

Malaria Decision Analysis Support Tool (MDAST): Evaluating Health, Social and Environmental Impacts and Policy Tradeoffs

Project Partner: Duke University

Progress Report to the World Health Organization

November 1, 2009 – December, 31 2009

**Professor Randall Kramer
Nicholas School of the Environment
Duke University
kramer@duke.edu**

Narrative:

During this initial phase covering the period of November 1st, 2009 to December 31st, 2009, we have convened our team at Duke, hired a part time program manager, and commenced research tasks. We have also had regular teleconferences with the University of Pretoria and the WHO regional office. Tasks undertaken during 2009 include a literature survey, collection of data from the literature to establish parameters, considered the operating framework of the decision support tool, and tested initial models. This report describes 2 deliverables for the November-December 2009 period, as specified in the project workplan for Duke University.

Deliverable 1: Schematic Diagrams of Decision Support Tool

Based upon extensive discussions with the investigators and research team, we have developed working schematics of our decision support tool model. These are included in **Annex 1. Figure 1** represents the decision analysis framework for systematically comparing alternative malaria control policy combinations. First, input parameters describe local contextual factors, such as social factors, environmental conditions, malaria endemicity, drug resistance, and parasitological indices. Second, the outcomes of malaria control policies – including health, environmental, and economic impacts – are derived from the input parameters based on relationships identified through the literature, expert interviews (called elicitations), and field-based experiments. Third, each policy combination can then be described in terms of its negative and positive impacts. Policy combinations can then be compared across user-selected metrics, including inputs (e.g., cost or personnel requirements) and outcomes (e.g., predicted malaria morbidity and mortality by age group or insecticide exposure). This last step provides decision-makers with a powerful, evidence-based tool for optimizing malaria control strategies.

Figure 2 presents a more detailed representation of the structure of the model and the connected elements. Based upon the parameters determined from the literature and experts in the field, the model will offer a variety of options for disease management and vector control to the decision maker, in addition to inputs for baseline data. The MDAST model calculates the outcomes of the health delivery strategy by combining parameters describing the malaria context with the health delivery decisions to generate estimates of the economic impacts, human health impacts, and environmental impacts.

Deliverable 2: Bibliography of Related Literature

We have completed an initial survey of the literature, compiled in the bibliography in **Annex 2**. These references capture important information on malaria prevalence, malaria control methods, modeling of the disease, and literature on infectious disease management, particularly with regards to

implementation science. We have cataloged over 500 references useful to the development of the MDAST and for the identification of the parameters to be used in the model. The studies were collected from refereed journals using PUBMED and other bibliographic services. Studies were also collected from WHO and other organizations via web searches. All of the literature is now stored on a searchable project website using the ENDNOTE software for easy access by team members. These references are listed in annex 2.

Annex 1: Schematic diagrams of the decision support tool

Annex 2: Bibliography of Related Literature.

ANNEX 1

Schematic diagrams of the decision support tool

Figure 1.

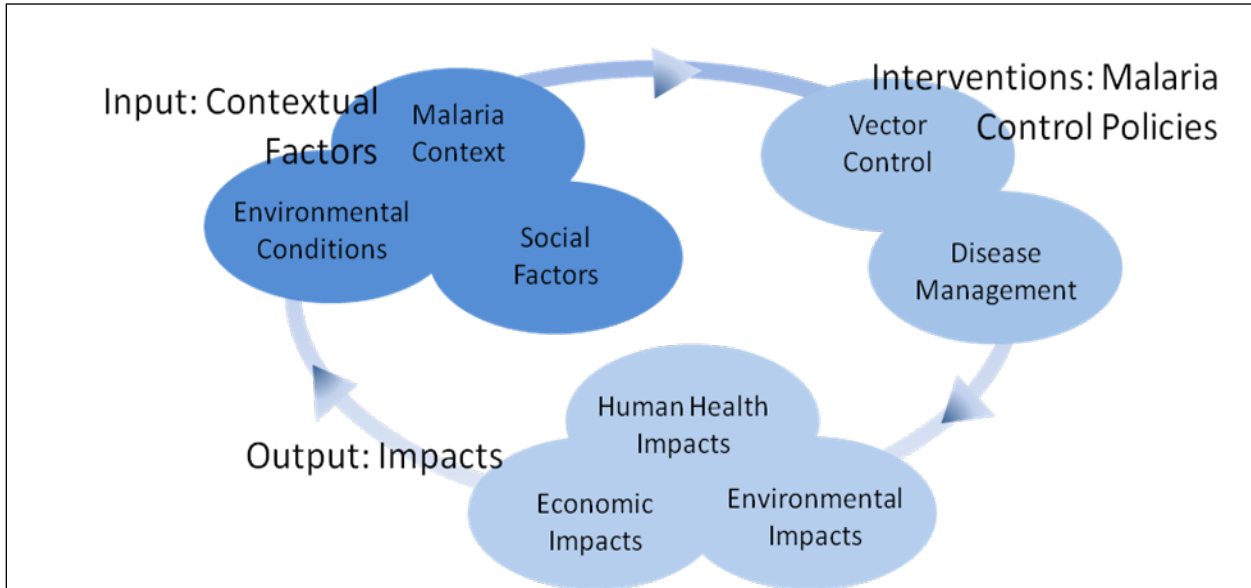
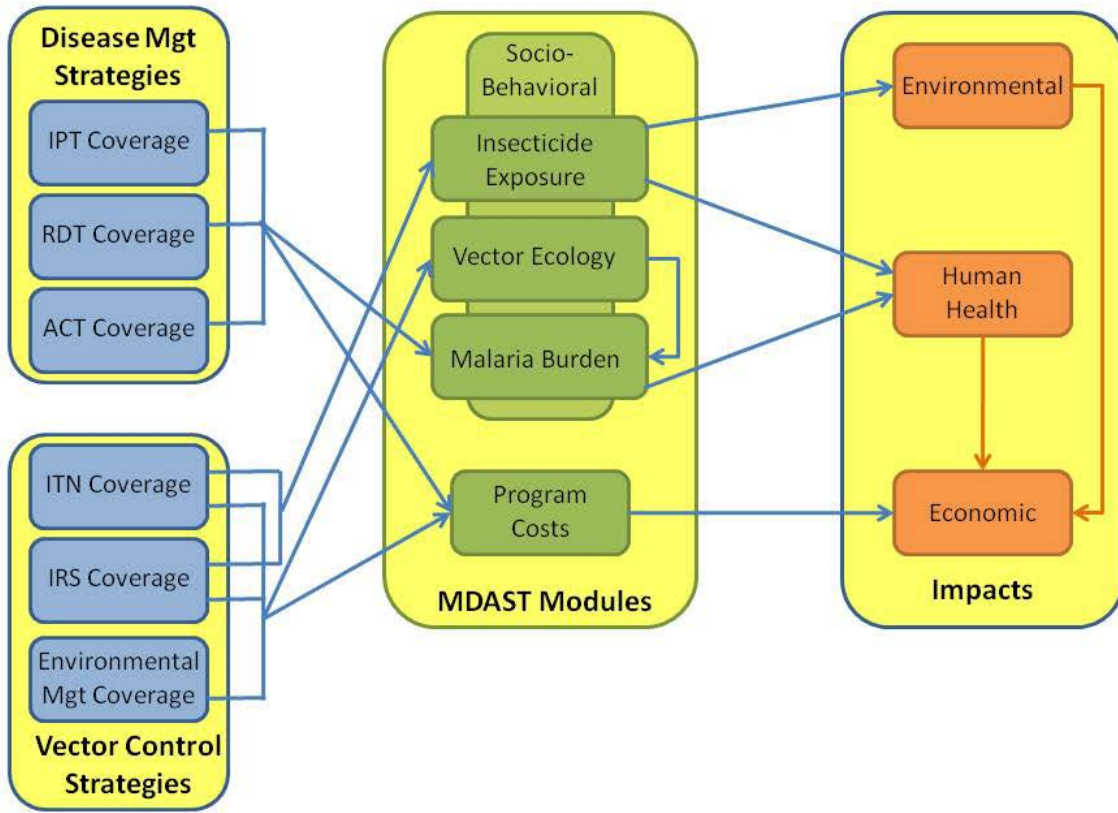


Figure 2.



ANNEX 2

Bibliography of related literature

Abdikarimov, S. T. 2001. Current epidemiological malaria situation in Kyrgyzstan (1995-1999). *Meditssinskaia parazitologiya i parazitarnye bolezni*:33-34.

Acemoglu, D., S. Johnson, and J. Robinson. 2003. Disease and development in historical perspective. *Journal of the European Economic Association* 1:397-405.

Adjuik, M., P. Agnamey, A. Babiker, J. Baptista, S. Borrmann, P. Brasseur, P. Carnevale, M. Cisse, R. Collins, U. D'Alessandro, N. Day, W. de Boom, T. Doherty, G. Dorsey, P. Garner, S. Gikunda, V. Gil, B. Greenwood, J. P. Guthmann, M. C. Henry, M. R. Kanya, P. G. Kremsner, E. Konate, S. Krishna, D. Laloo, P. Lange, M. Loolpapit, G. Malenga, W. Marquino, K. Marsh, P. Milligan, M. Molyneux, K. Mugittu, J. Niangue, F. Nosten, F. Ntoumi, C. Obonyo, F. Ochieng, P. Olliaro, A. J. Oloo, L. Osorio, L. Pinoges, G. Priotto, P. J. Rosenthal, T. Ruebush, J. Simpson, S. Sirima, E. Some, W. Taylor, F. ter Kuile, A. Tiono, L. von Seidlein, B. Watkins, and N. White. 2004. Artesunate combinations for treatment of malaria: meta-analysis. *Lancet* 363:9-17.

