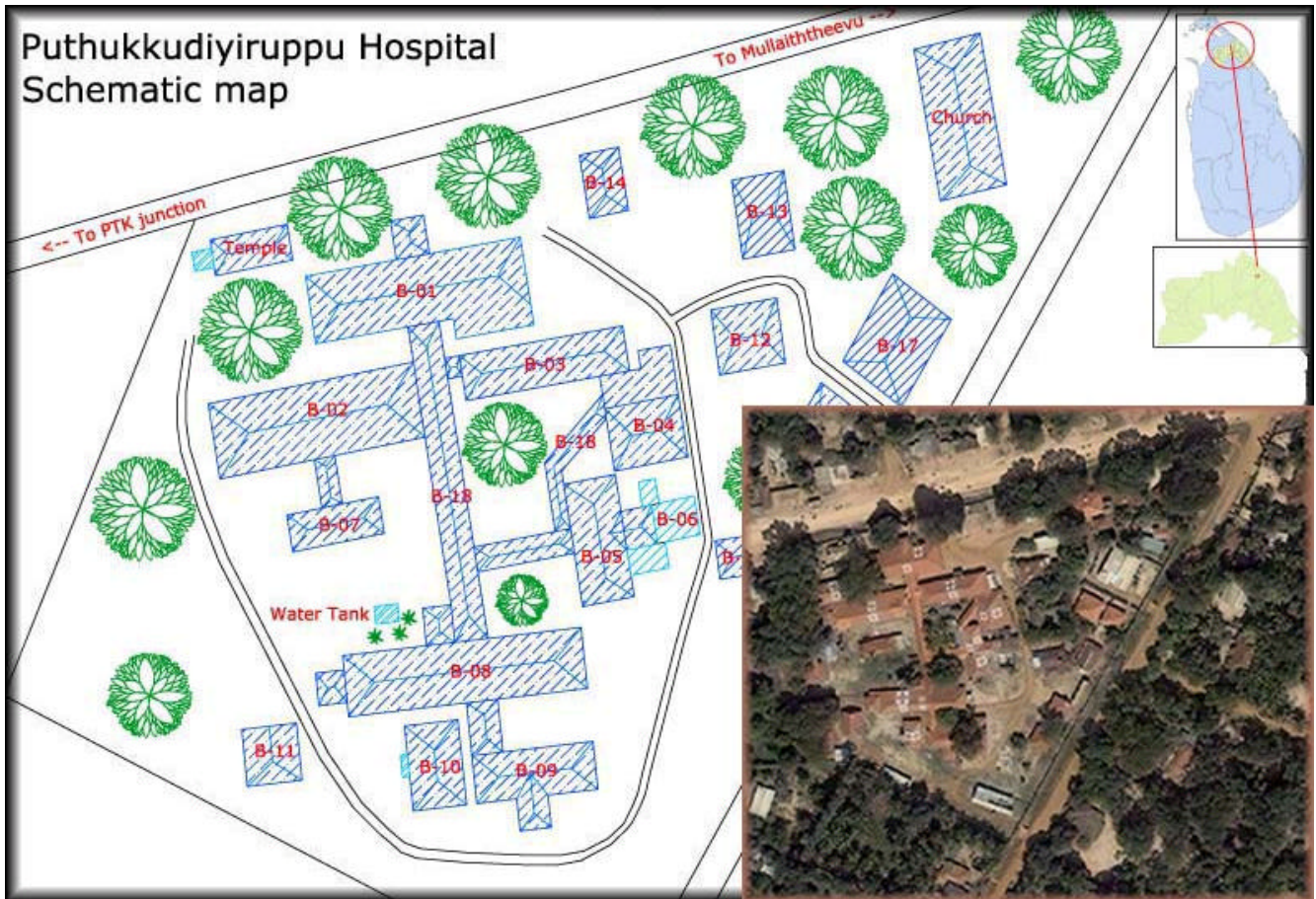


Evidence Submitted to:
The People's Tribunal on Sri Lanka - Dublin, Ireland
14th, 15th January 2010

Satellite Imagery Evidence Showing Sri Lanka Military "Purposely or Intentionally" Targeted PTK Hospital



Evidence Documented by:



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January/10/2010

Abbreviation

CSZ	Civilian 'Safe Zone'
GoSL	Government of Sri Lanka
HRW	Human Rights Watch
LTTE	Liberation Tigers of Tamil Eelam
PTK	Puthukudiyiruppu, a town in the NE of Sri Lanka
SDR	U.S. State Department War Crimes Report
SLA	Sri Lankan Army
SLE	Sri Lankan Experts
TAG	Tamils Against Genocide
WWW	War Without Witness



Family members of a victim at PTK hospital, Feb. 02, 2009

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Appendix A: PTK damage pictures provided by WWW

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1. Question Presented

Is it reasonably inferable from the facts established by the Tribunal's available direct and circumstantial evidence that between 9 January 2009 and 25 March 2009, in areas in or nearby Puthukkudiyiruppu Hospital, the Sri Lankan Army (SLA) committed, purposely or knowingly, via act or omission, war crimes against Tamil civilians?

2. Executive Summary

In international and non-international armed conflict, military attacks on Geneva Convention-protected persons and objects -- wounded combatants, non-combatants, and civilian persons and objects -- are unjustifiable and violate over one century of customary norms of international humanitarian law (IHL), dating back at least to the Hague Conventions of 1907.

Francis A. Boyle, professor of International Law at the University of Illinois, said “the deliberate targeting of Hospitals and Civilians violates the Geneva Conventions and is thus a war crime.” He further adds that culpable U.S. citizens in Sri Lanka should also be prosecuted by the United States Government for violating the U.S. War Crimes Act.¹

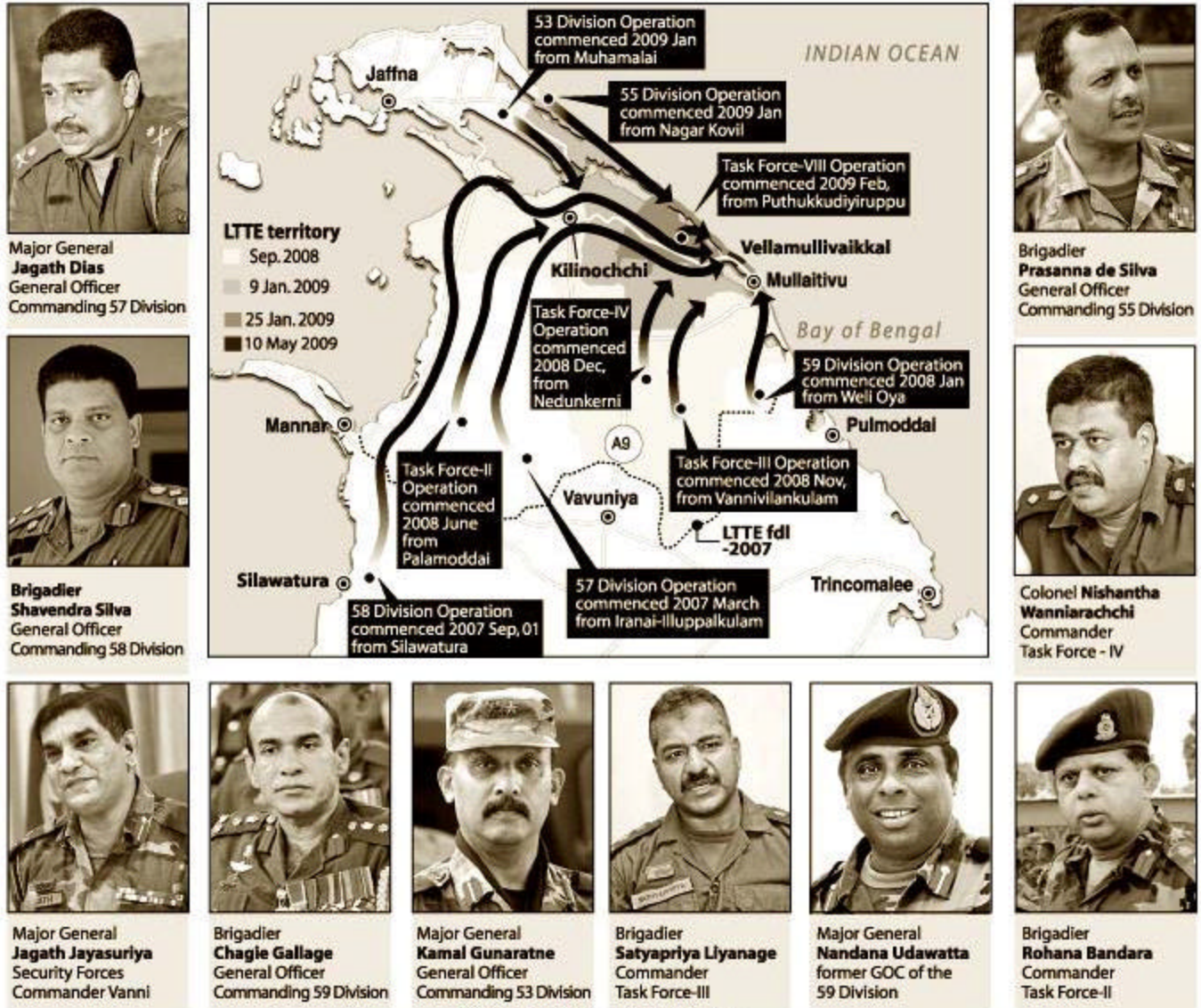
Between January and March 2009, under the pretext of post-9/11 counter-terrorism, the SLA carried out a widespread and systematic pattern of attacks targeting directly or indirectly areas in or nearby PTK Hospital during times the compound was demonstrably functioning as a hospital. In this time frame, it is reported the attacks in or nearby PTK Hospital killed at minimum 462 Tamil civilians, severely injured at minimum 867 Tamil civilians, and generally denied medical care to the combatant and non-combatant community affected by the attacks during and after its perpetration, creating conditions of life equally precipitating fatality of Tamil combatants and Tamil non-combatants.

From the body of evidence currently available outside of territorial Sri Lanka – including satellite imagery, eye witness testimony, video footage, land-based photography, human rights reports, and contemporaneous reportage covering the area -- it is reasonable to infer beyond reasonable doubt that some of these attacks, comprised of affirmative acts and culpable omissions, which were part of a widespread and systematic pattern of SLA attacks on areas in or nearby PTK hospital, constituted grave breaches of customary IHL.

¹ <http://tamilnet.com/art.html?catid=13&artid=28287>

3. BACKGROUND TO WAR CRIME ALLEGATIONS

The progress of Sri Lanka Army divisions and Task Forces, assisted by aerial bombardments and naval shelling, from August 2008 to 18th May 2009 is shown below.



© Sunday Observer Graphic

From the movement of Sri Lanka Army troops towards Puthukkudiyiruppu town, as described in the Sri Lanka Government run Observer newspaper, it can be reasonably inferred that, at the minimum, the 57th Division, 58th Division, and Task Forces 2, 3, 4, and 8 have participated in the shelling of the PTK town and environments including the PTK Hospital.

