geneva Conventions, Protocol on Non-Detectable Fragments "It is prohibited to use any weapon the primary effect of which is to injure by fragments which in the human body escape detection by X-rays."

#### **In addition**

According to doctors a large number of people were attacked in similar circumstance and arrived with similar features of wounds in Lebanon and in Gaza.

In November Dr.Joumas Saqqa of Shifa Hospital in Gaza city wrote in response to my request of information ... "The total numbers of martyrs in the last crises is 200 and the number of injuries are

750 injuries 32.5 % of injured are children and 60 of the martyrs are children.... We noticed that there were no shrapnel penetrating the body with burn and the strange is that they are causing internal burn to the internal organs and to the viscera”..

Two of these children were wounded in the same attack

**Saad, 9 y male**

*Circumstances:* In July, Saed and Kaled were playing ball in Magazi camp, Gaza when a missile arrived from a drone. Two people were killed immediately and two others died shortly after admission because their injuries were so severe.

*Doctor report:* By Dr.D.Halpin, Orthopedic surgeon, UK. He visited in December 2006 and wrote: Saed has lost all the muscle from the front of his left thigh and its function. The shape of his femur can be seen in its entirety beneath the skilful skin grafting. There is just a twitch of motion in the foot. Most parts of his body are scarred. There are many scars of punctate type, including on his face. There is a colostomy which will probably be permanent because his bowels were badly damaged. The tracheostomy has healed, and the pleural fistula is well on that way.

*Photos from Dr.D.Halpin, Giudita Brattini, and Elham Abu Hassan collaborators of Palestinian Medical relief society*

**Kaled, adolescent male**

*Clinical report:* Kaled reported severe wounds on the legs.

*Photos from Giudita Brattini, and Elham Abu Hassan collaborators of Palestinian Medical relief society*

### III - LCD and DIME-NEW AND UNREGISTERED WEAPONS

*Tyre Hiram hospital survivor n.5, Rabii Al K. 28 y, 28/07/06*

*Circumstances:* He was wounded while he was driving a car, accompanied by a friend. They had gone to fetch gas for the community and were on their return trip, the car loaded with gasoline tanks. The gasoline in the engine and in that in the full tanks set in the back of the car was not set on fire.

*Doctor report:* Rabii's leg was cut in two pieces through the knee. He also reported burns, up to his face. His friend suffered serious burns, but only on the side of his body near to Rabi.

**In addition**

Events with wound characteristics similar to that of Rabi were reported also in Gaza and derived from the use of DIME (8), a variation of “small laser guided bomb” with a filling of micro/nano particles of heavy metal.

A sample from the bomb casting associated to an attack was analyzed in a laboratory of the University of Ferrara by Prof. C.Vaccaro, confirming compatibility with the use of this weapon and was reported in a video of rianews24 (9).

The newspaper Haaretz reported that the USA disclaimed the fielding of these kind of weapons, but they are actually promoted as humanitarian weapons, which reduce collateral damage by USA and Israeli, this last through the voice of the major-general of the Israel Air Force, Yitzhak Ben-Israel (10). The effect of DIME is that of a molecular cutter, with the potential to slice and burn through even the bone (8).

Long term “permanence” of heavy metals in the tissues has cytotoxic and possibly genotoxic effects, as in the scientific literature, and further research and follow up of the victims is required.

Nobody, to my knowledge, has yet researched for the presence of tungsten in the tissues of survivors or in anatomical pieces among the many victims of this kind of weapon, in Gaza or in Lebanon.

**The comparison** of the pictures of victims of attacks that we received from Lebanon and from Gaza illustrates the similitude of the effects of weapons utilized in July 2006 by Israel, including the use of illegal weapons.

**One common denominator of the newer weapons used in Lebanon and Gaza is that they leave no traces visible by 'naked eye' or by instrumentation common in hospitals** and it is impossible to identify exactly their use in an emergency ward situation. This makes more difficult to provide for the care of the wounded. These weapons do not leave fragments on/in the victims' bodies and this fact already positions them **outside established conventions** of war (UN - Protocol on Non-Detectable Fragments), regardless of the fact they are used against military or civilians.

**As a consequence of this characteristic, in order to demonstrate their utilization is needed the collection of data and facts of various nature and a methodology of the enquiry scientifically and medically supported.**

**Another common denominator of these weapons is that there is no specific legislation on their use. This also implies that none of them is specifically banned.** The lack of specific legislation is due **either to their novelty** (DIME, small bombs, low collateral damage, or LCD), to their modification, or to the fact they might have been **used in different ways with relationship to their permitted usage** (fuel air weapons and WP). Altogether they share a "limbo-like", grey and "unclassified" **juridical status.**

At the same time their **illegality is recognized, based on the current conventions that, in general, ban all weapons that are not traceable in the victims, unless with complex analysis, and/or on the fact that their radius of action cannot be confined to a target, or by the chemical nature of their active agents.**

**We are far from thinking that the above crimes committed by Israeli are the result of lack planning** from the aggressing parties, and we are aware of the military collaboration between Israeli and USA. Let me just remind you of the fact that in 2000 was formulated by the USA a program which goes under the name of FCS, for **future combat system**, for the development of integrated warfare, including tools for modulated intensity and combinatorial weapons (11). This was rapidly followed by allocation of tasks and money to the industries.