Afrane, Y. A., E. Klinkenberg, P. Drechsel, K. Owusu-Daaku, R. Garms, and T. Kruppa. 2004. Does irrigated urban agriculture influence the transmission of malaria in the city of Kumasi, Ghana? *Acta Tropica* 89:125-134.

Afrane, Y. A., B. W. Lawson, A. K. Githeko, and G. Yan. 2005. Effects of Microclimatic Changes Caused by Land Use and Land Cover on Duration of Gonotrophic Cycles of *Anopheles gambiae* (Diptera: Culicidae) in Western Kenya Highlands. Pages 974-980.

African Center for Environmental Advocacy and Governance. 2006. Approaches to effective malaria control that avoid DDT in Kenya: Use of *Bacillus thuringiensis israelensis* (BTi). Pages 1-24. The International POPs Elimination Project (IPEP), Nairobi, Kenya.

Águas, R., L. J. White, R. W. Snow, M. Gabriela, and M. Gomes. 2008. Prospects for Malaria Eradication in Sub-Saharan Africa. *PLoS ONE* 3:e1767.

Agunwamba, J. C. 2001. Analysis of socioeconomic and environmental impacts of waste stabilization pond and unrestricted wastewater irrigation: interface with maintenance. *Environmental Management* 27:463-476.

Alaii, J., W. Hawley, M. Kolczak, F. ter Kuile, J. Gimnig, J. Vulule, A. Odhacha, A. Oloo, B. Nahlen, and P. Phillips-Howard. 2003. Factors affecting use of permethrin-treated bed nets during a randomized controlled trial in western Kenya. *American Journal of Tropical Medicine and Hygiene* 68:137-141.

Alaii, J. A., W. A. Hawley, M. S. Kolczak, F. O. ter Kuile, J. E. Gimnig, J. M. Vulule, A. Odhacha, A. J. Oloo, B. L. Nahlen, and P. A. Phillips-Howard. 2003. Factors affecting use of permethrin-treated bed nets during a randomized controlled trial in western Kenya. *American Journal of Tropical Medicine and Hygiene* 68:137-141.

- Alemayehu, T., Y. Ye-ebiyo, T. A. Ghebreyesus, K. H. Witten, A. Bosman, and A. Teklehaimanot. 1998. Malaria, schistosomiasis, and intestinal helminths in relation to microdams in Tigray, Northern Ethiopia. *Parassitologia* 40:259-267.
- Aliyu, A. A., and M. Alti-Mu'azu. 2009. Insecticide-treated nets usage and malaria episodes among boarding students in Zaria, Northern Nigeria. *Ann Afr Med* 8:85-89.
- Alonso, P. L., S. W. Lindsay, J. R. M. Armstrong, M. Conteh, A. G. Hill, P. H. David, G. Fegan, A. Defrancisco, A. J. Hall, F. C. Shenton, K. Cham, and B. M. Greenwood. 1991. The effect of insecticide-treated bed nets on mortality of Gambian children. *Lancet* 337:1499-1502.
- Amerasinghe, F. P., P. H. Amerasinghe, J. S. Peiris, and R. A. Wirtz. 1991. Anopheline ecology and malaria infection during the irrigation development of an area of the Mahaweli Project, Sri Lanka. *American Journal of Tropical Medicine and Hygiene* 45:226-235.
- Amerasinghe, F. P., and T. G. Ariyasena. 1991. Survey of adult mosquitoes (Diptera: Culicidae) during irrigation development in the Mahaweli Project, Sri Lanka. *Journal of Medical Entomology* 28:387-393.
- Amerasinghe, F. P., F. Konradsen, K. T. Fonseka, and P. H. Amerasinghe. 1997. Anopheline (Diptera:Culicidae) breeding in a traditional tank-based village ecosystem in north central Sri Lanka. *Journal of Medical Entomology* 34:290-297.
- Amerasinghe, P. H., F. P. Amerasinghe, F. Konradsen, K. T. Fonseka, and R. A. Wirtz. 1999. Malaria vectors in a traditional dry zone village in Sri Lanka. *American Journal of Tropical Medicine and Hygiene* 60:421-429.
- Amerasinghe, P. H., F. P. Amerasinghe, R. A. Wirtz, N. G. Indrajith, W. Somapala, L. R. Pereira, and A. M. Rathnayake. 1992. Malaria transmission by *Anopheles subpictus* (Diptera: Culicidae) in a new irrigation project in Sri Lanka. *Journal of Medical Entomology* 29:577-581.
- Amexo, M., R. Tolhurst, G. Barnish, and I. Bates. 2004. Malaria misdiagnosis: effects on the poor and vulnerable. *Lancet* 364:1896-1898.
- Anderson, C. J. 2003. The psychology of doing nothing: forms of decision avoidance result from reason and emotion. *Psychological Bulletin* 129:139-167.
- Anderson, R. M., and R. M. May 1991. *Infectious Diseases of Humans*. Oxford University Press, New York.
- Andriantsoanirina, V., D. Menard, L. Tuseo, and R. Durand. 2009. History and current status of *Plasmodium falciparum* antimalarial drug resistance in Madagascar. *Scand J Infect Dis*.
- Aneck-Hahn, N. H., G. W. Schulenburg, M. S. Bornman, P. Farias, and C. De Jager. 2007. Impaired Semen Quality Associated With Environmental DDT Exposure in Young Men Living in a Malaria Area in the Limpopo Province, South Africa. *Journal of Andrology* 28:423-434.
- Aniedu, I. 1997. Dynamics of malaria transmission near two permanent breeding sites in Baringo district, Kenya. *Indian Journal of Medical Research* 105:206-211.

Anstey, N. M., and R. N. Price. 2007. Improving case definitions for severe malaria. *PLoS Medicine* 4:1291-1292.

Arrow, K. J., H. Gelband, and D. T. Jamison. 2005. Making antimalarial agents available in Africa. *New England Journal of Medicine* 353:333-335.

Asante, F., and K. Asenso-Okyere. 2003. The economic burden of malaria in Ghana. Institute of Statistical, Social and Economic Research (ISSER), University of Ghana, Lagon.

Asidi, A., R. N' Guessan, A. Koffi, C. Curtis, J.-M. Hougard, F. Chandre, V. Corbel, F. Darriet, M. Zaim, and M. Rowland. 2005. Experimental hut evaluation of bednets treated with an organophosphate (chlorpyrifos-methyl) or a pyrethroid (lambda-cyhalothrin) alone and in combination against insecticide-resistant *Anopheles gambiae* and *Culex quinquefasciatus* mosquitoes. Page 25.

Audibert, M., R. Josseran, R. Josse, and A. Adjidji. 1990. Irrigation, schistosomiasis, and malaria in the Logone Valley, Cameroon. *American Journal of Tropical Medicine and Hygiene* 42:550-560.

Audibert, M., J. Mathonnat, and M. C. Henry. 2003. Malaria and property accumulation in rice production systems in the savannah zone of Cote d'Ivoire. *Tropical Medicine and International Health* 8:471-483.

Ault, S. K. 1994. Environmental management: a re-emerging vector control strategy. *American Journal of Tropical Medicine and Hygiene* 50:35-49.

Aylward, R. B., R. W. Sutter, S. L. Cochi, K. M. Thompson, H. Jafari, and D. Heymann. 2006. Risk management in a polio-free world. *Risk Analysis* 26:1441-1448.

Balbus, J. M., and M. L. Wilson. 2000. Human health and global climate change: A review of potential impacts in the United States. Pew Center on Global Climate Change, Washington, DC.

Baldet, T., A. Diabate, and T. R. Guiguemde. 2003. Malaria transmission in 1999 in the rice field area of the Kou Valley (Bama), (Burkina Faso). *Sante* 13:55-60.

Barai, D., B. Hyma, and A. Ramesh. 1982. The scope and limitations of insecticide spraying in rural vector control programmes in the states of Karnataka and Tamil Nadu in India. *Ecology of Disease* 1:243-255.

Barnhoorn, I. E., M. S. Bornman, C. Jansen van Rensburg, and H. Bouwman. 2009. DDT residues in water, sediment, domestic and indigenous biota from a currently DDT-sprayed area. *Chemosphere* 77:1236-1241.

Barraza-Villarreal, A., P. Farías, V. Díaz Sánchez, J. Bailey, T. De Jager, P. Ayotte, M. Hernández-Avila, and E. Dewailly. 2004. Nonoccupational determinants of plasma DDT and p,p'-DDE in men from Chiapas, Mexico. *Archives of Environmental Health* 59:42-49.

Baudon, D. 1995. [Decision making policies on the utilization of antimalarials in response to a modification of chloroquine efficacy. Applications to Africa]. *Med Trop (Mars)* 55:37-40.