Sri Lanka Military Officers potentially culpable for war-crimes during the SLA offensives from August 2008 to 18th May 2009:

(Source: *Daily News* article (Sanitized version, last accessed 1st December 2009):
<http://www.dailynews.lk/2009/06/03/supstory.asp?id=s01>)

	<p>Major General G.A. Chandrasiri, Chief of Staff of the Sri Lanka Army former Jaffna Security Forces Commanders</p> <p>An officer from the Sri Lanka Armoured Corp, Major General G.A. Chandrasiri as the Jaffna Security Forces Commander, commanded troops of the 53 and 55 offensive Divisions to confront LTTE's defences in Muhamalai and Kilali.</p>
	<p>Major General Mendaka Samarasinghe, Security Forces Commander, Jaffna</p> <p>Sri Lanka Army launched operation in Mavil Aru under his command in June 2006 and to move into areas in the Trincomalee South including Muttur, Sampur, Upparu, Gangai, Manirasakulam and the areas surrounding the Trincomalee harbour. He commanded 22 Division in Trincomalee. After assuming duties as Jaffna Security Forces commander in December 2008 he commanded the troops of the 53 and 55 Divisions to capture Jaffna peninsula and to occupy the North Eastern coast up to Mullaitivu North with the deployment of troops of the 55 Division.</p>
	<p>Major General Jagath Dias, General Officer Commanding, 57 Division</p> <p>A senior officer of the Gajaba Regiment, Major General Jagath Dias commanded the 57 offensive Division in the Vanni mid of Year 2007 after Brigadier Sumith Manawadu. Major General Dias commanded his troops to capture Madhu Church in April 25, 2008. The 57 Division captured the townships Palampiddi, Periyamadu, Thunukkai, Mallavi and Akkarayankulam, Murukandi, Iranaimadu, and Kilinochchi. Later the 57th division captured Ramanathapuram and Visuvamadu towns.</p>
	<p>Major General Kamal Gunaratne ,General Officer Commanding, 53 Division</p> <p>An officer from the Gajaba Regiment, Major General Kamal Gunaratne first commanded the 55 Division in Jaffna and later was appointed as the GOC of the 53 Division. His division captured Muhamalai, Pallai, Soranpattu and Elephant Pass. His Division was moved to Mankulam and later deployed in the battle to capture Puthukudiyirippu. It was his troops who captured the Eastern edge of the Nanthikadal lagoon along with the Task Force VIII troops. In the final battle his divisions fought in the banks of the Nanthikadal lagoon in Vellamulivaikkal.</p>



Major General Nandana Udawatta, Security Forces Commander, Mullaitivu former GOC of the 59 Division

Currently the Overall Operations Commander Anuradhapura, Major General Nandana Udawatta was the first GOC of the 59 offensive Division which began operations from Weli Oya to bring under control Mullaitivu jungle including the 1-4 Base. His division captured the strategic Tiger stronghold Mullaitivu in January 2008. 59th Division under his command captured Nayaru, Alampil, Mulliyavali, Thanniuttu and Mullaitivu towns.



Brigadier Satyapriya Liyanage, Commander Task Force III

Brigadier Liyanage's TF-3 commenced operations from the Vannivilankulam in November 2008 and captured junction town Mankulam on the A-9 road, Olumadu and Ampakamam in the East of A-9 road. Task Force 111 also recovered LTTE assets in and around Iranamadu Tank area.



Brigadier Prasanna de Silva, General Officer Commanding 55 Division

Brigadier Prasanna Silva's division fought in the Mavil Aru battle and captured Vakarai in the year 2006 and 2007. He was later appointed as the General Officer Commanding of the 55 Division in Jaffna which captured Nagarkovil, Kudarappu, Chempionpattu in the Eastern coast of the Jaffna peninsula. Later the 55 Division captured Chundikulam and Chalai to control the North Eastern coast up to Mullaitivu North. During the final battle in the Mullaitivu North Brigadier Prasanna Silva's 59 Division captured Vadduvakkal causeway clearing the path for the civilians to flee towards military controlled areas.



Brigadier Shavendra Silva, General Officer Commanding 58 Division

Attached to Gajaba Regiment, Brigadier Shavendra Silva was first appointed as the Commander of the Task Force I which was later renamed as the 58 Division, that was the second offensive Division to join the Vanni offensives. Brigadier Silva commanded his troops from the Mannar towards Pooneryn to capture the North Western coast having captured major Sea Tiger bases Vidathalthivu, Iluppaikadavai Nachchikuda, Iranativu, Devil's Point to reach Pooneryn. Security Forces could then open the first land route to the Jaffna through A-32 road.

Then his division advanced along the Pooneryn Paranthan road to capture Paranthan junction on new year 2009 and later captured Kilinochchi and Elephant Pass and reach the North Eastern coast after capturing Tharmapuram, Visuamadu and Puthukudiyiruppu.

In April 20, 2009 his troops along with the Commando and Special Forces troops gained access to the 117,000 people holed up inside the No Fire Zone and took part in battles at Karyanmullivaikkal in the Mullaitivu North.



Brigadier Chagie Gallage, General Officer Commanding 59 Division

He first commanded the commando troops in the Thoppigala operation which was key to winning the east. He was later appointed as the Task Force I commander and commanded his troops to capture Silavatura in September 2007. Later he was appointed as the Director Training of the Army Headquarters. He was sent to 59 Division to overlook the operational matters. It was under his supervision the Forward Defences in the Mullaitivu front which had helped greatly to lay siege on the last terrain of the LTTE in Mullaitivu North.



Brigadier Rohana Bandara, Commander Task Force II

An engineer officer Brigadier Bandara commanded the troops of the Task Force II which was formed in June 2008, from Palamodai in the West of A-9 road giving support for the 57 Division to advance towards Kilinochchi. His troops captured Navi village, Puliyankulam, Kanakarayanukulam and Udayarkattukulam tank bund during the Vanni operation.



Colonel Nishantha Wanniarachchi, Commander Task Force IV

Colonel Nishantha Wanniarachchi commanded the troops of the Task Force IV which was formed in December 2008, to capture Nedunkerni, Oddusudan and Kereridattu towns. TF -4 captured Tiger assets along the Oddusudan - Puthukudiyiruppu road.



Colonel G.V. Ravipriya, Commander Task Force VIII

An artillery officer, Colonel G.V. Ravipriya, first contributed towards the Vanni operation, as one of the senior Brigade Commander of the 57 Division commanded his troops to capture strategic Akkarayanukulam village. It was in the first quarter in the year 2008 he was appointed as the Commander of the Task Force 8 which initially commenced operations under the 53 Division. Troops attached to Task Force 8 fought battles in the Puthukudiyiruppu South and Karayanmullivaikkal area in the last battle.



Brigadier Priyantha Napagoda, Artillery Brigade Commander



Colonel Athula Kodippili, Special Forces Brigade Commander



Colonel Ralph Nugera, Commando Brigade Commander

4. COMMAND STRUCTURE CULPABLE IN PTK ATTACKS

The nine Sri Lanka military and political officials who are potentially culpable for the attacks on Puthukkudiyiruppu Hospital are shown below. The hierarchical command responsibility relationships include the high-level political officials, Sri Lanka's President Mahinda Rajapakse, Sri Lanka's Defense Secretary Gotabhaya Rajapakse, and former SLA Commander Maj. Gen. Sarath Fonseka, in addition to the SLA officers identified earlier.



5. TIME LINE AND SOURCES OF EVIDENCE

TAG procured six satellite images of the PTK Hospital compound from two different non-defence U.S. organizations. The images were taken between October 2008 and May 2009 (10/31/2008, 01/21/2009, 02/05/2009, 03/06/2009, 03/16/2009, 05/10/2009) when alleged killing of more than 20,000 civilians and targeted attacks on Hospitals, Schools, places of worship occurred

TAG's eye witness testimony, War Without Witness's (WWW) 6 video clips from inside the PTK Hospital compound taken between 02/01/2009 and 02/09/2009, and WWW's 5 land-based photographs of PTK Hospital compound taken between 02/01/2009 and 02/09/2009, clearly and unambiguously establish beyond reasonable doubt that areas in or nearby PTK Hospital came under direct or indirect SLA attack while the PTK Hospital compound was functioning as a hospital.

