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Time for Delivery of Food and Water Bombs by Drone?

Voluminous thinking to complement the lateral thinking of the international community

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Introduction

Media coverage of the dramatic humanitarian situation in Aleppo repeatedly makes the case for the inability of trucks with remedial food supplies to get through safely to the areas most in need. At the same time much is made of the extent to which those areas are bombed disastrously.

Debate on the occasion at the UN General Assembly focuses intensely on the failure of various parties to enable, or to allow, safe passage of food supplies by truck. Various parties are accused of bombing those same areas and increasing the tremendous suffering of the people there. There is widespread media coverage of trucks blocked on the road or disastrously attacked. The process of delivery has been variously suspended ([UN aid convoy delivering food destroyed by airstrikes in Syria](#), *The Journal*, 19 September 2016).

There is clearly considerable capacity and skill in the delivery of bombs of various kinds to the Syrian arena by various parties exploiting the air space. It is however clear that those who choose to do so are able to disrupt key access roads by a variety of means.

It is however puzzling how the international community is challenged to deliver food -- deploring only, as it does, the safety of access roads. Dramatic incidents are cited in support of that inability. The bombing goes on. [Airdrops](#) have indeed been undertaken by the UN and considered ([UN delivers food aid by air drop to besieged Syrian city](#), *Associated Press*, 11 April 2016; [UN air drops to deliver aid to besieged Syrian towns agreed](#), *The Telegraph*, 17 May 2016; [Regime raids kill dozens in Aleppo, UN to meet on airdrops](#), *AFP*, 3 June 2016). Most recent news indicates lack of water ([Syria bombings leave 1.75 million without running water in Aleppo](#), *The Guardian*, 24 September 2016).

Technical reviews of the possibility of such humanitarian aid delivery are available (André Jansens, [Aerial Food Delivery: Overview](#)).

Given the mass media coverage, and the urgency of the debates at the UN General Assembly in September 2016, why is there currently no indication of the possibility of further airdrops of supplies, given their previous use by the World Food Programme and plans for their use in Syria? Has the possibility of airdrops of food and relief supplies been deliberately confused with the possibility of airdrops of weaponry ([U.S.-led coalition airdrops weapons to Syria rebels in Aleppo province](#), *Reuters*, 2 June 2016; [Syria air drop plan appears to stall as first medical aid convoy reaches Daraya](#), *Middle East Eye*, 2 June 2016; [Russian Aid and Airdrops in Syria](#), *South Front*, 2016)?

The World Food Programme has also argued that:

The World Food Programme has completed its 100th airdrop of food to families in the Syrian city of Deir Ezzor. Air drops are always a last resort but with access roads heavily damaged and armed groups present in the area, they have become the only option in delivering desperately needed food to the city... **Airdrops are not possible in Aleppo and other besieged cities or towns in built-up areas. This is because we need a large, safe drop zone, within which cargo can be released and then collected and distributed by a team on the ground.** ([Air drops provide lifeline in Syria's Deir Ezzor: a measure of last resort](#), *WFP*, 22 August 2016) [emphasis added]

It has been also been argued that airdrops need "government authorization", which Damascus hasn't given for many areas. If no such authorization is required for destructive bombing, why is authorization required for "food bombing" ([Syria air drops of humanitarian aid still hampered by obstacles](#), *CBC News*, 3 June 2016)

The situation can be usefully summarized by the results of web searches on 24 September 2016: *trucks aleppo* (784,000); *airdrops aleppo* (62,200); *"air drops" aleppo* (62,200); *"General Assembly" aleppo* (744,000); *"General Assembly" aleppo trucks* (534,000); *"General Assembly" aleppo airdrops* (22,000). The latter search obviously makes no distinction between airdrops of weapons and those of humanitarian aid -- and no searches have been restricted to 2016.

Proposal

Active consideration should be given by the United Nations agencies and the international community to delivering food by air to disaster zones -- through some form of "food bomb". If access is possible by air in order to bomb areas destructively, such access should enable food bombs to be delivered.

The key question is whether the aircraft capable of delivering such "bombs" have the capacity, the experience and the technology to enable them to drop such "bombs" effectively. Also of extreme relevance is whether foodstuffs can be packaged such as to minimize the risk to useless destruction of their contents.