Beerbohm, E. 2007. A Pilot Expert Elicitation to Assess the Risks of Malaria Vector Control Strategies in East Africa. Nicholas School of the Environment and Earth Sciences. Duke University, Durham, NC.

- Benbear, L. S. 2007. Are Management-Based regulations Effective? Evidence from State Pollution Prevention Programs. *Journal of Policy Analysis and Management* 26:327-348.
- Bertolli, J., D. J. Hu, P. Nieburg, A. Macalalad, and R. J. Simonds. 2003. Decision analysis to guide choice of interventions to reduce mother-to-child transmission of HIV. *AIDS* 17:2089-2098.
- Bhatia, M. R., J. Fox-Rushby, and A. Mills. 2004. Cost-effectiveness of malaria control interventions when malaria mortality is low: insecticide-treated nets versus in-house residual spraying in India. *Social Science & Medicine* 59:525-539.
- Bhatt, R. M., R. C. Sharma, and V. K. Kohli. 1990. Interspecific associations among anophelines in different breeding habitats of Kheda district, Gujarat. Part I: Canal irrigated area. *Indian Journal of Malariology* 27:167-172.
- Biscoe, M., A. Lewandowski, J. Gaudet, M. Linehan, S. Beaulieu, S. Wolf, N. V. Abel, A. Zapata, G. Kebede, P. Sama, E. Hennessy, A. Caruth, G. Hayes, F. Sinno-Lai, A. C. Lutes, C. Hollingsworth, A. Schroeder, G. Booth, A. Arata, M. Lluberias, and R. Zimmerman. 2007. *Integrated Vector Management Programs for Malaria Control: Programmatic Environmental Assessment in Bureau for Global Health*, editor. RTI International, Research Triangle Park, NC.
- Biscoe, M. L., C. M. Mutero, and R. A. Kramer. 2005. Current policy and status of DDT use for malaria control in Ethiopia, Uganda, Kenya and South Africa. *International Water Management Institute*, Colombo, Sri Lanka.
- Bornman, R., C. de Jager, Z. Worku, P. Farias, and S. Reif. 2009. DDT and urogenital malformations in newborn boys in a malarial area. *BJU Int.*
- Bos, R. 2001. *Identifying Opportunities to Avert Malaria Risk Across Sectors*. Report of the 4th Global Partnership Meeting to Roll Back Malaria. The World Bank, Washington DC.
- Bradley, D. J. 1998. The particular and the general: Issues of specificity and verticality in the history of malaria control. *Parasitologia* 40:5-10.
- Breman, J. G. 2001. The ears of the hippopotamus: Manifestations, determinants, and estimates of the malaria burden. *American Journal of Tropical Medicine and Hygiene* 64:1-11.
- Breman, J. G., A. Mills, R.W. Snow, J. Mulligan, C. Lengeler, K. Mendis, B. Sharp, C. Morel, P. Marchesini, N.J. White, R.W. Steketee, and O. K. Doumbo. *Disease Control Priorities in Developing Countries: Chapter 21: Conquering Malaria*. NIH.
- Breuil, J., J. Moyroud, A. Gueguen, and P. Coulanges. 1982. [Parasitologic status of a population in the northwest of Madagascar before an irrigation development project for the extension of a sugar complex (Ambilobe)]. *Archives de l'Institut Pasteur de Madagascar* 50:113-124.
- Brown, A. W., and R. Pal. 1971. Insecticide resistance in arthropods. *Public Health Pap* 38:1-491.

- Brown, Z., K. Dickinson, and R. Kramer. 2008. Rational management of vector resistance in malaria control. Nicholas School of the Environment, Duke University Working Paper.
- Bueckens, P., G. Keusch, J. Belizan, and Z. Bhutta. 2004. Evidence-based global health. *Journal of the American Medical Association* 291:2639-2641.
- Bukirwa, H., V. Yau, R. Kigozi, S. Filler, L. Quick, M. Lugemwa, G. Dissanayake, M. Kanya, F. Wabwire-Mangen, and G. Dorsey. 2009. Assessing the impact of indoor residual spraying on malaria morbidity using a sentinel site surveillance system in Western Uganda. *American Journal of Tropical Medicine and Hygiene* 81:611-614.
- Burton, A. 2009. PESTICIDES: toward DDT-free malaria control. *Environ Health Perspect* 117:A344.
- Curtis, C. F., Maxwell, C. A., Finch, R. J., Njunwa, K. J.. 1998. A comparison of use of a pyrethroid either for house spraying or for bednet treatment against malaria vectors. Pages 619-631.
- Carstensen, K., and E. Gundlach. 2006. The primacy of institutions reconsidered: direct income effects of malaria prevalence. *World Bank Economic Review* 20:309-339.
- Carter, E. D. 2009. "God bless General Peron": DDT and the endgame of malaria eradication in Argentina in the 1940s. *J Hist Med Allied Sci* 64:78-122.
- Casman, E. A., and H. Dowlatabadi, editors. 2002. *The Contextual Determinants of Malaria. Resources for the Future*, Washington, DC.
- Catteruccia, F. 2007. Malaria vector control in the third millennium: progress and perspectives of molecular approaches. *Pest Management Science* 63:634-640.
- Champetier de Ribes, G., J. D. Rakotoson, G. Ranaivoson, and D. Rabeson. 1996. [Role of *Anopheles funestus* in the transmission of malaria in the south of Madagascar (Ampanihy district)]. *Archives de l'Institut Pasteur de Madagascar* 63:12-15.
- Charlwood, J. D. 2001. The impact of indoor residual spraying with malathion on malaria in refugee camps in eastern Sudan. *Acta Tropica* 80:1.
- Chen, H. H., and A. L. Chen. 2009. Indoor residual spraying of DDT for malaria control. *Am J Public Health* 99:1350-1351; author reply 1351.
- Chen, H. L., Z. H. Cao, Y. H. Yang, W. M. Kang, Y. R. Dai, K. W. Li, G. J. Cheng, X. Z. Xiong, X. T. Lei, and C. W. Yang. 1989. [Predictive impact on malaria prevalence by hydraulic project of three gorges of the Yangtze River]. *Zhongguo Ji Sheng Chong Xue Yu Ji Sheng Chong Bing Za Zhi* 7:177-180.
- Chima, R. I., C.A. Goodman, and A. Mills. 2003. The economic impact of malaria in Africa: A critical review of the evidence. *Health Policy* 63:17-36.
- Chimbari, M. J., E. Chirebvu, and B. Ndlela. 2004. Malaria and schistosomiasis risks associated with surface and sprinkler irrigation systems in Zimbabwe. *Acta Tropica* 89:205-213.

- Chirebvu, E., and L. Nzira. 2000. The efficacy and residual life span of two alphacypermethrin insecticide formulations (Fendona 6% suspension concentrate and Fendona Dry 15%) treated on mosquito bed nets. *Central African Journal of Medicine* 46:190-194.
- CHOI, H. W., J.G. Breman, S.M. Teutsch, S. LIU, A.W. Hightower, and J. D. Sexton. 1995. The effectiveness of insecticide-impregnated bednets in reducing cases of malaria infection: A meta-analysis of published results. *American Journal of Tropical Medicine and Hygiene* 52:377-382.
- Chuma, J. M., M. Thiede, and C. S. Molyneux. 2006. Rethinking the economic costs of malaria at the household level: Evidence from applying a new analytical framework in rural Kenya. *Malaria Journal* 5:76.
- Claborn, D. M., P. B. Hsieh, D. R. Roberts, T. A. Klein, B. C. Zeichner, and R. G. Andre. 2002. Environmental factors associated with larval habitats of malaria vectors in northern Kyunggi Province, Republic of Korea. *Journal of the American Mosquito Control Association* 18:178-185.
- Clarke, S. E., S. Brooker, J. K. Njagi, E. Njau, B. Estambale, E. Muchiri, and P. Magnussen. 2004. Malaria morbidity among school children living in two areas of contrasting transmission in Western Kenya. *American Journal of Tropical Medicine and Hygiene* 71:732.
- Clemen, R. T. 1996. *Making Hard Decisions*. 2nd Edition. Belmont, CA: Duxbury Press.
- Cohen, J., and P. Dupas. 2007. Free distribution or cost-sharing? Evidence from a randomized malaria prevention experiment. *Brookings Global Economy and Development Working Paper No. 16*.
- Coleman, P. G., C. Morel, S. Shillcutt, C. Goodman, and A. J. Mills. 2004. A threshold analysis of the cost-effectiveness of artemisinin-based combination therapies in sub-saharan Africa. *American Journal of Tropical Medicine and Hygiene* 71:196-204.
- Comoro, C., S. E. D. Nsimba, M. Warsame, and G. Tomson. 2003. Local understanding, perceptions and reported practices of mothers/guardians and health workers on childhood malaria in a Tanzanian district - implications for malaria control. *Acta Tropica* 87:305-313.
- Conteh, L., B. L. Sharp, E. Streat, A. Barreto, and S. Konar. 2004. The cost and cost-effectiveness of malaria vector control by residual insecticide house-spraying in southern Mozambique: a rural and urban analysis. *Tropical Medicine & International Health* 9:125-132.
- Conteh, L., B. L. Sharp, E. Streat, A. Barreto, and S. Konar. 2004. The cost and cost-effectiveness of malaria vector control by residual insecticide house-spraying in southern Mozambique: a rural and urban analysis. *Tropical Medicine & International Health* 9:125-132.
- Cox, J., M. Craig, D. Le Sueur, and B. Sharp. 1999. *Mapping Malaria Risk in the Highlands of Africa*. MARA/HIMAL Technical Report.
- Cropper, M. L., J. Lampietti, M. Haile, C. Poulos, and D. Whittington. 2004. The demand for a malaria vaccine: Evidence from Ethiopia. *Journal of Development Economics* 75:303-318.