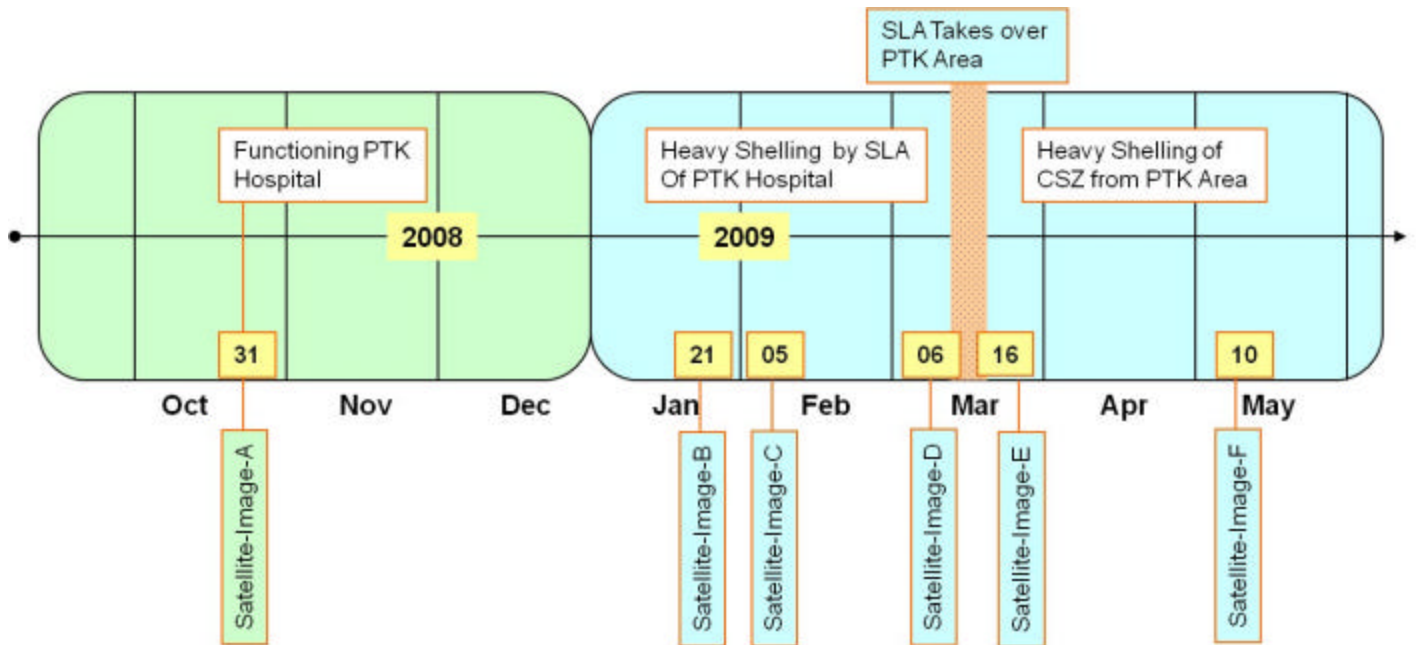
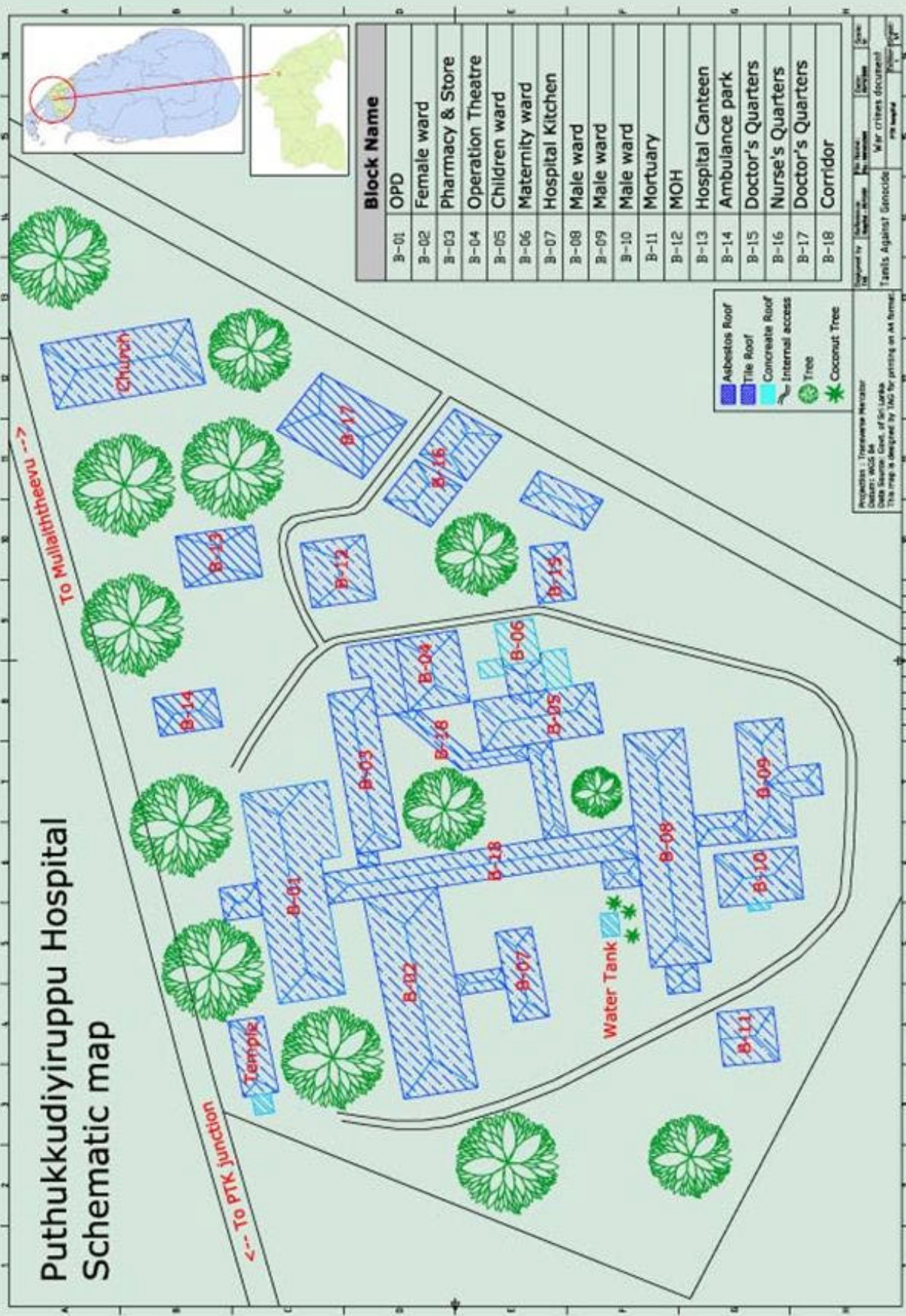


Table One: Image Summary

<i>Sensor</i>	<i>Source</i>	<i>Image Date</i>
QuickBird	DigitalGlobe	10/31/2008
QuickBird	DigitalGlobe	01/21/2009
WorldView	DigitalGlobe	02/05/2009
QuickBird	DigitalGlobe	03/06/2009
GeoEye-1	GeoEye	03/16/2009
WorldView	DigitalGlobe	05/10/2009

Puthukkudiyiruppu Hospital Schematic map



Block Name	Block Name
B-01	OPD
B-02	Female ward
B-03	Pharmacy & Store
B-04	Operation Theatre
B-05	Children ward
B-06	Maternity ward
B-07	Hospital Kitchen
B-08	Male ward
B-09	Male ward
B-10	Male ward
B-11	Mortuary
B-12	MOH
B-13	Hospital Canteen
B-14	Ambulance park
B-15	Doctor's Quarters
B-16	Nurse's Quarters
B-17	Doctor's Quarters
B-18	Corridor

- Asbestos Roof
- Tile Roof
- Concrete Roof
- Internal access
- Tree
- Coconut Tree

Prepared by: / Date:
 Checked by: / Date:
 Approved by: / Date:
 Title:
 Project:
 Scale:
 This map is designed by TMS for printing on A4 format.

6. CONTEXT FOR HOSPITAL ATTACKS: GOTABHAYA INTERVIEW

In the interview Sri Lanka's Defense Secretary Gotabaya Rajapakse gave to British Broadcasting Corporation Sky News (BBC SN)² which aired on the UK-based British Broadcasting Corporation (BBC), the Defense Secretary implicitly asserted that military attacks on hospitals outside a government-designated Safe Zone or No Fire Zone are legitimate.

Transcript:

The following transcript is from a February 2, 2009 report and interview with Sri Lankan Secretary of Defense Gotabaya Rajapaksa aired on SKY News:

[Alex Crawford reporting] "The casualties are mounting on both sides. The aid agencies say a hospital packed with wounded has been repeatedly shelled. Killing some patients and injuring many more. The Defense Secretary told us right now everything is a legitimate target if it is not within the safe zone the government's created, and the only hospital is outside that zone."

[Interview: Gotabaya Rajapaksa] "Nothing should exist beyond the no fire zone, nothing should..."

[Interview: Alex Crawford] "So just to be clear, if this hospital is operating, if it's outside of the safe zone, it is a legitimate target?"

[Interview: Gotabaya Rajapaksa] "Yes. No hospital should operate in the area...nothing should operate. That is why we clearly gave these no fire zones."

Alex Crawford, "Sri Lanka: 12 Killed At Hospital,"
SKY News, available at
http://news.sky.com/skynews/Home/video/Sri-Lanka-12-Killed-In-Artillery-Fire-Report-From-Tamil-Tiger-Stronghold-Jaffna-And-Capital-lombo/Video/200902115215509?Ipos=World%2BNews_2&lid=VIDEO_1785202_Fighting%2Bin%2BSri%2BLanka&videoCategory=World%2BNews
(last visited March 29, 2009).

International criminal liability for participating in certain acts exists where these acts violate customary norms considered non-derogable or peremptory under general international law, rather than the Geneva Conventions. Participation in acts covered by customary law is establishable through affirmative act, aiding, abetting, complicity, joint criminal enterprise, military command responsibility, or culpable omission, for example.

In particular, Gotabaya Rajapakse's assertions justifying SLA attacks on hospitals are dispositive in partially demonstrating some mode of participation, and, generally, endorse conduct under conditions of armed conflict which categorically violates customary IHL norms

² PTK hospital, legitimate military target - Gotabhaya
<http://tamilnet.com/art.html?catid=13&artid=28274>

that unconditionally prohibit military attacks on medical objects. As *prima facie* evidence, Gotabaya Rajapakse's statements are dispositive in establishing the level of the *mens rea* (mental element, intention) element required to prove his individual criminal responsibility under the customary law doctrine of military command responsible for direct or indirect SLA attacks on areas in or nearby the PTK Hospital compound, some of which are cognizable as war crimes under customary IHL.

7. ATTACKS ON PTK CHRONOLOGY: 01/09/09 – 03/25/09

The 30-event chronology of facts in areas in or nearby the PTK Hospital compound, as reported by TAG eyewitness testimony, the Human Rights Watch (HRW) May 8 report “Sri Lanka: Repeated Shelling of Hospitals is Evidence of War Crimes,” and the US State Department War Crimes Report (SDR), corroborate the allegations of war crimes inferable from the TAG and WWW body of evidence, and establish that between 9 January 2009 and 25 March 2009:

- the PTK Hospital compound was attacked by the SLA
- the PTK Hospital compound was functioning as a hospital at least during some of these SLA attacks
- at least 467 Tamil civilians were killed and at least 862 Tamil civilians were seriously injured.
- it remains unverifiable how many died due to deprivation of medical care caused by indiscriminate SLA attacks on the general PTK area, including the PTK Hospital compound..

Source:

Human Rights Watch (HRW)

<http://www.hrw.org/en/news/2009/05/08/sri-lanka-repeated-shelling-hospitals-evidence-war-crimes>

(last visited 12/15/2009)

United States State Department Sri Lanka War Crimes Report (SDR)

<http://www.state.gov/documents/organization/131025.pdf>

(last visited 12/15/2009)

1. 01/02/09
 - State Department War Crimes Report (SDR) – Page 16.
 - “A foreign government reported that civilians were killed due to heavy shelling at the Puthukkudiyiruppu Hospital.”
2. 01/12/09
 - SDR (16)
 - A source in the NFZ reported that artillery shells fell into the premises of Puthukkudiyiruppu Hospital at around 10:00 a.m., injuring two patients.
3. 01/13/09
 - SDR (16)
 - HRW reported that at 10:00 a.m. Puthukkudiyiruppu Hospital was hit by shells killing one person and wounding six, and that patients fled the wards to seek shelter from the shelling. According to satellite imagery taken on January 28, the Puthukkudiyiruppu Hospital did not appear to show visible damage and appeared to be functioning.
4. 01/13/09
 - HRW
 - 10 a.m. Hospital hit by shells: 1 killed, 6 wounded. Patients fled to the wards to seek shelter from the shelling.
5. 01/15/09
 - SDR (16)
 - An HRW source in the conflict zone reported shelling in Udayarkattu, Visuamadu,

and Puthukkudiyiruppu. Six people were injured close to the assistant government agent's office in Puthukkudiyiruppu.