The technical issue has been evident for decades in multiple locations and has indicate the options (*How to do a food airdrop*, *IRIN News*, 30 July 2009). The latter indicates that according to the World Food Programme (WFP), air drops have delivered 1.5 million tons of aid in the world's worst emergencies over the past 15 years. In its busiest operation, in south Sudan, 2.5 million people in need were reached between 1990 and 2005 (*WFP Airdrops Food In South Sudan: how does it work?* WFP, 24 March 2014). In the total absence of delivery of supplies to Aleppo, the process is worth considering, whatever the percentage losses from such delivery. Has consideration been given to such packaging of relevance to the Aleppo situation? If not, why not?

In June 2016 it was announced that the World Food Programme had drawn up plans to airdrop aid to 19 regions of Syria (Sheena McKenzie, *Humanitarian Airdrops: How do they work?*, *CNN*, 4 June 2016). According to the latter, the U.N. program missed a June 1 deadline by the International Syria Support Group (made up of world powers, including the United States, Britain and France) to make airdrops if the Syrian government had not given permission to access the besieged areas -- regions where up to 592,000 people are trapped, according to the United Nations.

The dangers in Syria had been previously noted (Anderson Coope, *The dangers of airdrops in ISIS territory*, *CNN*, 8 August 2014). Air drops have been used in Iraq, arousing some controversy (Philip Ross, *US Airdrops Iraq: what it is and how it works*, *IBTimes*, 8 August 2014; Alessandria Masi, *Is The US Bombing ISIS? Kurdish officials claim American forces struck ISIS targets in Iraq as humanitarian drops begin*, *IBTimes*, 7 August 2014).

Delivery options would appear to include deliver of food bombs from a height which significantly reduces the exposure of the aircraft to rocket fire. Use of parachutes would alleviate package destruction on impact. Is this viable? If not, why not? Food air drops have been undertaken by aid agencies in other arenas, but criticism has been expressed in some cases (Barbara Stocking, *Drop the air drops*, *The Guardian*, 14 May 2008; Chris Klimek, *An Aerial Food Drop Over Syria Missed Its Target, and That's No Surprise*, *Air and Space*, 9 March 2016). Revised modalities have been elicited (Ariel Schwartz, *A Safer Humanitarian Air Drop: courtesy of crowdsourcing and the Air Force*, *Co.Exist*, 25 January 2012).

An alternative option would be to deliver food bombs from aircraft flying at lower altitude, perhaps at higher speed -- increasing the risk. How are those risks to be evaluated, especially in the light of the piloting capacities of those most valued for relevant skills?

Given the enormous development of drone technology in relation to Middle Eastern arenas of conflict, there is clearly the option of delivering "food strikes" intelligently at far lower risk to those controlling the drones. Existing drones could be adapted to this end, as envisaged in 2012 (*Airborne Drones Could Provide Innovative Method Of Delivering Food, Medicines*, *Kaiser Daily Global Health Policy Report*, 30 April 2012; Jack C. Chow, *Drones have revolutionized war: why not let them deliver aid?* *Foreign Policy*, 27 April 2012). The latter notes that one firm, AeroVironment, is already marketing a trunk-sized drone purpose-built for civilian first-response missions. More recent initiative have been described (Signe Brewster, *Building Drones to Deliver Medicine and Food to War-Torn Syria*, *Make Zine*, 6 May 2015; *Drop Blood not Bombs: drones to deliver emergency medicine to Rwanda*, *RT*, 10 May 2016). Some fortunate initiatives have resulted from unexplained accidents (*Drone Loaded with Food Instead of Bombs Still Baffling CIA*, *DDA*, 4 January 2012).

The US has already used unmanned helicopters to deliver cargo and resupply troops in combat zones in Afghanistan (*US Marine Corps to Keep K-Max Unmanned Cargo Re-Supply Helicopter for Second Deployment Extension*, *Lockheed Martin*, July 2012) The current initiative of Amazon to deliver consumer products in this way merits close attention, as with other such initiatives (*Think Amazon's Drone Delivery Idea Is a Gimmick? Think Again*, *The New York Times*, 10 August 2016; *These Are All The Foods You Can Get Delivered By Drones*, *The Huffington Post*, 9 June 2014; Nyshka Chandran, *Coming Soon: drone food deliveries in Singapore*, *CNBC News*, 17 Mar 2016; *Using drones to deliver food and medicine*, *BBC News*, 25 April 2015).