- Curtis, C., and A. Mnzava. 2001. Treated nets vs house spraying. *Bulletin of the World Health Organization* 79:687-687.
- Curtis, C. F., C. A. Maxwell, R. J. Finch, and K. J. Njunwa. 1998. A comparison of use of a pyrethroid either for house spraying or for bednet treatment against malaria vectors. *Tropical Medicine & International Health* 3:619-631.
- Curtis, C. F., and A. E. Mnzava. 2000. Comparison of house spraying and insecticide-treated nets for malaria control. *Bull World Health Organ* 78:1389-1400.
- Dale, P., N. Sipe, S. Anto, B. Hutajulu, E. Ndoen, M. Papayungan, A. Saikhu, and Y. T. Prabowa. 2005. Malaria in Indonesia: a summary of recent research into its environmental relationships. *The Southeast Asian Journal of Tropical Medicine and Public Health* 35:1-13.
- D'Alessandro, U., and H. Buttiens. 2001. History and importance of antimalarial drug resistance. *Tropical Medicine & International Health* 6:845-848.
- Damstra, T., S. Barlow, A. Bergman, Kavlock, and V. D. Kraak. 2004. *Global Assessment of the State of Science of Endocrine Disruptors*. World Health Organization, Geneva, Switzerland.
- de Gourville, E., R. J. Duintjer Tebbens, N. Sangrujee, M. A. Pallansch, and K. M. Thompson. 2006. Global surveillance and the value of information: the case of the global polio laboratory network. *Risk Analysis* 26:1557-1569.
- De Jager, C. 2006. Reduced seminal parameters associated with environmental DDT exposure and p, p'-DDE concentrations in men in Chiapas, Mexico: a cross-sectional study. *Journal of andrology* 27:16.
- De Jager, C., P. Farias, A. Barraza-Villarreal, M. Avila, P. Ayotte, E. Dewailly, C. Dombrowski, F. Rousseau, V. Sanchez, and J. Bailey. 2006. Reduced seminal parameters associated with environmental DDT exposure and p,p'-DDE concentrations in men in Chiapas, Mexico: a cross-sectional study. *Journal of Andrology* 27:16-27.
- De Plaen, R., R. Geneau, T. Teuscher, A. Koutoua, and M. L. Seka. 2003. Living in the paddies: a social science perspective on how inland valley irrigated rice cultivation affects malaria in Northern Cote d'Ivoire. *Tropical Medicine & International Health* 8:459-470.
- De Plaen, R., M. L. Seka, and A. Koutoua. 2004. The paddy, the vector and the caregiver: lessons from an ecosystem approach to irrigation and malaria in Northern Cote d'Ivoire. *Acta Tropica* 89:135-146.
- Deressa, W., D. Hailemariam, and A. Ali. 2007. Economic costs of epidemic malaria to households in rural Ethiopia. *Tropical Medicine & International Health* 12:1148-1156.
- Diallo, D., B. Graz, J. Falquet, A. K. Traore, S. Giani, P. P. Mounkoro, A. Berthe, M. Sacko, and C. Diakite. 2006. Malaria treatment in remote areas of Mali: use of modern and traditional medicines, patient outcome. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 100:515-520.

- Dickinson, K., H. Randell, R. Kramer, and E. Shayo. 2007. Summary of Findings from June 2007 Fieldwork in Mvomero District, Tanzania. Nicholas School of the Environment, Duke University, Durham, NC.
- Dickinson, K. L. 2008. Indian Toilets and Tanzanian Mosquito Nets: Understanding Households' Environmental Health Decisions in Developing Countries. Nicholas School of the Environment. Duke University, Durham, NC.
- Diuk-Wasser, M. A., M. B. Toure, G. Dolo, M. Bagayoko, N. Sogoba, S. F. Traore, N. Manoukis, and C. E. Taylor. 2005. Vector abundance and malaria transmission in rice-growing villages in Mali. *American Journal of Tropical Medicine and Hygiene* 72:725-731.
- Doannio, J. M., J. Dossou-Yovo, S. Diarrassouba, M. E. Rakotondraibe, G. Chauvancy, F. Chandre, F. Riviere, and P. Carnevale. 2002. [Dynamics of malaria transmission in Kafine, a rice growing village in a humid savannah area of Cote d'Ivoire]. *Bulletin de la Societe de Pathologie Exotique* 95:11-16.
- Dowdle, W., H. van der Avoort, E. de Gourville, F. Delpeyroux, J. Desphande, T. Hovi, J. Martin, M. Pallansch, O. Kew, and C. Wolff. 2006. Containment of polioviruses after eradication and OPV cessation: Characterizing risks to improve management. *Risk Analysis* 26:1449-1469.
- Drummond, M. F. 1980. Principles of economic appraisal in health care. Oxford University Press.
- Duintjer Tebbens, R. J., N. Sangrujee, and K. M. Thompson. 2006. The costs of future polio risk management policies. *Risk Analysis* 26:1507-1531.
- E. Worrall, S. J. C. M. C. T. 2007. A model to simulate the impact of timing, coverage and transmission intensity on the effectiveness of indoor residual spraying (IRS) for malaria control. Pages 75-88.
- EANMAT. 2003. The efficacy of antimalarial monotherapies, sulphadoxine-pyrimethamine and amodiaquine in East Africa: implications for sub-regional policy. *Tropical Medicine & International Health* 8:860-867.
- Eisenberg, J. M. 2002. Globalize the evidence, localize the decision: evidence-based medicine and international diversity. *Health Affairs* 21:166-168.
- el Gaddal, A. A. 1985. The Blue Nile Health Project: a comprehensive approach to the prevention and control of water-associated diseases in irrigated schemes of the Sudan. *Journal of Tropical Medicine and Hygiene* 88:47-56.
- el Gaddal, A. A., A. A. Haridi, F. T. Hassan, and H. Hussein. 1985. Malaria control in the Gezira-Managil Irrigated Scheme of the Sudan. *Journal of Tropical Medicine and Hygiene* 88:153-159.
- Elias, M. 1996. Larval habitat of *Anopheles philippinensis*: a vector of malaria in Bangladesh. *Bulletin of the World Health Organization* 74:447-450.
- Elissa, N., J. Mouchet, F. Riviere, J. Y. Meunier, and K. Yao. 1993. Resistance of *Anopheles gambiae* s.s. to pyrethroids in Cote d'Ivoire. *Ann Soc Belg Med Trop* 73:291-294.
- Engels, D., L. Chitsulo, A. Montresor, and L. Salvioli. 2002. The global epidemiological situation of schistosomiasis and new approaches to control and research. *Acta Tropica* 82:139-146.

- Enserink, M. 2005. Infectious diseases - Source of new hope against malaria is in short supply. *Science* 307:33-33.
- Epstein, P. R. 2001. Climate change and emerging infectious diseases. *Microbes and Infection* 3:747-754.
- Eskenazi, B., J. Chevrier, L. G. Rosas, H. A. Anderson, M. S. Bornman, H. Bouwman, A. Chen, B. A. Cohn, C. de Jager, D. S. Henshel, F. Leipzig, J. S. Leipzig, E. C. Lorenz, S. M. Snedeker, and D. Stapleton. 2009. The Pine River statement: human health consequences of DDT use. *Environ Health Perspect* 117:1359-1367.
- Etang, J., E. Fondjo, F. Chandre, I. Morlais, C. Brengues, P. Nwane, M. Chouaibou, H. Ndjemai, and F. Simard. 2006. Short Report: First Report of Knockdown Mutations in the Malaria Vector *Anopheles gambiae* From Cameroon. *American Journal of Tropical Medicine and Hygiene* 74:795-797.
- Etang, J., L. Manga, F. Chandre, P. Guillet, E. Fondjo, R. Mimpfoundi, J. C. Toto, and D. Fontenille. 2003. Insecticide susceptibility status of *Anopheles gambiae* s.l. (Diptera: Culicidae) in the Republic of Cameroon. *J Med Entomol* 40:491-497.
- Faye, O., D. Fontenille, O. Gaye, N. Sy, J. F. Molez, L. Konate, G. Hebrard, J. P. Herve, J. Trouillet, S. Diallo, and et al. 1995. [Malaria and rice growing in the Senegal River delta (Senegal)]. *Annales de la Societe belge de medicine tropicale* 75:179-189.
- Faye, O., D. Fontenille, J. P. Herve, P. A. Diack, S. Diallo, and J. Mouchet. 1993. [Malaria in the Saharan region of Senegal. 1. Entomological transmission findings]. *Annales de la Societe belge de medicine tropicale* 73:21-30.
- Faye, O., O. Gaye, J. P. Herve, P. A. Diack, and S. Diallo. 1993. [Malaria in the Saharan region of Senegal. 2. Parasitological indices]. *Annales de la Societe belge de medicine tropicale* 73:31-36.
- Feachem, R. 2004. The research imperative: fighting AIDS, TB, and malaria. *Tropical Medicine & International Health* 9:1139-1141.
- Fenwick, A., D. Rollinson, and V. Southgate. 2006. Implementation of human schistosomiasis control: challenges and prospects. *Advances in Parasitology* 61:567-622.
- Fillinger, U., B. Ndenga, A. Githeko, and S. W. Lindsay. 2009. Integrated malaria vector control with microbial larvicides and insecticide-treated nets in western Kenya: a controlled trial. *Bull World Health Organ* 87:655-665.
- Fixsen, D., S. Naoom, K. Blase, R. Friedman, and F. Wallace. 2005. Implementation research: a synthesis of the literature. Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network, University of South Florida, Tampa, FL.
- Forattini, O. P., I. Kakitani, E. Massad, and D. Marucci. 1993. Studies on mosquitoes (Diptera: Culicidae) and anthropic environment. 2. Immature stages research at a rice irrigation system location in south-eastern Brazil. *Revista de Saude Publica* 27:227-236.