6. 01/22/09
 - SDR (17)
 - A source in the conflict zone reported to HRW that, according to Puthukkudiyiruppu hospital staff, 40 civilians were killed and 188 seriously injured by shelling in the villages of Thevipuram, Udayarkattu, and Moonkilaru.
7. 01/26/09
 - SDR (18)
 - A source in Puthukkudiyiruppu reported to HRW that 102 people were killed and 274 people were injured by shelling in Puthukkudiyiruppu.
8. 01/28/09
 - SDR (19)
 - A source in Puthukkudiyiruppu reported to HRW heavy shelling within a kilometer of the Puthukkudiyiruppu Hospital. At least 21 people were killed.
9. 01/29/09
 - SDR (19)
 - A source in Puthukkudiyiruppu reported to HRW hearing very heavy shelling and rifle fire. Forty-seven civilians were killed and 176 injured by the shelling.
10. 01/30/09
 - SDR (19)
 - A source reported to HRW heavy shelling nearby in Puthukkudiyiruppu. Five civilians, including a schoolteacher, were killed, and 27 people were injured.
11. 01/31/09
 - SDR (19)
 - A HRW source in the NFZ reported heavy incoming shelling within 700 meters of the UN bunker in Puthukkudiyiruppu. Nineteen people were killed and more than 50 were injured.
12. 01/31/09
 - HRW
 - Shrapnel from shells hit hospital.
13. 01/01/09-01/31/09
 - SDR (20)
 - A foreign government reported the eyewitness account of a nine-year-old girl who was injured in a shell attack. She was riding a bicycle with some members of her family west of Puthukkudiyiruppu when the group heard an explosion, and the girl was hit by shrapnel. She was taken to the Puthukkudiyiruppu Hospital where she waited without treatment until she was evacuated on an International Committee of the Red Cross (ICRC) chartered ship around February 15. Her infected arm was later amputated.
14. 02/01/09
 - SDR (20)
 - Numerous press outlets reported that Puthukkudiyiruppu Hospital was shelled just before midnight after some LTTE cadres fired their weapons into the sky from near the hospital. At least nine patients were killed. A foreign government and HRW received reports from local sources in the NFZ that shells fired allegedly by the SLA landed on the east and south sides of the hospital. Over the course of one day of shelling, seven people were killed and 15 were seriously injured. Multi-barrel rocket attacks were observed within 100 meters west of the hospital.

15.02/01/09

- HRW
- Three attacks. First attack: 1 person injured by shrapnel inside the hospital. Second attack: 1 shell hit the hospital: 1 killed, 4 injured. Third attack: 1 shell hit the women and children ward (no casualty information).

16.02/02/09

- SDR (20)
- A source in the conflict zone reported to HRW intense multi-barrel rocket launcher and aerial attacks in Puthukkudiyiruppu.

17.02/02/09

- SDR (20)
- Multiple organizations and sources in the conflict zone reported shelling on the Puthukkudiyiruppu Hospital. The Associated Press quoted a witness stating ? there's heavy shelling where there are civilians... [The shells] are coming from the [Sri Lankan] army side.? Sources for an organization reported that GSL troops were within one kilometer of Puthukkudiyiruppu and that while the SLA was not targeting the hospital, it was taking no special precautions to avoid hitting it. The shelling continued for 14-16 hours. The hospital sustained three direct hits in less than eight hours: twice between 3 and 4 p.m. local time, then again at 6:40 p.m. Sources reported that the hospital was hit for a fourth time on the same evening at 10:20 p.m. Another source in the conflict zone reported to HRW that the women and children's ward of the Puthukkudiyiruppu Hospital was shelled. Shells coming in from Oddusuddan hit a tree and went into the pediatric ward. Sources reported from two to nine people being killed and up to 20 injured; the range reflected in these reports may be due in part to sources contacting the organizations at different times during the attacks. According to one organization, the hospital sustained continuous hits in early February when up to 800 patients were on the premises.

18.02/02/09

- HRW
- One shell hit hospital: 7 killed, including a nurse, 15 injured.

19.02/03/09

- SDR (21)
- A source in the conflict zone reported to HRW that the Puthukkudiyiruppu Hospital was once again shelled, killing two people. The hospital was evacuated the next day in the midst of heavy shelling. This incident is corroborated by a second witness who reported to HRW that on the evening of February 3 the female ward was hit again, along with the operation ward and staff quarters. A young child died.

20.02/03/09

- HRW
- Two attacks - operation ward, staff headquarters, and female ward hit. At least 2 killed and several injured.

21.02/07/09

- SDR (21)
- Amnesty International reported that ? 126 civilians, including 61 patients, were killed and 238 people were fatally injured when shelling was directed on the Puthukkudiyiruppu area. Some shells fell on Ponnampalam Memorial Hospital killing the warded patients there. The area was also subjected to aerial bombing.

22.02/14/09

- SDR (23)
- A source in Mattalan reported to HRW an aerial attack close to the Puthukkudiyiruppu Hospital, killing 14.

23.02/16/09

- SDR (24)
- An organization reported to Embassy Colombo that their source witnessed limited LTTE fire coming from the Puthukkudiyiruppu Hospital complex.

24.02/19/09

- SDR (25)
- An organization's local sources in Valayanmadam reported that SLA shelling in the conflict zone caused the deaths and fatal injuries. Shells started falling in Puthukkudiyiruppu at 1:00 a.m., killing 24 civilians.

25.02/20/09

- SDR (25)
- An organization's local sources reported that seven civilians were killed in Puthukkudiyiruppu and five civilians were killed in Mullivaikkal, both of which were in the government-declared safe zones. Thirty-five people were injured due to constant shelling from the SLA. In the afternoon, shelling killed five people and injured six injured in Puthukkudiyiruppu, Ananthapuram, Iranaipalai and Mullivaikkal.

26.02/25/09-02/26/09

- SDR (26)
- An organization's source in Valayanmadam reported shelling and air attacks around Puthukkudiyiruppu, which killed 45 civilians.

27.03/06/09

- SDR (27)
- An organization's source in Valayanmadam reported shelling in Puthukkudiyiruppu, Manthuvil, Iranaipalai, and Salai.

28.03/10/09

- SDR (28)
- A media outlet broadcast footage showing army shelling of LTTE positions near Puthukkudiyiruppu, despite GSL pledges that it would no longer use heavy artillery, tanks or aerial bombing.

29.03/16/09

- SDR (29)
- Satellite imagery showed that the Puthukkudiyiruppu Hospital facility, which had shown no visible signs of damage on January 28, was heavily damaged on this date. Four days earlier the Sri Lankan military claimed in a press release that the hospital was used by the LTTE as both a command center and a weapons firing site. They also claimed that the LTTE did most of the damage and that the patients and medical staff had been previously removed from the facility by the ICRC.

30.03/25/09

- SDR (32)
- A witness who escaped the NFZ reported to HRW that a multi-barrel attack occurred very close to the Hindu temple in Pokkanai. About 20 rockets had struck the area. ? Mothers were crying and there were a lot of dead children. The bodies were seriously damaged and some of them were missing heads and limbs. Several tents had burned down. Over 75 people were injured. They didn't

think that the area would be targeted because it was purely a humanitarian settlement. The area was thickly populated by tents and there were no permanent houses. When I arrived, many had already been taken to the hospital. Only people with minor injuries were still left.? The witness recognized that the LTTE had multi-barrel weapons, but that firing came from the direction of Puthukkudiyiruppu which was controlled by the government. The hospital reported 10 civilians killed, but usually not all dead bodies are taken to the hospital.

The Tribunal should note of the 30-event fact pattern, and that the only 2 events which may provide plausible legal grounds under IHL to justify SLA military direct or indirect attacks on PTK Hospital during this time frame came from government sources (#23, #29).

While Event #23 as an evidentiary source is arguably manifestly unreliable on grounds it was provided by one source and on grounds that plausible conflict of interest in self-exoneration may be establishable, WWW video clips establish that direct or indirect SLA weapon systems attacks, including artillery shelling, hit PTK Hospital between 01/09/2009 and 02/09/2009, a time period where the PTK Hospital compound was functioning as a hospital, and thus possessed Geneva Convention-protected object status. The alleged presence of the LTTE inside PTK Hospital on 2/16 has no bearing on the legal cognizability of SLA artillery shell attacks on PTK between 01/09/2009 and 02/09/2009 as war crimes in violation of customary IHL.

On the contrary, if the claim of an LTTE presence in PTK Hospital alleged in Event #23 is not fallacious in fact, no evidence or information is available or has been provided to establish the nature of the temporal and geographical relationship between the reported LTTE presence and the PTK Hospital compound, and whether the nature of this occurrence would be sufficient under customary IHL to transform the legal status of the PTK Hospital compound from a Geneva Convention-protected object to a legitimate military objective.

8. SATELLITE IMAGE ANALYSIS

8.1 Satellite Image Differential #1: 10/31/2008 – 01/21/2009

1. Damage analysis of PTK Hospital compound, using before/after satellite image dates of 10/31/2008 and 01/21/2009, possibly corroborate the following alleged SLA attacks from the PTK Chronology (hereafter the “Chronology”) detailed in Section 7 of this document:
 - Event #1 (01/09/2009)
 - Event #4 (01/13/2009).
2. The satellite image differential analysis between these two dates permits the reasonable inference of fact that, by the latter date, shell impact craters aeri ally visible on the roofs of 3 structures within the PTK Hospital compound were caused between these two dates by direct or indirect weapon system attacks originating from SLA military positions, which included but were not necessarily limited to:
 1. Isolated shell impact at the northern nexus of B-01 (OPD) and B-18 (corridor)
 2. Isolated shell impact(s) at the nexus of B-03 (Pharmacy and Store) and B-18 (corridor)

Note: B-01 etc., refer to the buildings within PTK premises identified in the PTK schematic map in Section 5 of this document.



Image 8-1: 10-31-2008 (MM/DD/Year)



Image 8-2: 01/21/2009

8.2 Satellite Image Differential #2: 01/21/2009 – 02/05/2009

1. Damage analysis of PTK Hospital compound, using before/after satellite image dates of 01/21/2009 and 02/05/2009, possibly corroborates the following alleged SLA attacks from the Chronology listed in Section 7 of this document:
 - Event #8 (01/28/2009)
 - Event #12 (01/31/2009)
 - Event #14 (02/01/2009)
 - Event #15 (02/01/2009)
 - Event #17 (02/02/2009)
 - Event #18 (02/02/2009)
 - Event #20 (02/03/2009)

2. The satellite image differential analysis between these two dates permits the reasonable inference of fact that, by the latter date, shell impact craters aerially visible on the roof of 1 structure within the PTK Hospital compound were caused between these two dates by direct or indirect weapon system attacks originating from SLA military positions, which included but were not necessarily limited to:
 - a) 80 square meter rectangular region of tiling on the roof on B-02 (Female Ward) fell off probably due to air pressure and shell fragmentation from shells landing inside the PTK Hospital compound nearby the structure.

Note: B-02 etc., refer to the buildings within PTK premises identified in the PTK schematic map in Section 5 of this document.