#### **Future commitments**

**The present international juridical frame which stigmatizes the crimes of war, which after WWII are wars on the population as whole.**

**Nonetheless they take little account of the fact that, long after their immediate effects, wars affect people through subtle and devastating effects on their health and reproduction.**

**As scientists and doctors we propose to all and work to**

**a) develop rapidly the knowledge to counteract the long term effects of these wars on an individual survivors of attacks and a population basis and of finding support for defining the risks of the after-war on people's health and reproduction. The requests for the needed further investigations received no answer from competent institutions and we have not yet been able to start a proposed initial survey for genotoxic risk in the field.**

**b) continue to investigate the nature of the weapons utilized, in order to cure people**

**c) find political tools to ban inhuman weapons.**

The times are claiming for some intervention on these levels and this is the effort of a loose group of scientists, self named newweapons, to start learning about the material factors and investigating the possible consequences on health and wellbeing of population.

#### **NEWWEAPONS WORKING GROUP is based on a consulting network of**

Doctors and Health Associations from Lebanon and Palestine who have produced the information and released it.

Biologists of the University of Genoa, Diblio and Dimes

Biologist of the University of Rome, Dept Biology

Chemists of the University of Ferrara, Dept Chemistry

Physicists of the Institute of Nuclear Physics and of the University of Turin

Medical Doctors in Genoa and Rome

Journalists and Free Lance Information

NGOs

With help from Epidemiologist, Anatomic pathologist.

#### **References**

1-General R.M. Sega, Director Of Defense Research And Engineering- report before The United States Senate Committee On Armed Services, Subcommittee On Emerging Threats And Capabilities, March 3, 2004

2- Resolution of UNHR commission A/HRC/3/2, November 23, 2006 and press releasedec1, 2006

<http://www.reliefweb.int/rw/rwb.nsf/db900SID/SODA-6W65A6?OpenDocument>. The commission was installed in August 2006 and its mandate was “.....to promote initiatives and call for the mobilization of the international community

*to assist Lebanon and its people; the Council should encourage the United Nations system (UNESCO, UNEP, UNHCR, UNICEF, WHO), and the Bretton Woods institutions in their multi-sectoral programmes and projects to promote and undertake precise and concrete actions, including with professional and technical expertise in the necessary reconstruction efforts (buildings, bridges, cleaning of areas affected by clusters, environment, archaeological sites (Byblos); and the Council should give careful attention to the fate of child victims.....”*

3- letter to the Human Rights Council of the UN and to all its Commissions, May 2007 by New Weapons Working Group. <http://newweapons.org/>

4 - [www.globalsecurity.org/military/systems/munitions/blu-118.htm](http://www.globalsecurity.org/military/systems/munitions/blu-118.htm)

5- ([http://en.wikipedia.org/wiki/Thermobaric\\_weapon](http://en.wikipedia.org/wiki/Thermobaric_weapon))

6- Chemical Weapons Convention, Signed in 1993 and entered into force on April 29, 1997. <http://www.opcw.org>

7- Convention On Prohibitions Or Restrictions On The Use Of Certain Conventional Weapons Which May Be Excessively Injurious Or To Have Indiscriminate Effects Protocol I. Protocol on Non-Detectable Fragments *"It is prohibited to use any weapon the primary effect of which is to injure by fragments which in the human body escape detection by X-rays."* <http://www.mineaction.org/docs/120 .asp#p1>

8- <http://www.globalsecurity.org/military/systems/munitions/dime.htm>- The DIME is produced within a SDB project of the AFRL with Federal US Government funding. It is managed by AFRL and AAC (integrating the technology within the Advanced Concept Technology Demonstration (ACTD) construct) located at Eglin AFB FL and by the SDB I contractor, Boeing, in St Louis, MO. See also - <http://www.globalsecurity.org/military/systems/munitions/sdb-flm.htm>

9- "Gaza. Inexplicable Wounds And New Weapons" edited by Flaviano Masella and Maurizio Torrealta, Rainews24, October 11, 2006

10- Gaza as Israel's testing ground. Mel Frykberg, Al-Ahram Weekly, Apr 27, 2007 - Israeli military spokesmen have refused to acknowledge or deny the use of DIME in Gaza, but simply stated that Israel only uses weapons that are legal under international law. The catch is that as DIME is a new weapon, the jury is still out as it still has to be assessed. However, Yitzhak Ben-Israel, a major-general in the Israel Air Force, and former head of the army's weapons- development programme didn't deny that the Israelis had used DIME in Gaza but went on to explain its credentials.

*"The idea behind DIME is to allow the accurate pin-pointing of targets without causing collateral damage to innocent bystanders. This is a technology that allows the striking of very small targets."*

11- <http://www.globalsecurity.org/military/systems/ground/fcs-back.htm>