Forattini, O. P., I. Kakitani, E. Massad, and D. Marucci. 1993. Studies on mosquitoes (Diptera: Culicidae) and anthropic environment. 3--Survey of adult stages at the rice irrigation system and the emergence of *Anopheles albitarsis* in south-eastern, Brazil. *Revista de Saude Publica* 27:313-325.

Fowler, V. G., M. Lemnge, S. G. Irare, E. Malecela, J. Mhina, S. Mtui, M. Mashaka, and R. Mtoi. 1993. Efficacy of chloroquine on *Plasmodium falciparum* transmitted at Amani, eastern Usambara Mountains, north-east Tanzania: an area where malaria has recently become endemic. *Journal of Tropical Medicine and Hygiene* 96:337-345.

Fraser-Hurt, N., I. Felger, D. Etoh, S. Steiger, M. Mashaka, H. Masanja, T. Smith, F. Mbena, and H. P. Beck. 1999. Effect of insecticide-treated bed nets on haemoglobin values, prevalence and multiplicity of infection with *Plasmodium falciparum* in a randomized controlled trial in Tanzania. *Trans R Soc Trop Med Hyg* 93 Suppl 1:47-51.

Fraser-Hurt, N., I. Felger, D. Etoh, S. Steiger, M. Mashaka, H. Masanja, T. Smith, F. Mbena, and H. P. Beck. 1999. The epidemiology of multiple *Plasmodium falciparum* infections - 9. Effect of insecticide-treated bed nets on haemoglobin values, prevalence and multiplicity of infection with *Plasmodium falciparum* in a randomized controlled trial in Tanzania. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 93:S47-S51.

Gallup, J. L., and J. D. Sachs. 2001. The economic burden of malaria. *American Journal of Tropical Medicine and Hygiene* 64:85-96.

Ghebreyesus, T. A., M. Haile, A. Getachew, T. Alemayehu, K. H. Witten, A. Medhin, M. Yohannes, Y. Asgedom, Y. Ye-ebiyo, S. W. Lindsay, and P. Byass. 1998. Pilot studies on the possible effects on malaria of small-scale irrigation dams in Tigray regional state, Ethiopia. *Journal of Public Health Medicine* 20:238-240.

Ghebreyesus, T. A., M. Haile, K. H. Witten, A. Getachew, A. M. Yohannes, M. Yohannes, H. D. Teklehaimanot, S. W. Lindsay, and P. Byass. 1999. Incidence of malaria among children living near dams in northern Ethiopia: community based incidence survey. *British Medical Journal* 319:663-666.

Gilles, H. M., and D. A. Warrell *Essential malariology*. London ; New York : Arnold, 2002.

Gimnig, J. E., M. S. Kolczak, A. W. Hightower, J. M. Vulule, E. Schoute, L. Kamau, P. A. Phillips-Howard, F. O. Ter Kuile, B. L. Nahlen, and W. A. Hawley. 2003. Effect of permethrin-treated bed nets on the spatial distribution of malaria vectors in western Kenya. Pages 115-120.

Ginsberg, H. S. 2001. Integrated pest management and allocation of control efforts for vector-borne diseases. *Journal of Vector Ecology* 26:32-38.

Githeko, A. K. 2001. Predicting Malaria Epidemics in the Kenyan Highlands Using Climate Data: A Tool for Decision Makers. *Global change & human health* 2:54.

Githeko, A. K., M. W. Service, C. M. Mbogo, and F. K. Atieli. 1996. Resting behaviour, ecology and genetics of malaria vectors in large scale agricultural areas of Western Kenya. *Parassitologia* 38:481-489.

Githeko, A. K., M. W. Service, C. M. Mbogo, F. K. Atieli, and F. O. Juma. 1993. Plasmodium falciparum sporozoite and entomological inoculation rates at the Ahero rice irrigation scheme and the Miwani sugar-belt in western Kenya. *Annals of Tropical Medicine and Parasitology* 87:379-391.

Global Health Council. 2003. Reducing malaria's burden: evidence of effectiveness for decision makers in C. Murphy, K. Ringheim, S. Woldehanna, and J. Volmink, editors. Global Health Council.

Goodman, C., P. G. Coleman, and A. Mills. 2000. Economic analysis of malaria control in sub-Saharan Africa. Global Forum for Health Research.

Goodman, C. A., P. G. Coleman, and A. J. Mills. 1999. Cost-effectiveness of malaria control in sub-Saharan Africa. *Lancet* 354:378-385.

Goodman, C. A., and A. J. Mills. 1999. The evidence base on the cost-effectiveness of malaria control measures in Africa. *Health Policy and Planning* 14:301-312.

Goodman, C. A., A. E. P. Mnzava, S. S. Dlamini, B. L. Sharp, D. J. Mthembu, and J. K. Gumede. 2001. Comparison of the cost and cost-effectiveness of insecticide-treated bednets and residual house-spraying in KwaZulu-Natal, South Africa. *Tropical Medicine and International Health* 6:280-295.

Gould, F., K. Magori, and Y. Huang. 2006. Genetic Strategies for Controlling Mosquito-Borne Diseases. *American Scientist* 94.

Graham, J. D., and J. B. Wiener 1995. Risk vs. Risk: Tradeoffs in protecting health and the environment. Harvard University Press, Cambridge, MA.

Gratz, N. G. 1999. Emerging and resurging vector-borne diseases. *Annual Review of Entomology* 44:51-75.

Greene, C. R., R. A. Kramer, G. W. Norton, E. G. Rajotte, and R. M. Mcpherson. 1985. An economic-analysis of soybean integrated pest-management. *American Journal of Agricultural Economics* 67:567-572.

Gregory, R., B. Fischhoff, and T. McDaniels. 2005. Acceptable input: using decision analysis to guide public policy deliberations. *Decision Analysis* 2:4-16.

Grigorian, G., and L. Solkhomonian. 2001. Armenia: implementation of national program of malaria control. *Meditinskaiia Parazitologiia i Parazitarnye Bolezni*:21-24.

Grillet, M. E. 2000. Factors associated with distribution of Anopheles aquasalis and Anopheles oswaldoi (Diptera: Culicidae) in a malarious area, northeastern Venezuela. *Journal of Medical Entomology* 37:231-238.

Gu, W., and R. J. Novak. 2009. Predicting the impact of insecticide-treated bed nets on malaria transmission: the devil is in the detail. *Malar J* 8:256.

Gu, W. D., and R. J. Novak. 2005. Habitat-based modeling of impacts of mosquito larval interventions on entomological inoculation rates, incidence, and prevalence of malaria. *American Journal of Tropical Medicine and Hygiene* 73:546-552.