Image 8-2: (Repeated) 01/21/2009



Image 8-3: 02/05/2009

8.3 Satellite Image Differential #3: 02/05/2009 – 03/06/2009

1. Damage analysis of PTK Hospital compound, using before/after satellite image dates of 01/21/2009 and 02/05/2009, possibly corroborates the following alleged SLA attacks from the Chronology listed in Section 7 of this document:
 - Event #21 (02/07/2009)
 - Event #22 (02/14/2009)
 - Event #24 (02/19/2009)
 - Event #25 (02/20/2009)
 - Event #26 (02/25/2009 - 02/26/2009)
 - Event #27 (03/06/2009)

2. The satellite image differential analysis between these two dates permits the reasonable inference of fact that, by the latter date, shell impact craters aerially visible on the roofs of 11 structures within the PTK Hospital compound were caused between these two dates by direct or indirect weapon system attacks originating from SLA military positions, which included but were not necessarily limited to:
 - a) 2 shell impacts on a civilian structure 67 m to the west of B-02:
GPS coordinates {9 18 54.33 N, 80 42 12.74 E}
 - b) 1 or more shell impacts on a civilian structure 42 m southwest of B-11:
GPS coordinates {9 18 52.39 N, 80 42 13.89 E}
 - c) 3 or more isolated, direct shell impacts on B-02
 - d) 2 or more isolated, direct shell impacts on B-03
 - e) 1 or more direct or indirect shell impacts on B-07
 - f) 1 or more isolated, direct shell impacts on B-08
 - g) 1 or more direct or indirect shell impacts on B-10
 - h) 1 or more isolated, direct shell impacts on B-05
 - i) 1 or more isolated, direct shell impacts on B-12
 - j) 1 or more isolated, direct shell impacts on B-13
 - k) 1 or more isolated, direct shell impacts on B-16 partially collapsing the roof

3. 6 authenticatable WWW land-based photographs and 5 authenticatable WWW video clips were taken by WWW staff inside or nearby the territory of PTK Hospital compound between or about 02/01/2009 and 02/09/2009.

4. WWW land-based photography, WWW video footage, and WWW human testimony-based firsthand knowledge establish through inference and declaratory statements that PTK Hospital functioned as a hospital in fact from at least 10/31/2008 to at least up until or about 02/09/2009.

5. Instances of corroborating overlap in the aerially visible damage to PTK Hospital structures from the 03/06/2009 satellite image with the WWW land-based photography and video representations of damage to PTK Hospital structures provide grounds to infer that, since WWW video footage was taken by at latest 02/09/2009, a considerable percentage of the aerially visible damage to PTK Hospital structures as represented in the 03/06/2009 satellite image can be reasonably approximated to have occurred in fact between 02/05/2009 and 02/09/2009.



Image 8-3 (Repeated): 02/05/2009



Image 8-4: 03/06/2009

8.4 Satellite Image Differential #4: 03/06/2009 – 03/16/2009

1. Damage analysis of PTK Hospital compound, using before/after satellite image dates of 03/06/2009 and 03/16/2009, possibly corroborates the following alleged attacks from the Chronology listed in Section 7 of this document:
 - Event #28 (03/10/2009)
 - Event #29 (03/16/2009)

2. The satellite image differential analysis between these two dates permits the reasonable inference of fact that, by the latter date, shell impact craters aerially visible on the roofs of 12 structures within the PTK Hospital compound were caused between these two dates by direct or indirect weapon system attacks originating from SLA military positions, which included but were not necessarily limited to:
 - a) 1 shell impact on a civilian structure 67 m to the west of B-02 GPS Coordinates {9 18 54.33 N, 80 42 12.74 E}
 - b) Multiple direct shell impacts on B-01, collapsing 50% of the roof
 - c) Multiple direct shell impacts to B-02, collapsing in 5 or more places, contiguous regions of the roof
 - d) 3 or more direct shell impacts on B-03
 - e) 2 or more shell impacts on B-08
 - f) Multiple direct or indirect shell impacts on B-10
 - g) 1 or more direct or indirect shell impacts on B-09
 - h) Multiple direct shell impacts on B-05
 - i) Multiple direct shell impacts on B-14
 - j) Multiple direct shell impacts on B-16
 - k) Multiple direct shell impacts on B-17
 - l) Multiple direct shell impacts on the Church

Note: B-01 etc. refer to the buildings within PTK premises identified in the PTK schematic map in Section 5 of this document.



Image 8-4 (Repeated): 03/06/2009



Image 8-5: 03/16/2009

8.5 Satellite Image Differential #5: 03/16/2009 – 05/10/2009

1. Damage analysis of PTK Hospital compound, using before/after satellite image dates of 03/16/2009 and 05/10/2009 establish that between these dates weapon system attacks caused material damage to PTK Hospital structures.
2. Between 03/16/2009 and 05/10/2009, it is not possible to determine from available evidence and information the specific time frame within which the PTK Hospital compound switched from LTTE-control to SLA control.
3. Between 03/16/2009 and 05/10/2009, it is not possible to determine from available evidence and information the specific date on which the functionality of the PTK Hospital compound as a hospital ceased to operate as a hospital, thereby forfeiting its Geneva Convention-protected object status.
4. The satellite image differential analysis between these two dates permits the reasonable inference of fact that, by the latter date, shell impact craters aeri ally visible on the roofs of 11 structures within the PTK Hospital compound were caused between these two dates by direct or indirect weapon system attacks originating from SLA military positions, which included but were not necessarily limited to:
 - a) Multiple direct shell impacts on B-01, B-02 - partial collapse of the roofs
 - b) Multiple direct shell impacts on B-03, 2 regions of the roof collapsed
 - c) Multiple direct or indirect shell impacts on buildings east of B-18 corridor: B03, B-05, B-06, B-04
 - d) 2 or more direct shell impacts on B-08
 - e) Multiple direct shell impacts on B-09, 1 region on the western facade collapsed
 - f) Missing tiling and 1 or more shell impacts on B-15
 - g) Multiple direct shell impacts on B-16 partially collapsing the roof
 - h) 2 or more shell impacts on B-17

Note: B-01 etc., refer to the buildings within PTK premises identified in the PTK schematic map in Section 5 of this document.



Image 8-5 (Repeated): 03/16/2009



Image 8-6: 05/10/2009

8.6 Mortar Emplacements #6: 05/10/2009

Please refer to Image 8-7 showing mortar positions on 05/10/2009.

Also please refer to 6-W Lazy Mortar Emplacement diagram Image 8-8 (Courtesy: AAAS.org).

Prima facie factual allegations can be reasonably inferred from the available evidence from the satellite images.

Satellite Image damage analysis of PTK Hospital compound, using before/after satellite image dates of 02/05/2009, 03/06/2009, and 03/15/2009, establishes there was SLA shelling and possible SLA-LTTE military confrontations – plausibly inferable from Event 23 in the Chronology - between 02/09 and 03/15.

Within the PTK Hospital compound, before/after satellite image analysis between 02/05/2009 and 03/06/2009 show aerially visible damage caused by direct or indirect SLA attacks, ranging from isolated shell impacts which did not collapse individual structures, concentrated distributions of multiple shell impacts which partially collapsed structures, and full destruction of structures indicating possible multi-barrel rocket launcher attacks and aerial bombardment. Damage to the following structures within the PTK Hospital compound is viewable: the Church, the Temple, and B-01, B-02, B-03, B-04, B-05, B-06, B-07, B-08, B-09, B-11, B-12, B-13, B-14, B-15, B-16, B-17, B-18.

Most of the aerially visible damage to the PTK Hospital compound occurred between 02/09 and 03/06. This damage corroborates reported artillery shelling between 02/02 and 02/14 from Events #17 to #22 in the Chronology.

The change from LTTE-control to SLA-control occurred between about 6 March to about 25 March, which changed the legal status under customary IHL of PTK Hospital compound from a Geneva Conventions-protected object to a legitimate military objective because it was no longer used as a hospital from that date. Assessment for possible attacks on PTK Hospital after it became a military objective are beyond the scope of this submission.

Satellite Image damage analysis of PTK Hospital compound, corroborating Event 30, establishes that the PTK Hospital compound shifted from Geneva Convention-protected object status to a forward military position of the SLA sometime between about 03/15 and 03/25.

From available evidence and information, it is not possible to determine whether the 10-Mortar Lazy W configuration set up in the Northeast corner of the PTK Hospital compound between 03/15 and 05/06, was used by the LTTE to defend PTK Hospital from indiscriminate or deliberate SLA attacks, or was used by the LTTE to fight off the Eastward advancing SLA to hold PTK Hospital after it had been evacuated, or if the mortar emplacements were utilized by the SLA to target LTTE positions east of PTK Hospital, protected civilian persons and objects east of PTK Hospital, or both.

The totality of evidence available to the Tribunal, in conjunction with the totality of circumstances surrounding the establishable chronological fact pattern detailing SLA attacks between 9 January 2009 and 25 March 2009 in or nearby PTK Hospital, sufficiently allow for the reasonable inference that these SLA attacks constitute one or more legally cognizable acts of war crimes in violation of customary IHL.

This assertion is supportable on three principle grounds.

- **Firstly**, satellite image analysis, eyewitness testimony, video footage, land-based photography, and human rights reports establish the attacks were disproportionate and indiscriminate, determinable by the scale of civilian death and the weapon system used by the SLA in a hybrid combatant-non-combatant theater of operation.
- **Secondly**, the widespread and systematic nature of these attacks which, at least in part, illegitimately targeted protected persons and objects inside a government-designated neutralized zone between at least 01/09/2009 and 02/09/2009, makes some of the acts categorizable as *jus cogens* norm violations, nullifying the view that Tamil non-combatants killed during these attacks exclusively or reasonably fell under the humanitarian law exemption of militarily-necessitated collateral damage, and
- **Thirdly**, the attacks were carried out under the false presumption that temporal indistinguishability of combatants and non-combatants in or nearby the PTK Hospital was a sufficient condition of fact to presumptively consider all persons and objects in or nearby PTK hospital as combatants and military objectives, therefore justifying the forfeiture of international humanitarian protections. Customary IHL requires parties to conflict to presume civilian status of persons within theaters of operation unless there is substantive evidence to the contrary. Carrying out indiscriminate systematic attacks such as artillery shelling on a mixed group comprised of combatants and non-combatants presumes combatant status as opposed to civilian status, in violation of this IHL norm.