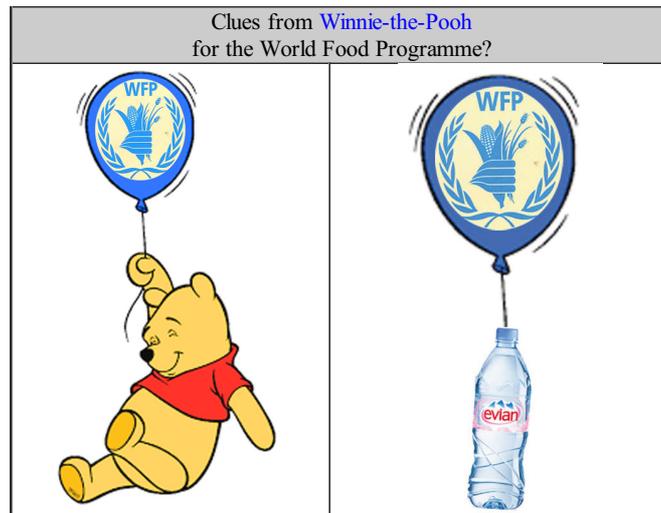
Aspects of the process have been criticized in non-disaster situations (Neal Ungerleider, *The Case Against Drones That Deliver Food*, *Fast Company*, 3 October 2013). Has consideration been given to this option in disaster situations in any form? If not, why not?

With respect to the delivery of water, the media have offered extensive coverage of the emergency [response to wild fires by water bombing](#) for which many technical adaptations have been developed. The question is whether any such techniques could be adapted to delivery of "water bombs" in situations where there is a lack of water. There is of course the possibility of delivery by drones through some form of air drop, as already demonstrated (Nick Lavars, *Ship-to-shore delivery shows real-world potential of disaster relief drones*, *New Atlas*, 24 June 2016; *Drones Set To Replace Waterboys, Seriously*, *Vocativ*, 13 June 2016). There is also the possibility that larger quantities could be delivered by more conventional air drops. Creativity could however be applied to use of water bombing aircraft to deliver much larger quantities -- provided these could be successfully targetted into pools. Lacking structural integrity, such pools could first be provided with air dropped emergency plastic lining to enable such delivery.

Conclusion

Given the apparent lack of attention to such opportunities, should it be concluded that the suffering in Aleppo is being used by all parties as a pawn in a process of game-playing and blame-gaming of the most cynical kind? Use of such suffering, and the media attention it evokes, merits recognition of the exploitation of humanitarian shields for strategic purposes.

That said, a more fundamental issue is the tendency to think "laterally" (road delivery) rather than "voluminously" (air space), especially given that that is a primary medium for the delivery of destruction. A related argument can be made with respect to accommodation (*From Lateral Thinking to Voluminous Thinking: unexplored options for subterranean habitats in dense urban areas*, 2007). In that spirit, given the demonstrated inability to attend effectively to the population-resources complex, a reduction in human volume calls for reflection (*Challenge of Nonviolent Population Decimation: reducing effects of overpopulation on resources and climate change by major reduction in the height of people*, 2007).



Addendum (8 December 2016)
following engagement of Winnie the Pooh as technical adviser to the Pentagon
and the widely publicised suffering of many hundreds of people
(see [Casualties of the Syrian Civil War](#))

Push for east Aleppo aid drops using GPS-guided parachutes: Western diplomats have conceded that there are no technical obstacles to a plan to deliver airdrops of food and medicine to Aleppo using a GPS-guided parachute system, but the scheme has been stalled in the face of reluctance among military commanders and an absence of political will.

Diplomats and military from six governments - including the UK, US, France and Germany - have now seen the detailed operational plan proposed by an aid agency, which has been circulating among western officials for over a month.

The plan... relies on technology known as the [Joint Precision Airdrop System](#) (JPads), which has been used by the US military since 2001 to supply troops in forward-offensive positions in areas of Afghanistan too difficult or dangerous to reach by road. It uses pallets dropped by parachute and guided by GPS navigation and a rudder...

However, although the plan has been generally embraced by diplomats, there has been resistance from western military officers. *One military was so reticent they denied the capability even existed*, said a source familiar with the meetings. (Emma Beals and Julian Borger, *The Guardian*, 8 December 2016)



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