- Gu, W. D., and R. J. Novak. 2006. Habitat targeting for controlling aquatic stages of malaria vectors in Africa - Reply. *American Journal of Tropical Medicine and Hygiene* 74:519-520.
- Gubler, D. J. 1998. Resurgent vector-borne diseases as a global health problem. *Emerging Infectious Diseases* 4:442-450.
- Guerin, P. J., P. Olliaro, F. Nosten, P. Druilhe, R. Laxminarayan, F. Binka, W. L. Kilama, N. Ford, and N. J. White. 2002. Malaria: current status of control, diagnosis, treatment, and a proposed agenda for research and development. *Lancet Infectious Diseases* 2:564-573.
- Guillet, P., D. Alnwick, M. K. Cham, M. Neira, M. Zaim, D. Heymann, and K. Mukelabai. 2001. Long-lasting treated mosquito nets: a breakthrough in malaria prevention. *Bulletin of the World Health Organization* 79:998-998.
- Guimarães, R. M., C. I. R. F. Asmus, and A. Meyer. 2007. DDT reintroduction for malaria control: the cost-benefit debate for public health. *Cadernos de saúde pública* 23:2835-2844.
- Guthmann, J. P., A. Llanos-Cuentas, A. Palacios, and A. J. Hall. 2002. Environmental factors as determinants of malaria risk. A descriptive study on the northern coast of Peru. *Tropical Medicine and International Health* 7:518-525.
- Guyatt, H. L., S. K. Corlett, T. P. Robinson, S. A. Ochola, and R. W. Snow. 2002. Malaria prevention in highland Kenya: indoor residual house-spraying vs. insecticide-treated bednets. *Tropical Medicine and International Health* 7:298-303.
- Guyatt, H. L., J. Kinnear, M. Burini, and R. W. Snow. 2002. A comparative cost analysis of insecticide-treated nets and indoor residual spraying in highland Kenya. *Health Policy and Planning* 17:144-153.
- Habbani, K., W. Groot, and I. Jelovac. 2006. Household health-seeking behaviour in Khartoum, Sudan: The willingness to pay for public health services if these services are of good quality. *Health Policy* 75:140-158.
- Haines, A., S. Kuruvilla, and M. Borchert. 2004. Bridging the implementation gap between knowledge and action for health. *Bulletin of the World Health Organization* 82:724-733.
- Hamel, M. J., A. Odhacha, and J. M. Roberts. 2001. Malaria control in Bungoma District, Kenya: A survey of home treatment of children with fever, bednet use and attendance at antenatal clinics. *Bulletin of the World Health Organization* 79:1014-1023.
- Hancock, P. A. 2009. Combining fungal biopesticides and insecticide-treated bednets to enhance malaria control. *PLoS Comput Biol* 5:e1000525.
- Hansen, S., J. O. Odland, D. T. Phi, E. Nieboer, and T. M. Sandanger. 2009. Maternal levels of organochlorines in two communities in southern Vietnam. *Sci Total Environ* 408:225-232.
- Hanson, K. 2004. Public and private roles in malaria control: The contributions of economic analysis. *American Journal of Tropical Medicine and Hygiene* 71:168-173.

- Hanson, K., C. Goodman, J. Lines, S. Meek, D. Bradley, and A. Mills. 2000. The Economics of Malaria Control . Unpublished manuscript.
- Haque, U., S. M. Ahmed, S. Hossain, M. Huda, A. Hossain, M. S. Alam, D. Mondal, W. A. Khan, M. Khalequzzaman, and R. Haque. 2009. Malaria prevalence in endemic districts of Bangladesh. *PLoS ONE* 4:e6737.
- Hawley, W. A., P. A. Phillips-Howard, F. O. ter Kuile, D. J. Terlouw, J. M. Vulule, M. Ombok, B. L. Nahlen, J. E. Gimnig, S. K. Kariuki, M. S. Kolczak, and A. W. Hightower. 2003. Community-wide effects of permethrin-treated bed nets on child mortality and malaria morbidity in western Kenya. *American Journal of Tropical Medicine and Hygiene* 68:121-127.
- Hawley, W. A., F. O. ter Kuile, R. S. Steketee, B. L. Nahlen, D. J. Terlouw, J. E. Gimnig, Y. P. Shi, J. M. Vulule, J. A. Alaii, A. W. Hightower, M. S. Kolczak, S. K. Kariuki, and P. A. Phillips-Howard. 2003. Implications of the western Kenya permethrin-treated bed net study for policy, program implementation, and future research. *American Journal of Tropical Medicine and Hygiene* 68:168-173.
- Hay, S. I., C. A. Guerra, A. J. Tatem, P. M. Atkinson, and R. W. Snow. 2005. Urbanization, malaria transmission and disease burden in Africa. *Nature Reviews Microbiology* 3:81-90.
- Heggenhougen, H. K. 2003. Social, political, economic, and inequality issues related to malaria resurgence and inequalities of access to treatment and prevention of malaria. Boston University School of Public Health, Department of International Health.
- Heggenhougen, H. K., V. Hackethal, and P. Vivek. 2003. The behavioural and social aspects of malaria and its control. UNDP/World Bank/WHO: Special Programme for Research and Training in Tropical Diseases (TDR).
- Hemingway, J., and Hemingway. 2006. The Innovative Vector Control Consortium: improved control of mosquito-borne diseases. *Trends in parasitology* 22:308.
- Henry, M.-C., S.-B. Assi, C. Rogier, J. Dossou-Yovo, F. Chandre, P. Guillet, and P. Carnevale. 2005. Protective efficacy of lambda-cyhalothrin treated nets in anopheles gambiae pyrethroid resistance areas of Cote d'Ivoire. *Am J Trop Med Hyg* 73:859-864.
- Herrel, N., F. P. Amerasinghe, J. Ensink, M. Mukhtar, W. van der Hoek, and F. Konradsen. 2001. Breeding of Anopheles mosquitoes in irrigated areas of South Punjab, Pakistan. *Medical and Veterinary Entomology* 15:236-248.
- Herrel, N., F. P. Amerasinghe, J. Ensink, M. Mukhtar, W. van der Hoek, and F. Konradsen. 2004. Adult anopheline ecology and malaria transmission in irrigated areas of South Punjab, Pakistan. *Medical and Veterinary Entomology* 18:141-152.
- Himeidan, Y. E., M. I. Elbashir, A. El-Rayah el, and I. Adam. 2005. Epidemiology of malaria in New Halfa, an irrigated area in eastern Sudan. *East Mediterr Health J* 11:499-504.
- Hogg, J. C. 1997. The effects of natural Plasmodium falciparum infection on the fecundity and mortality of Anopheles gambiae sl in north east Tanzania. *Parasitology* 114:325.

- Hollingsworth, C. S., and W. M. Coli. 2001. IPM adoption in northeastern U.S.: an examination of the IPM continuum. *American Journal of Alternative Agriculture* 16:177-184.
- Hougard, J., S. Duchon, F. Darriet, M. Zaim, C. Rogier, and P. Guillet. 2003. Comparative performances, under laboratory conditions, of seven pyrethroid insecticides used for impregnation of mosquito nets. *Bulletin of the World Health Organization* 81:324-324.
- Hougard, J. M., V. Corbel, R. N'Guessan, F. Darriet, F. Chandre, M. Akogbéto, T. Baldet, P. Guillet, P. Carnevale, and M. Traoré-Lamizana. 2003. Efficacy of mosquito nets treated with insecticide mixtures or mosaics against insecticide resistant *Anopheles gambiae* and *Culex quinquefasciatus* (Diptera: Culicidae) in Côte d'Ivoire. Pages 491-498. Cambridge Journals Online.
- Hougard, J. M., T. Martin, P. F. Guillet, M. Coosemans, T. Itoh, M. Akogbetto, and F. Chandre. 2007. Preliminary field testing of a long-lasting insecticide-treated hammock against *Anopheles gambiae* and *Mansonia* spp. (Diptera : Culicidae) in West Africa. *Journal of Medical Entomology* 44:651-655.
- Howard, S. C., J. Omumbo, C. Nevill, E. S. Some, C. A. Donnelly, and R. W. Snow. 2000. Evidence for a mass community effect of insecticide-treated bednets on the incidence of malaria on the Kenyan coast. *Trans R Soc Trop Med Hyg* 94:357-360.
- Hu, D. J., W. L. Heyward, R. H. Byers, B. M. Nkowane, M. J. Oxtoby, S. E. Holck, and D. L. Heymann. 1992. HIV-infection and breast-feeding - policy Implications through a decision-analysis model. *Aids* 6:1505-1513.
- Hughes, C. C., and J. M. Hunter. 1970. Disease and "development" in Africa. *Social Science Medicine* 3:443-493.
- Hunter, J. M., L. Rey, and D. Scott. 1982. Man-made lakes and man-made diseases: towards a policy resolution. *Social Science Medicine* 16:1127-1145.
- Ijumba, J. N., and S. W. Lindsay. 2001. Impact of irrigation on malaria in Africa: paddies paradox. *Medical and Veterinary Entomology* 15:1-11.
- Ijumba, J. N., F. W. Mosha, and S. W. Lindsay. 2002. Malaria transmission risk variations derived from different agricultural practices in an irrigated area of northern Tanzania. *Medical and Veterinary Entomology* 16:28-38.
- Ijumba, J. N., R. W. Mwangi, and J. C. Beier. 1990. Malaria transmission potential of *Anopheles* mosquitoes in the Mwea-Tebere irrigation scheme, Kenya. *Medical and Veterinary Entomology* 4:425-432.
- Ijumba, J. N., F. C. Shenton, S. E. Clarke, F. W. Mosha, and S. W. Lindsay. 2002. Irrigated crop production is associated with less malaria than traditional agricultural practices in Tanzania. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 96:476-480.
- Jakeman, A. J., R. A. Letcher, and J. P. Norton. 2006. Ten iterative steps in development and evaluation of environmental models. *Environmental Modeling & Software* 21:602-614.
- Jensen, T. P., H. Bukirwa, D. Njama-Meya, D. Francis, M. R. Kanya, P. J. Rosenthal, and G. Dorsey. 2009. Use of the slide positivity rate to estimate changes in malaria incidence in a cohort of Ugandan children. *Malar J* 8:213.