Image 8-7 (Enlarged Image 8-7): 05/10/2009 Mortar Emplacements

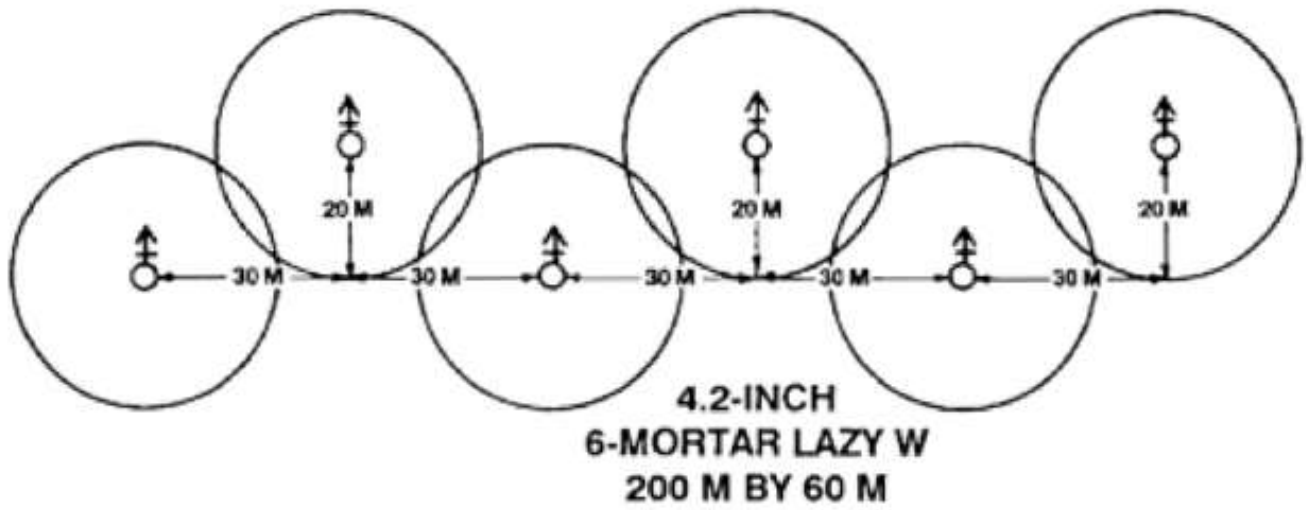


Image 8-8: Schematic Mortar Position (<http://shr.aas.org/geotech/srilanka/srilanka.shtml>)

9. LEGAL ANALYSIS

Satellite Imagery-Based Legal Model for Sri Lankan Jus Cogens Norm Violations

To create enforceable, punitive remedies for the Tamil victim community affected by the Vanni massacre, the dyad of satellite imagery and eye witness testimony within one legal model provides a basis for a sufficient body of evidence to try aerially visible jus cogens norm violations in an international or non-Sri Lankan national court.

Departing from decades of impunity and general state-sponsored obstruction of judicial processes and investigatory bodies concerning mass atrocity crimes committed against Tamils, this legal model yields the promise of providing the global community of Tamil victims, inside and outside territorial Sri Lanka, combatant and non-combatant, the possibility of symbolic and substantive transitional justice for jus cogens norm violations committed by the Sri Lankan state and its agents inside territorial Sri Lanka at least between about January and May 2009.

While framed within a broader rubric of aerially visible jus cogens norm violations – which include the crimes of genocide, war crimes, and crimes against humanity – the legal model presented herein focuses on attacks against Geneva Convention protected persons and objects in general, and hospitals in the Vanni Region in particular. While satellite imagery has not been used in a non-corroborating evidentiary capacity in international criminal proceedings to date, Trans-Atlantic Anglo-American jurisprudence in the subject matter of environment-related degradation and maritime civil litigation provides case law shaping emergent rules and norms governing the admissibility and probative value of satellite imagery as evidence. This body of case law and emergent norms could guide the use of satellite imagery analysis in legal argumentation in the subject matter of jus cogens norm violations, including state military operations targeting directly or indirectly medical institutions.

Within this legal model, the way the jus cogens norm violation is legally constructed, and what form of liability is used (omission, commission), will depend on the availability of evidence outside of Sri Lanka, determinable on a case-by-case basis. Choosing between commission or omission liability turns on the relationship between what facts, conditions of fact, and substantive truths are reasonably inferable from the conflict-related satellite image analysis, and how these inferences are supportable by available eye witness testimony and corroborative material/circumstantial evidence so that the criminal ("reasonable doubt", "more likely than not") threshold necessary to prove liability or guilt can be met when the case goes to trial.

If there is insufficient corroborative material/circumstantial evidence, omission liability militates in favor of a stronger legal argument for establishing criminal guilt. On the contrary, if corroborative material/circumstantial evidence is preponderant, commission liability may be reasonably inferable from this body of evidence and thus can be alleged in parallel to omission liability allegations.

The introduction of satellite image analysis as an evidentiary source creates for the Tamil community the possibility of criminal litigation, considered implausible within the Sri Lankan state due to the culture of impunity and legitimate, ubiquitous security concerns. This legal model, applicable to the hospital-related jus cogens norm violations committed by the Sri

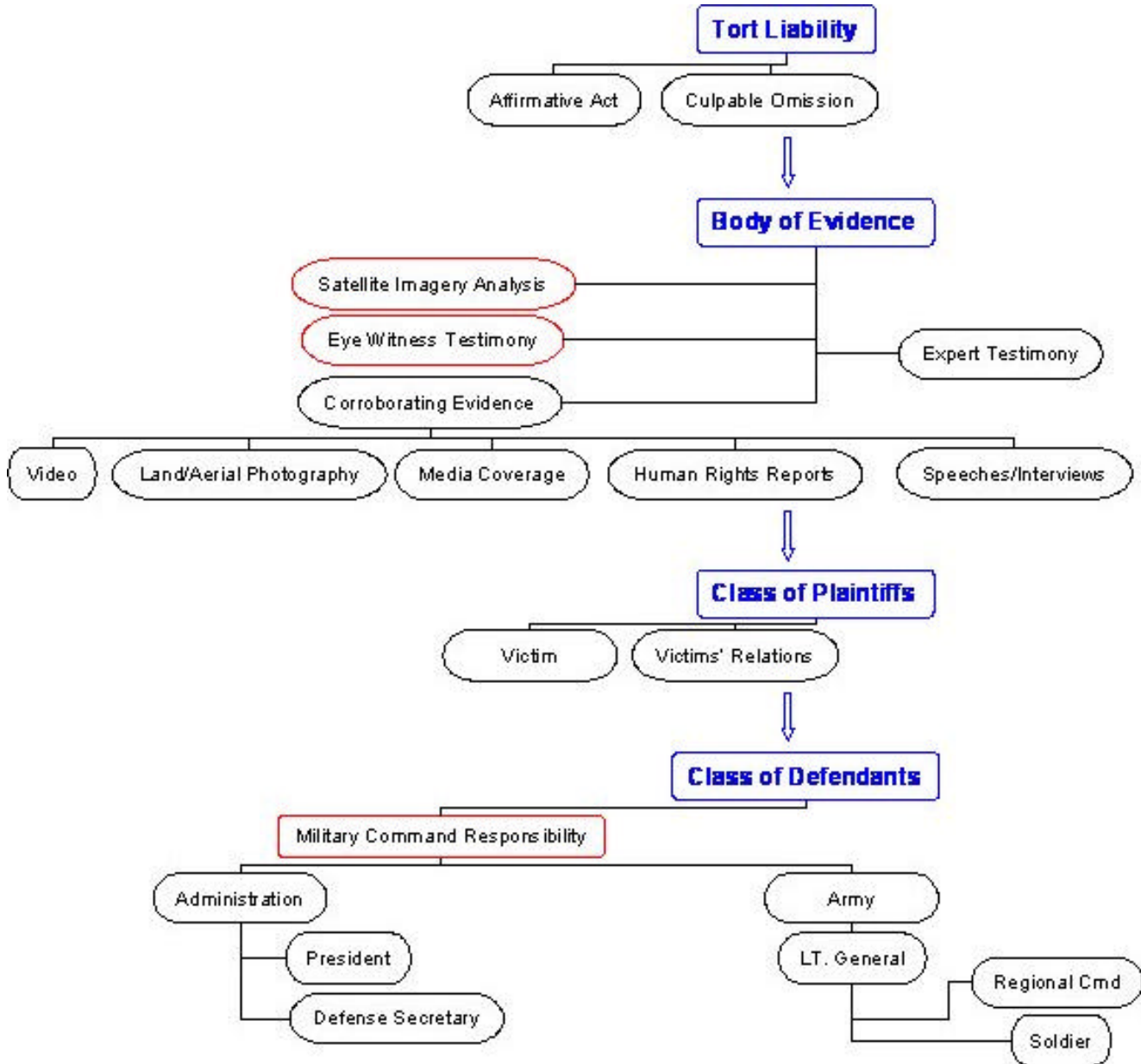
Lankan Army between at least January and May 2009, including indiscriminate weapon system attacks on Puthukkudiyiruppu hospital, challenges the view that the insufficient availability of material evidence caused by state obstruction of justice and judicial procedures create an insurmountable impediment to litigation.

The legal model, supported by corroborating material/circumstantial evidence, on a case-by-case basis, allows for aurally visible jus cogens norm violations perpetrated inside the state affecting a global class of Tamil victims to become triable in a venue outside the state via the extra-territorial application of national law or via the exercise of universal jurisdiction.

Using the expanding inculpatory body of admissible evidence available outside of Sri Lanka, this imagery-as-evidence based legal model can lead to the creation of enforceable, punitive remedies for state-sponsored jus cogens norm violations by providing an actionable litigative framework to initiate national or international criminal proceedings against the Sri Lankan State, individuals in the Rajapaksa administration, or both.

Conceptual Diagram of Legal Model

Within this legal model, as determined by the choice of **liability**, the **body of evidence**, comprised of satellite imagery, eye witness testimony, and available corroborating material/circumstantial evidence, could support the charges of jus cogens norm violations as torts alleged by the **class of plaintiffs** against the **class of defendants** under the umbrella of military command responsibility.



The components under body of evidence, class of plaintiffs, and class of defendants, while non-exhaustive, provide a template to present facts such that a reasonable inference of liability or guilt by commission or omission liability for the crimes alleged by the plaintiffs from the body of circumstantial and material evidence is possible.

If the corroborating evidence is preponderant, the totality of evidence for the particular case may be capable of supporting the charge alleging actual perpetration of the act.

Otherwise, in the absence or lack of corroborating material evidence persuasively linking the defendants to the crime, satellite imagery and eye witness testimony alone, in this context would possibly be sufficient to demonstrate via omission liability, the defendants failed to prevent or failed to punish, or conspired to fail to prevent or punish, the jus cogens norm violation. Civil/criminal liability under this legal model, through commission or omission, may apply to any aerially visible jus cogens violation.

The class of Defendants with military command responsibility over the armed actor and conflict region are both individually responsible and jointly responsible for subordinates within the command hierarchy who either:

- Perpetrated the act
- Conspired to perpetrate the act
- Failed to prevent the act
- Failed to punish the act
- Conspired to fail to prevent or punish the act

To circumscribe and construct the tort in time and space such that it is unambiguous and the legal allegation of the aerially visible jus cogens norm violation is clear, the following minimal set of variables requires definition:

Variables

Territory

- Location X: Location of the Geneva protected Non-Military Object (NMO).
- Locations Y: Set of locations from where the armed actors military offensive started
- Locations Z: Set of locations from where the armed actors military offensive ended
- Relation Y-Z: The military in its offensive moved from Y to Z.
- Relation X,Y,Z: Location X is between Locations Y and Locations Z

Time

- Date A: Starting time where NMO can be verified to be functioning as a NMO
- Date B: End time where NMO can be verified to be functioning as a NMO
- Date C: Starting date of a military offensive
- Date D: End date of the military offensive
- Date E: Date the NMO was captured by an armed actor and becomes a military object
- Relation A-B Date: A-B time period is a subset of the C-D time period
- Relation A,B,E: Date E falls within the A-B time period.

The variables above can apply to one of 2 fact pattern scenarios:

- the armed actor was stationary, where locations Y and Z are the same
- the armed actor was moving as part of an offensive from Locations Y to Z.

