

The 2006 war and its inter-temporal economic impact on agriculture in Lebanon

Ragy Darwish, Nadim Farajalla, Rania Masri

First published: 27 July 2009

<https://doi.org/10.1111/j.1467-7717.2008.01091.x>

Citations: 14

✉ Correspondence

Nadim Farajalla, PhD, Associate Professor of Environmental Hydrology, Department of Landscape Design and Ecosystem Management, Faculty of Agricultural and Food Sciences, American University of Beirut, POB: 11-0236, Beirut, Lebanon. Telephone: +961 1 350000 (ext. 4409); fax: +961 1 744460. E-mail: nf06@aub.edu.lb.

M. Ragy Darwish, PhD, Resources and Environmental Economist and General Director of the Association for Human and Economic Abilities Development (AHEAD), POB: 13-5862, Chouran Beirut 1102 2080, Lebanon. Telephone: +961 3 552425; fax: +961 1 397853. E-mail: ragydarwish@gmail.com.

Abstract

The July 2006 war waged by Israel on Lebanon caused an estimated USD 1 billion of direct (financial) damage to infrastructure. However, it generated also significant indirect (economic/inter-temporal) costs. One sector that suffered considerably in this respect was agriculture, the main source of income for 30–40 per cent of Lebanese. This paper's main objective is to develop a methodology to estimate the total—direct and indirect—cost of the war to agricultural crop production, using an area of south Lebanon as a focal point. The indirect loss assessment viewed inter-temporal reductions in crop production values as the opportunity cost of not working fields due to the presence of unexploded ordnance (UXO). Various crops were evaluated for two scenarios (50 and 100 per cent damage due to UXO) over UXO-clearance periods of five and 10 years. The results indicate that any damage estimates that include only direct losses will underestimate total losses by 80 and 87 per cent for the five- and 10-year periods, respectively.

References

Abadie, A. and J. Gardeazabal (2003) 'The Economic Costs of Conflict: A Case Study of the Basque Country. *American Economic Review*. 93(1). pp. 113–132.

[Web of Science®](#) | [Google Scholar](#)

Abadie, A. and J. Gardeazabal (2005) *Terrorism and the World Economy*. DFAEII Working Papers 200519. Department of Foundations of Economic Analysis II, University of the Basque Country, Bilbao .

[Google Scholar](#)

Ahmed, M.A. (2007) ' The Impact of Landmines on Socio-Economic Development in Southern Lebanon. *Journal of Mine Action*. http://maic.jmu.edu/Journal/5.3/focus/Mohammed_Ahmed/Mohammed_Ahmed.htm.

[Google Scholar](#)

Al Khalil, Y. (1992) 'Economic Developments in Lebanon since 1982. The Beirut Review. No. 3 (Spring). <http://www.lcps-lebanon.org/pub/breview/br3/ykhalil3.html>.

[Google Scholar](#)

Auvinen J. and E.W. Nafziger (1999) 'The Sources of Humanitarian Emergencies. *Journal of Conflict Resolution*. 43(3). pp. 267–290.

[Web of Science®](#) | [Google Scholar](#)

CDR (Council for Development and Reconstruction) (2006) *Preliminary Estimate of the Damage Caused by July 2006 War*. Government of Lebanon, Beirut .

[Google Scholar](#)

Darwish, M.R. F.A. El-Awar, M. Sharara and B. Hamdar (1999) 'Economic-Environmental Approach for Optimum Wastewater Utilization in Irrigation: A Case Study in Lebanon. *Journal of Applied Engineering in Agriculture*. 15 (1). pp. 41–48.

[Web of Science®](#) | [Google Scholar](#)

Dorsey J. and S. Opeitum (2002) *The Net Economic Cost of the Conflict in the Acholiland Sub-Region of Uganda*. A Study Commissioned by Civil Society Organisations for Peace in Northern Uganda (CSOPNU).

[Google Scholar](#)

FAO (Food and Agriculture Organization of the United Nations) (2006) *Damage and Early Recovery Needs Assessment of Agriculture, Fisheries and Forestry*. TCP/LEB/3101. FAO, Rome .

[Google Scholar](#)

Kober, A. (2006) The Second Lebanon War. Perspectives Papers on Current Affairs. No. 22. 28 September. <http://www.biu.ac.il/SOC/besa/perspectives22.html>.

[Google Scholar](#)

Lindgren, G. (2003) 'Measuring the Economic Costs of Internal Armed Conflict: A Review of Empirical Estimates'. Paper presented at the conference on 'Making Peace Work', Helsinki, Finland, 4–5 June 2003.

[Google Scholar](#)

Luckham R., I. Ahmed, R. Muggah and S. White (2001) *Conflict and Poverty in Sub-Saharan Africa: An Assessment of the Issues and Evidence*. IDS Working Paper 128. Institute of Development Studies, Brighton . March. <http://www.ids.ac.uk/ids/bookshop/wp/wp128.pdf>.

[Google Scholar](#)

MENA Report (2006) ' Lebanon's economy after the war'. http://www.menareport.com/en/business,Economy_and_Trade/204164.

[Google Scholar](#)

Nafziger, E.W. and J. Auvinen (1997) *War, Hunger, and Displacement: An Econometric Investigation into the Sources of Humanitarian Emergencies*. Research Paper 142. World Institute for Development Economics Research, Helsinki .

[Google Scholar](#)

Stewart, F. and V. Fitzgerald (2000) ' Introduction: Assessing the Economic Costs of War'. In F. Stewart and V. Fitzgerald (eds.) *War and Underdevelopment – Volume 1: The Economic and Social Consequences of Conflict*. Oxford University Press, Oxford . pp. 1–20.

[Google Scholar](#)

UNEP (United Nations Environment Programme (2005) *Assessment of Environmental 'Hot Spots' in Iraq*. UNEP, New York , NY . pp. 134–137.

[Google Scholar](#)

UNHCR (United Nations High Commissioner for Refugees) (2006) *Situation Report*. No. 30. UNHCR, New York.

[Google Scholar](#)

UN OCHA (United Nations Office for the Coordination of Humanitarian Affairs) (2006) Lebanon Response. OCHA Situation Report No. 39. 27 September. <http://www.reliefweb.int/rw/RWB.NSF/db900SID/KHII-6U332L?OpenDocument>.

[Google Scholar](#)

US Department of State (2007) ' The Post War Economy: 1945–1960'. http://economics.about.com/od/useconomichistory/a/post_war.htm.

[Google Scholar](#)

World Bank (2006) ' Lebanon at a Glance'. http://devdata.worldbank.org/AAG/lbn_aag.pdf.

[Google Scholar](#)

ABOUT WILEY ONLINE LIBRARY

[Privacy Policy](#)

[Terms of Use](#)

[About Cookies](#)

[Manage Cookies](#)

[Accessibility](#)

[Wiley Research DE&I Statement and Publishing Policies](#)

[Developing World Access](#)

HELP & SUPPORT

[Contact Us](#)

[Training and Support](#)

[DMCA & Reporting Piracy](#)

OPPORTUNITIES

[Subscription Agents](#)

[Advertisers & Corporate Partners](#)

CONNECT WITH WILEY

[The Wiley Network](#)

[Wiley Press Room](#)