- Jimoh, A., O. Sofola, A. Petu, and T. Okorosobo. 2007. Quantifying the economic burden of malaria in Nigeria using the willingness to pay approach. *BioMed Central*.
- Joshi, V., R. C. Sharma, M. Singhi, H. Singh, K. Sharma, Y. Sharma, and S. Adha. 2005. Entomological studies on malaria in irrigated and non-irrigated areas of Thar desert, Rajasthan, India. *Journal of Vector Borne Diseases* 42:25-29.
- Jotkar, R., P. Ambhurkar, and R. Mugade. 1997. Malariometry in district Ratnagiri during 1988-1993. *Indian Journal of Public Health* 41:36-42.
- Jowett, M., and N. J. Miller. 2005. The financial burden of malaria in Tanzania: Implications for future government policy. *International Journal of Health Planning and Management* 20:67-84.
- Julvez, J. 1992. Specifics of the epidemiology of urinary schistosomiasis in Mauritius. *Bulletin de la Societe de Pathologie Exotique* 85:285-291.
- Julvez, J., J. Mouchet, J. Suzzoni, G. Larrouy, A. Fouta, and D. Fontenille. 1998. The Anopheles of Niger. *Bulletin de la Societe de Pathologie Exotique* 91:321-326.
- Kachur, S. P., R. A. Khatib, E. Kaizer, S. S. Fox, S. M. Abdulla, and P. B. Bloland. 2004. Adherence to antimalarial combination therapy with sulfadoxine-pyrimethamine and artesunate in rural Tanzania. *American Journal of Tropical Medicine and Hygiene* 71:715-722.
- Kamau, L., and J. M. Vulule. 2006. Status of insecticide susceptibility in *Anopheles arabiensis* from Mwea rice irrigation scheme, Central Kenya. *Malar Journal* 5:46.
- Kamolratanakul, P., P. Butraporn, M. Prasittisuk, C. Prasittisuk, and K. Indaratna. 2001. Cost-effectiveness and sustainability of lambda-cyhalothrin-treated mosquito nets in comparison to DDT spraying for malaria control in western Thailand. *American Journal of Tropical Medicine and Hygiene* 65:279-284.
- Kamya, M. R., N. N. Bakyaite, A. O. Talisuna, W. M. Were, and S. G. Staedke. 2002. Increasing antimalarial drug resistance in Uganda and revision of the national drug policy. *Tropical Medicine and International Health* 7:1031-1041.
- Kamya, M. R., A. F. Gasasira, J. Achan, T. Mebrahtu, T. Ruel, A. Kekitiinwa, E. D. Charlebois, P. J. Rosenthal, D. Havlir, and G. Dorsey. 2007. Effects of trimethoprim-sulfamethoxazole and insecticide-treated bednets on malaria among HIV-infected Ugandan children. *Aids* 21:2059-2066.
- Kaneko, A. 1998. [Malaria on the global agenda: control and chemotherapy of malaria in Vanuatu]. *Rinsho Byori* 46:637-644.
- Kates, R. W., W. C. Clark, R. Corell, J. M. Hall, C. C. Jaeger, I. Lowe, J. J. McCarthy, H. J. Schellnhuber, B. Bolin, N. M. Dickson, S. Faucheux, G. C. Gallopin, A. Grubler, B. Huntley, J. Jager, N. S. Jodha, R. E. Kasperson, A. Mabogunje, P. Matson, H. Mooney, B. Moore, T. O'Riordan, and U. Svedin. 2001. Environment and development - Sustainability science. *Science* 292:641-642.

- Kawaguchi, I., A. Sasaki, and M. Mogi. 2004. Combining zooprophylaxis and insecticide spraying: a malaria-control strategy limiting the development of insecticide resistance in vector mosquitoes. *Proceedings of the Royal Society of London* 271:301-309.
- Kazembe, L. N., I. Kleinschmidt, T. H. Holtz, and B. L. Sharp. 2006. Spatial analysis and mapping of malaria risk in Malawi using point-referenced prevalence of infection data. *International Journal of Health Geographics* 5:41.
- Keefer, D. L., C. W. Kirkwood, and J. L. Corner. 2004. Perspective on decision analysis applications, 1990-2001. *Decision Analysis* 1:4-22.
- Keeney, R. L., J. S. Hammond, and H. Raiffa 1999. *Smart Choices: A Practical Guide to Making Better Decisions*. Harvard Business School Press.
- Keiser, J., M. C. De Castro, M. F. Maltese, R. Bos, M. Tanner, B. H. Singer, and J. Utzinger. 2005. Effect of irrigation and large dams on the burden of malaria on a global and regional scale. *American Journal of Tropical Medicine and Hygiene* 72:392-406.
- Keiser, J., B. H. Singer, and J. Utzinger. 2005. Reducing the burden of malaria in different eco-epidemiological settings with environmental management: a systematic review. *Lancet Infectious Diseases* 5:695-708.
- Keiser, J., J. Utzinger, and B. H. Singer. 2002. The potential of intermittent irrigation for increasing rice yields, lowering water consumption, reducing methane emissions, and controlling malaria in African rice fields. *Journal of the American Mosquito Control Association* 18:329-340.
- Kenyan Ministry of Health. 1994. Epidemiology of malaria in Kenya. *African Journal of Medical Practice* 1:5-6.
- Khatib, R., G. Killeen, S. Abdulla, E. Kahigwa, P. McElroy, R. Gerrets, H. Mshinda, A. Mwitwa, and S. P. Kachur. 2008. Markets, voucher subsidies and free nets combine to achieve high bed net coverage in rural Tanzania. Page 98.
- Kihamia, C. M., and H. S. Gill. 1982. Chloroquine-resistant *Falciparum*: malaria in semi-immune Native African Tanzanians. *Lancet* 2:43-43.
- Kikumbih, N., K. Hanson, A. Mills, H. Mponda, and J. A. Schellenberg. 2005. The economics of social marketing: the case of mosquito nets in Tanzania. *Social Science Medicine* 60:369-381.
- Kilama, W. L. 2009. Health research ethics in public health: trials and implementation of malaria mosquito control strategies. *Acta Trop* 112 Suppl 1:S37-47.
- Kilian, E. 2007. Simultaneous exposure to low concentrations of dichlorodiphenyltrichloroethane, deltamethrin, nonylphenol and phytoestrogens has negative effects on the reproductive parameters in male Sprague-Dawley rats. *Andrologia* 39:128.
- Kilian, E., R. Delport, M. S. Bornman, and C. De Jager. 2007. Simultaneous exposure to low concentrations of dichlorodiphenyltrichloroethane, deltamethrin, nonylphenol and phytoestrogens has negative effects on the reproductive parameters in male Sprague-Dawley rats. *Andrologia* 39:128-135.

- Killeen, G., U. Fillinger, I. Kiche, L. C. Gouagna, and B. G. Knols. 2002. Eradication of *Anopheles gambiae* from Brazil: lessons for malaria control in Africa? *Lancet Infect Dis* 2:618-627.
- Killeen, G., J. Kihonda, E. Lyimo, F. Oketch, M. Kotas, E. Mathenge, J. Schellenberg, C. Lengeler, T. Smith, and C. Drakeley. 2006. Quantifying behavioural interactions between humans and mosquitoes: Evaluating the protective efficacy of insecticidal nets against malaria transmission in rural Tanzania. Page 161.
- Killeen, G. F., F. E. McKenzie, B. D. Foy, C. Bøgh, and J. C. Beier. 2001. The availability of potential hosts as a determinant of feeding behaviours and malaria transmission by African mosquito populations. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 95:469-476.
- Killeen, G. F., F. E. McKenzie, B. D. Foy, C. Schieffelin, P. F. Billingsley, and J. C. Beier. 2000. A simplified model for predicting malaria entomologic inoculation rates based on entomologic and parasitologic parameters relevant to control. *American Journal of Tropical Medicine and Hygiene* 62:535-544.
- Killeen, G. F., T. A. Smith, H. M. Ferguson, H. Mshinda, S. Abdulla, C. Lengeler, and S. P. Kachur. 2007. Preventing Childhood Malaria in Africa by Protecting Adults from Mosquitoes with Insecticide-Treated Nets. Page e229.
- Kitua, A. Y., L. E. G. Mboera, C. A. Maxwell, and C. F. Curtis. 2008. The Untapped Potential of Bednets. *Science* 319.
- Klanova, J., P. Cupr, I. Holoubek, J. Boruvkova, P. Pribylova, R. Kares, T. Tomsej, and T. Ocelka. 2009. Monitoring of persistent organic pollutants in Africa. Part 1: passive air sampling across the continent in 2008. *J Environ Monit* 11:1952-1963.
- Kleinschmidt, I., B. Sharp, L. E. Benavente, C. Schwabe, M. Torrez, J. Kuklinski, N. Morris, J. Raman, and J. Carter. 2006. Reduction in infection with *Plasmodium falciparum* one year after the introduction of malaria control interventions on Bioko Island, Equatorial Guinea. *American Journal of Tropical Medicine and Hygiene* 74:972-978.
- Kleinschmidt, I., M. Torrez, C. Schwabe, L. Benavente, I. Seocharan, D. Jituboh, G. Nseng, and B. Sharp. 2007. Factors influencing the effectiveness of malaria control in Bioko Island, equatorial Guinea. *American Journal of Tropical Medicine and Hygiene* 76:1027-1032.
- Klinkenberg, E., F. Konradsen, N. Herrel, M. Mukhtar, W. van der Hoek, and F. P. Amerasinghe. 2004. Malaria vectors in the changing environment of the southern Punjab, Pakistan. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 98:442-449.
- Klinkenberg, E., W. Takken, F. Huibers, and Y. T. Toure. 2003. The phenology of malaria mosquitoes in irrigated rice fields in Mali. *Acta Tropica* 85:71-82.
- Klinkenberg, E., W. van der Hoek, and F. P. Amerasinghe. 2004. A malaria risk analysis in an irrigated area in Sri Lanka. *Acta Tropica* 89:215-225.
- Kochar, D., B. L. Kumawat, S. Karan, S. K. Kochar, and R. P. Agarwal. 1997. Severe and complicated malaria in Bikaner (Rajasthan), western India. *Southeast Asian Journal of Tropical Medicine and Public Health* 28:259-267.