In the former, the jus cogens norm violation occurred while armed actor was moving from one location to another as part of a military offensive (destroy the enemy, capture territory) and the protected persons and objects were in the path. In the latter, the armed actor was stationary and was directly or indirectly targeting the protected persons or objects.

Remote-Sensing Data and US Case Law

US Case Law:

1. *Daubert v. Merrell Dow Pharm., Inc.*
2. *Lorraine v. Markel American Insurance Co*
3. *Nutra Sweet Co. v. X-L Engineering Co.*
4. *Michael X. ST. MARTIN v. MOBIL EXPLORATION & PRODUCING U.S.*
5. *J.O BLASDEL v. The MONTANA POWER COMPANY*
6. *DOW CHEMICAL COMPANY v. UNITED STATES*
7. *Gasser v. Baily*
8. *Pittson Co. v. Allianz Insurance Co.*
9. *Chevron USA, Inc. v. US EPA*
10. *United States v. Reserve Mining Co.*
11. *I & M Rail Link v. Northstar Navigation*
12. *ANR Production Co. v. M/V Mekhanik Dren*
13. *United States v. Fisher, F. Supp. 1193 (S.D. Fla. 1997)*

The emergent rules and norms set by Anglo-American jurisprudence regarding the admissibility and probative value of satellite image analysis in litigation, do not expressly prohibit the use of satellite imagery as direct evidence to support charges of state-sponsored jus cogens norm violations.

In the existing body of imagery-related US case law, several issues regarding the relationship of the imagery and the legal argumentation have arisen, including the authenticatability of the image, conclusiveness of complex facts and substantive truths inferable from the image, and what party has authority in law to make these factual and substantive truth inferences from the imagery. Overall, US case law precedents recognize that experts may make legally cognizable factual inferences of damage or progressive damage or trends from before/after images or of a pattern of progression from a series of imagery, sufficient to establish causation, and thus, also sufficient to establish occurrence within commission and omission liability frameworks.

ESI admissibility:

Several legal tests control the admission of remote sensing data into evidence. In US federal courts, these tests are found in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, the Federal Rules of Evidence (FRE), and the U.S. Constitution, and have been more recently expounded upon in the *Lorraine Opinion*..

In the *Daubert v. Merrell Dow Pharm., Inc.* the Supreme Court held that: (1) "general acceptance" is not necessary precondition to admissibility of scientific evidence under Federal Rules of Evidence, and (2) Rules assign to trial judge the task of ensuring that expert's testimony both rests on reliable foundation and is relevant to task at hand.

Remote-Sensing Data falls under Electronically Stored Information (ESI), and its admissibility in court would be required to meet the existing rules of electronic evidence admissibility, set by the *Lorraine Opinion* (*Lorraine v. Markel American Insurance Co*):

Key Considerations concerning ESI admissibility:

1. is it relevant?
2. if relevant, is it authentic?
3. if it is offered for its substantive truth, is it hearsay, and if so, is it covered by an applicable exception?
4. is its form being offered as evidence an original or duplicate, or if not, is there admissible secondary evidence to prove its content?

Imagery and Environment-Related Case Law:

The 11 cases below are part of an evolving body of US environment-related case law which has set precedents and shaped emergent norms for the use of imagery in legal argument permitting before/after image analysis, or analysis of a series of images, to establish occurrence or causation within commission liability frameworks.

1) *Nutra Sweet Co. v. X-L Engineering Co.*

Aerial photos confirmed the dumping sequence

Plaintiffs in this Superfund case used aerial photographs to determine the history of the dumping at a hazardous waste site.

2) *Michael X. ST. MARTIN v. MOBIL EXPLORATION & PRODUCING U.S.: Example of this Tort model*

Imagery established occurrence and causation for progression of degradation to a property.

Owners of freshwater flotant marsh (Mandalay Marsh in Terrebone Parish, Lousiana) sued canal servitude owners to recover for damage to marsh allegedly caused by failure to adequately maintain spoil banks. The Court held that 'expert testimony was admissible', evidence supported finding that damage to marsh was at least partially caused by servitude owners' failure to adequately maintain spoil banks on canals operated by them, servitude owners were contractually responsible for maintenance of canals, damage award was reasonable. Court recognizes existence in fact of a progressive pattern of deterioration by inferring from a series of aerial imagery. The same recognition of 'existence' or 'occurrence' silent on causation is available for jus cogens norm violations inferred from a series of satellite imagery.

Included in the body of evidence admitted in this case was a "series of aerial photographs documenting progressive deterioration of the St. Martins' marsh property and the testimony of experts for both sides, as well as testimony from Michael St. Martin and other lay witnesses who were familiar with the area." If inference of progressive deterioration of the marsh established through a series of aerial photographs can be made as they were in this case, it would seem logical to assert similar inferences of the progressive perpetration or prevention failure of jus cogens norm violations through a series of satellite imagery could also be made. Plaintiffs introduced aerial photographs to show open ponds produced by the oil companies that were eroding their marsh, presenting a series of photographs that showed the progression of the deterioration of the marsh. These aerial photos, combined with testimony from an expert witness interpreting the photographs, and testimony from the plaintiffs and others familiar with the land, led the court to conclude that defendants caused the degradation to the land.

As a defense, Defendants argued there was insufficiency of causation evidence, asserting other man-made forces could have contributed to the deterioration. This defense, also available to the defendant in the jus cogens norm violation analogy, while relevant in the commission liability context, is irrelevant in the omission liability context. The role of the satellite image analysis in the satellite image/eye witness testimony dyad within the tort model is to establish the occurrence and existence of a jus cogens norm, not its causation. In the tort model, if the commission liability framework is chosen, causation would be established through the other sources of evidence: eye witness testimony, corroborating material/circumstantial evidence.

3) *J.O BLASDEL v. The MONTANA POWER COMPANY - 02/02/1982*

Aerial Images established progressive damage

Landowners brought action against power company seeking damages for inverse condemnation of their farm. The Court held that there were damages partially established by aerial photography, and that the evidence supported finding of liability. The court admitted 24 aerial photography shots demonstrating the progression of damages on a farm. The aerial photos helped to indicate conditions on the farm which allowed for assessment of progressive damage. This finding by the court would be applicable to before/after image analysis establishing a jus cogens norm violation did in fact occur, and thus, was not prevented.

4) *DOW CHEMICAL COMPANY v. UNITED STATES - 5/19/1986;*

Case raised issue if statutory authority existed to take aerial photography of a complex

Court held EPA had statutory authority to use aerial photography, and that the aerial photography of a particular chemical company's industrial complex was not a "search" for Fourth Amendment purposes - taking the photography without a warrant. In jus cogens norm violation scenario, if this argument could not be advanced by the defendant as the defendant would not have standing to raise this claim with respect to the particular territory, notwithstanding a scenario where the satellite imagery is of territory owned by the defendant.

5) *Gasser v. Baily – 03/04/1988*

Aerial photography and satellite imagery introduced as evidence to show damage and change in water levels.

Property owners brought suit for compensation under 5th amendment as a result of flooding of their property.

6) *Pittson Co. v. Allianz Insurance Co.*

Aerially imagery introduced as evidence and issues raised by the defendant as to who is authorized to draw factual inferences from imagery.

Insured vendor of polluted property sought declaratory judgment that comprehensive general liability (CGL) and comprehensive marine liability package (CMLP) insurance policies covered insured's liability to purchaser for the contamination. Purchaser intervened. Summary judgment motions were filed. The plaintiff objected when an expert hydro-geologist referred to aerial photos during testimony. Plaintiff's counsel complained the hydro-geologist was not qualified to interpret aerial photos. The court allowed the testimony based on the expert's assertion that members of his profession reasonably rely on aerial photos.

7) *Chevron USA, Inc. v. US EPA*

Admitted satellite image was inconclusive

Petition was filed seeking review of a determination by the Administrator of the Environmental Protection Agency that wilderness area exceeded five thousand acres in size on relevant statutory date such that it was a mandatory Class I federal area and subject to visibility protection under the Clean Air Act. The Court of Appeals held that the determination of the Administrator was neither arbitrary nor capricious. Satellite evidence, although admitted, was inconclusive.

8) *United States v. Reserve Mining Co.*

Satellite imagery established widespread dispersion of the tailings; a progression was established

The U.S. and the State of Minnesota brought an action against a taconite mining and processing company to prevent the company from continuing the discharge of taconite tailings into the waters of Lake Superior. The District Court, held that defendant's discharge of the tailings into interstate and intrastate waters both violated the Federal Water Pollution Control Act and constituted a common law nuisance both in the waters of Lake Superior and in the ambient air in surrounding communities. Injunction issued. Satellite photographs of the green water in the western arm of the lake were introduced to show the widespread dispersion of the tailings.

9) *I & M Rail Link v. Northstar Navigation*

Satellite imagery used to establish occurrence of barge accident

Satellite photos helped determine whether a barge accident occurred in Illinois or Iowa to determine whether a court had personal jurisdiction over a defendant. Infrared aerial photography helped to determine if the State of New Jersey claimed title to a substantial part of plaintiff's land as the tide-flowed riparian lands.

10) *ANR Production Co. v. M/V Mekhanik Dren*

before-after satellite images used to show accident

This property damage case arises from damage to a platform sustained after being struck by a ship. Official satellite photographs taken 34 minutes before the collision, 4 minutes before the collision, and 26 minutes after the collision showed weather conditions in the vicinity at the time of the accident.

11) *United States v. Fisher, F. Supp. 1193 (S.D. Fla. 1997).*

before/after image analysis used

United States brought action against treasure-hunting company and its operator under Marine Protection, Research and Sanctuaries Act, alleging that defendants illegally destroyed sea-grass in marine sanctuary and removed artifacts. The District Court, Edward B. Davis, Chief Judge, held that: (1) defendants injured and destroyed 1.63 acres of sea-grass in violation of Act; (2) defendants removed artifacts from sanctuary in violation of Act; and (3) United States was entitled to permanent injunction. Comparison photographs were introduced into evidence.

10. CONCLUSION

1. The SLA and Sri Lankan state agents, in a joint criminal enterprise with common criminal purpose and design and which operated under the military command responsibility of multiple persons, including but not limited to President Mahinda Rajapakse, Defense Secretary Gotabaya Rajapakse, former Lt. General Sarath Fonseka, Brigadier Rohana Bandara, Brigadier Satyapriya Liyanage, Brigadier Nishantha Wanniarachchi, Brigadier Shavendra Silva, and Brigadier Jegath Dias, carried out through affirmative act or culpable omission, a disproportionate, indiscriminate, widespread and systematic pattern of direct or indirect attacks on areas in or nearby PTK hospital inside a neutralized government-designated Safe Zone between at least 01/09/2009 and 03/05/2009, which caused the deaths of at minimum 462 Tamil civilians, and which severely injured at minimum 867 Tamil civilians.
2. During times within which PTK hospital was functioning as a hospital, these attacks targeted Tamil combatants and Tamil non-combatants inside and outside PTK hospital without distinction.
3. It is reasonably inferable from the available and preponderant body of admissible evidence – including TAG satellite imagery, TAG eye witness testimony, WWW video footage, WWW land-based photography, human rights reports – that these attacks were committed by the joint criminal enterprise in violation of customary IHL.

Appendix A: PTK damage pictures provided by WWW



Photo A-1: PTK Hospital Damaged Roof



Photo A-2: PTK Hospital Inside



Photo A-3: PTK Hospital Passage Ways



Photo A-4: PTK Hospital Ceiling



Photo A-5: A Functioning PTK Hospital (Outside View).

Appendix-B: Sri Lanka Defense Ministry provided maps showing displacement of 400,000 civilians to the SLA designated No Fire Zone

Date	SLA Advance Map	Villages under SLA control
Before Mar-2008		<p>April 2008 when offensive started</p>
05/16/2008		<p>Madhu Church Complex 04/24/2008</p> <p>Palampiddi Town 05/16/2008</p>

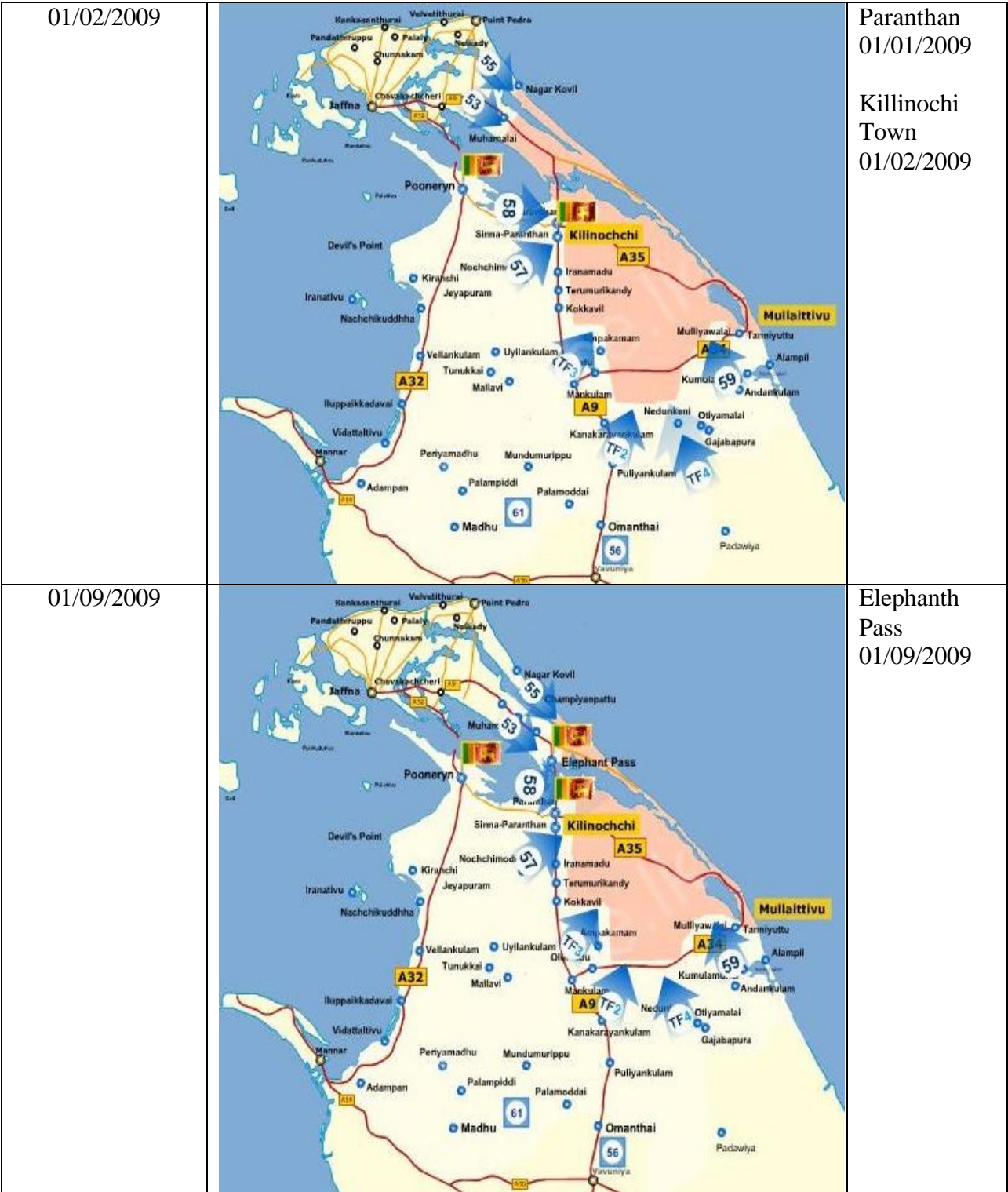
<p>05/23/2008</p>		<p>Adampan Town 05/09/2008</p> <p>Moontrumuri ppu Village 05/23/2008</p>
<p>06/15/2008</p>		<p>Munagam Base 05/30/2008</p> <p>Periyamadhu Village 06/15/2008</p>

<p>07/16/2008</p>		<p>Mannar Rice Bowl 06/29/2008</p> <p>Michael Base 07/04/2008</p> <p>Naddankandal Village 07/11/2008</p> <p>Vidattativu town 07/16/2008</p>
<p>09/02/2008</p>		<p>'Sugandan base' 07/27/2008</p> <p>Vellankulam Town 08/12/2008</p> <p>Thunukkai Town 08/22/2008</p> <p>Mallavi Town 09/02/2008</p>

<p>10/29/2008</p>		<p>Gajabapura 10/23/2008</p> <p>Nochchimodai 10/28/2008</p> <p>Jeyapuram 10/29/2008</p> <p>Nachchikuda 10/29/2008</p>
<p>11/11/2008</p>		<p>Akkrayanukulam built-up 11/05/2008</p> <p>Kirinchi 11/10/2008</p> <p>Kumulamunai village 11/11/2008</p>

<p>11/17/2008</p>		<p>Devil's Point and Vallaipadu 11/13/2008</p> <p>Pooneryn 11/15/2008</p> <p>Mankulama 11/17/2008</p>
<p>12/04/2008</p>		<p>Olumadu 11/25/2008</p> <p>Otiyamalai 11/29/2008</p> <p>Kokkavil Town 12/01/2008</p> <p>Puliyankula m 12/04/2008</p>

<p>12/15/2008</p>		<p>Kanakarayan Kulam 12/05/2008</p> <p>Thirumuruka ndy Junction 12/10/2008</p> <p>Ampakamam 12/15/2008</p>
<p>12/26/2008</p>		<p>Nadunkerni 12/20/2008</p> <p>‘Sinna- Paranthan’ 12/23/2008</p> <p>Mulliyawalai 12/26/2008</p>



01/15/2009
Civilian casualties due to SLF artillery, bombing and ground actions since Jan 22, 2009.



01/15/2009

01/25/2009
January
Killed: 617
Injured:> 1278



01/25/2009

02/05/2009

February

Killed: 875

Injured: > 911



02/05/2009

03/06/2009

Puthukkudiyir
uppu
03/06/2009





April:

Killed: 1538

Injured: > 2120

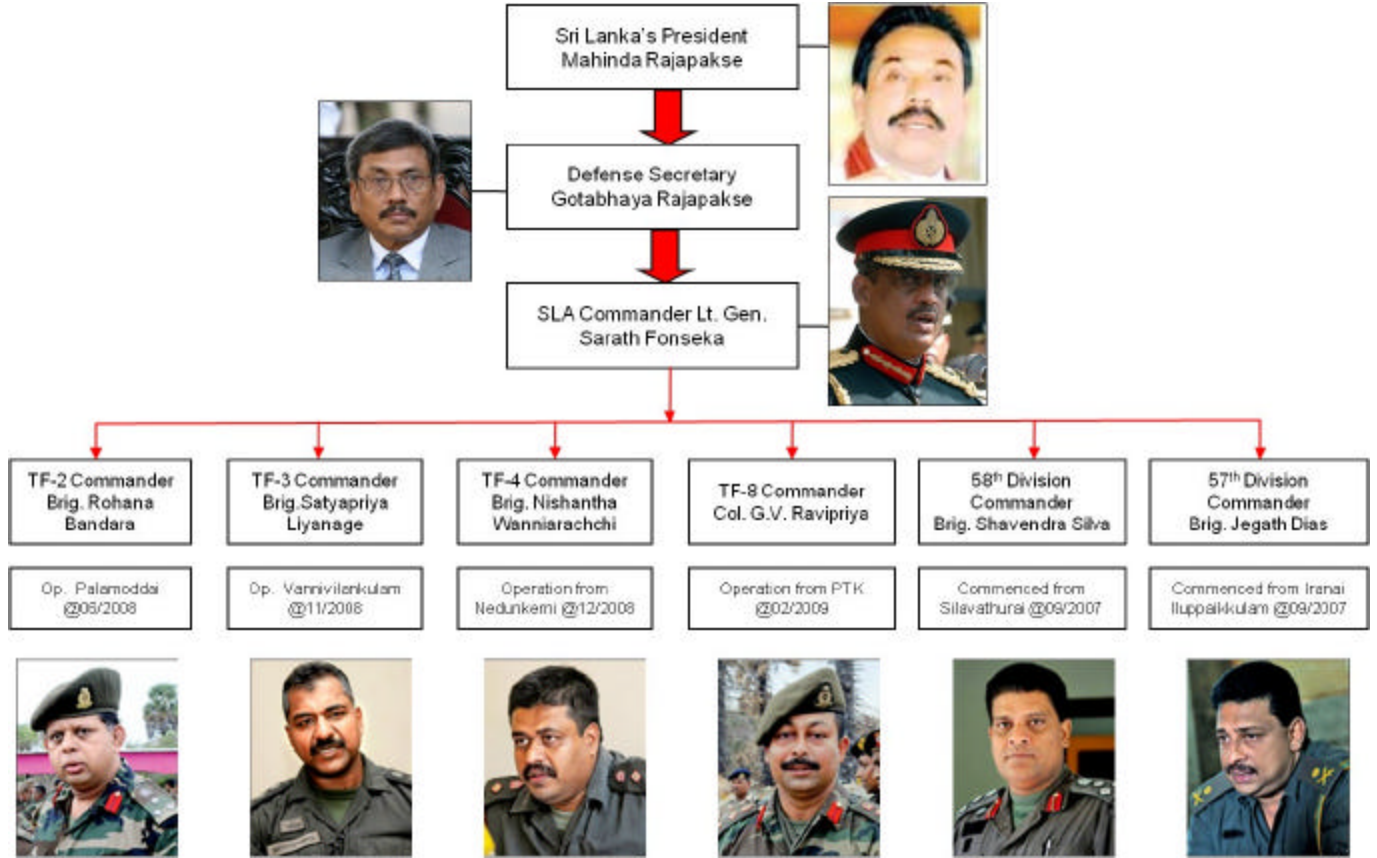
May:

Killed: 5224

Injured: > 4726

-Notes-

War Crimes Charges Against Sri Lankan Military



January 10, 2010