- Kochi, I., B. Hubbel, and R. Kramer. 2006. An Empirical Bayes Approach to Combining and Comparing Estimates of the Value of a Statistical Life for Environmental Policy Analysis. *Environmental and Resource Economics* 34:385-406.
- Koella, J. C., and R. Antia. 2003. Epidemiological models for the spread of anti-malarial resistance. *Malaria Journal* 2.
- Koenraadt, C. J. M., K. P. Paaijmans, P. Schneider, A. K. Githeko, and W. Takken. 2006. Low larval vector survival explains unstable malaria in the western Kenya highlands. *Tropical Medicine & International Health* 11:1195-1205.
- Konate, L., O. Faye, O. Gaye, N. Sy, A. Diop, M. Diouf, J. F. Trape, and J. F. Molez. 1999. Zoophagia and alternative host selection of the malaria vectors in Senegal. *Parasite* 6:259-267.
- Konradsen, F., Y. Matsuno, F. P. Amerasinghe, P. H. Amerasinghe, and W. van der Hoek. 1998. Anopheles culicifacies breeding in Sri Lanka and options for control through water management. *Acta Tropica* 71:131-138.
- Konradsen, F., K. A. Stobberup, S. K. Sharma, O. T. Gulati, and W. van der Hoek. 1998. Irrigation water releases and Anopheles culicifacies abundance in Gujarat, India. *Acta Tropica* 71:195-197.
- Koram, K. A., S. Bennett, J. H. Adiamah, and B. M. Greenwood. 1995. Socioeconomic Determinants Are Not Major Risk-Factors for Severe Malaria in Gambian Children. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 89:151-154.
- Koram, K. A., S. Bennett, J. H. Adiamah, and B. M. Greenwood. 1995. Socioeconomic Risk-Factors for Malaria in a Periurban Area of the Gambia. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 89:146-150.
- Kramer, R. A., K. L. Dickinson, R. M. Anderson, V. G. Fowler, M. L. Miranda, C. M. Mutero, K. A. Saterson, and J. B. Wiener. 2009. Using decision analysis to improve malaria control policy making. *Health Policy* 92:133-140.
- Kremer, M. 2003. The Contribution of Recent Innovations in Data Collection to Development Economics. *AEA Papers and Proceedings* 93.
- Kroeger, A., O. Skovmand, Q. C. Phan, and D. T. Boewono. 2004. Combined field and laboratory evaluation of a long-term impregnated bednet, PermaNet®. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 98:152-155.
- Lacey, L. A., and C. M. Lacey. 1990. The medical importance of riceland mosquitoes and their control using alternatives to chemical insecticides. *Journal of the American Mosquito Control Association*. Supplement 2:1-93.
- Lacroix, R., W. R. Mukabana, L. C. Gouagna, and J. C. Koella. 2005. Malaria infection increases attractiveness of humans to mosquitoes. *PLoS Biology* 3:1590-1593.
- Lal, A. A. 2001. Anti-mosquito midgut antibodies block development of Plasmodium falciparum and Plasmodium vivax in multiple species of Anopheles mosquitoes and reduce vector fecundity and survivorship. *Proceedings of the National Academy of Sciences of the United States of America* 98:5228.

- Laventure, S., J. Mouchet, S. Blanchy, L. Marrama, P. Rabarison, L. Andrianaivolambo, E. Rajaonarivelo, I. Rakotoarivony, and J. Roux. 1996. [Rice: source of life and death on the plateaux of Madagascar]. *Sante* 6:79-86.
- Laxminarayan, R. 2003. *Battling Resistance to Antibiotics and Pesticides: An Economic Approach*. Resources for the Future, Washington, D.C.
- Laxminarayan, R. 2004. Act now or later? Economics of malaria resistance. *American Journal of Tropical Medicine and Hygiene* 71:187-195.
- Laxminarayan, R. 2004. Does reducing malaria improve household living standards? *Tropical Medicine & International Health* 9:267-272.
- Laxminarayan, R., and G. M. Brown. 2001. Economies of antibiotic resistance: a theory of optimal use. *Journal of Environmental Economics and Management* 42:183-206.
- Laxminarayan, R., M. Over, and D. L. Smith. 2006. Will a global subsidy of new antimalarials delay the emergence of resistance and save lives? *Health Affairs* 25:325-336.
- Laxminarayan, R., and M. L. Weitzman. 2002. On the implications of endogenous resistance to medications. *Journal of Health Economics* 21:709-718.
- LeFebvre, T. J., M. Mathewson, T. Hansen, and T. Dankers. 2003. The Rapid Prototype Project. 19th International Conference on Interactive Information and Processing Systems for Meteorology. American Meteorological Society, Long Beach, CA.
- Lengeler, C. 2000. Insecticide-treated bednets and curtains for preventing malaria. *Cochrane database of Systematic Reviews*:CD000363.
- Leonardo, L. R., P. T. Rivera, B. A. Crisostomo, J. N. Sarol, N. C. Bantayan, W. U. Tiu, and N. R. Bergquist. 2005. A study of the environmental determinants of malaria and schistosomiasis in the Philippines using Remote Sensing and Geographic Information Systems. *Parassitologia* 47:105-114.
- Lepes, T. 1974. Present status of the global malaria eradication programme and prospects for the future. *Journal of Tropical Medicine and Hygiene* 77:s:47-53.
- Lindblade, K. A., E. Dotson, W. A. Hawley, N. Bayoh, J. Williamson, D. Mount, G. Olang, J. Vulule, L. Slutsker, and J. Gimnig. 2005. Evaluation. *Tropical Medicine & International Health* 10:1141-1150.
- Lindblade, K. A., E. D. Walker, A. W. Onapa, J. Katungu, and M. L. Wilson. 2000. Land use change alters malaria transmission parameters by modifying temperature in a highland area of Uganda. *Tropical Medicine & International Health* 5:263-274.
- Lindsay, S. W., J. R. Armstrong Schellenberg, H. A. Zeiler, R. J. Daly, F. M. Salum, and H. A. Wilkins. 1995. Exposure of Gambian children to *Anopheles gambiae* malaria vectors in an irrigated rice production area. *Medical and Veterinary Entomology* 9:50-58.

- Lindsay, S. W., P. M. Emerson, and J. D. Charlwood. 2002. Reducing malaria by mosquito-proofing houses. *Trends in Parasitology* 18:510-514.
- Lindsay, S. W., and W. J. Martens. 1998. Malaria in the African highlands: past, present and future. *Bull World Health Organ* 76:33-45.
- Lindsay, S. W., H. A. Wilkins, H. A. Zieler, R. J. Daly, V. Petrarca, and P. Byass. 1991. Ability of *Anopheles gambiae* mosquitoes to transmit malaria during the dry and wet seasons in an area of irrigated rice cultivation in The Gambia. *The Journal of Tropical Medicine and Hygiene* 94:313-324.
- Lindsey, S. W., and M. Birley. 2004. Rural development and malaria control in sub-Saharan Africa. *EcoHealth* 1:129-137.
- Lindtjorn, B. 1991. [Environment in the Third World]. *Tidsskrift for den Norske laegeforening* 111:1633-1635.
- Lines, J., C. Lengeler, K. Cham, D. de Savigny, J. Chimumbwa, P. Langi, D. Carroll, A. Mills, K. Hanson, J. Webster, M. Lynch, W. Addington, J. Hill, M. Rowland, E. Worrall, M. MacDonald, and A. Kilian. 2003. Scaling-up and sustaining insecticide-treated net coverage. *Lancet Infect Dis* 3:465-466.
- Liroff, R. 2000. Commentary: Reduction and elimination of DDT should proceed slowly. *British Medical Journal* 321:1404-1405.
- Liroff, R. A. 2001. DDT risk assessments: Response. *Environmental Health Perspectives* 109:A302-a303.
- Loch, K., and G. Howard. 1994. Water-related vector-borne diseases. *Africa Health* 16:14-17.
- Longnecker, M. P. 2005. Why DDT matters now. *American Journal of Epidemiology* 162:726-728.
- Longnecker, M. P., W. J. Rogan, and G. Lucier. 1997. The human health effects of DDT (dichlorodiphenyl-trichloroethane) and PCBS (polychlorinated biphenyls) and an overview of organochlorines in public health. *Annual Review of Public Health* 18:211-244.
- Lubanga, R. G. N. 1997. Maternal diagnosis and treatment of children's fever in an endemic malaria zone of Uganda: implications for the malaria control programme. *Acta Tropica* 68:53.
- Lubell, Y., H. Hopkins, C. J. M. Whitty, S. G. Staedke, and A. Mills. 2008. An interactive model for the assessment of the economic costs and benefits of different rapid diagnostic tests for malaria. *Malaria Journal* 7:1-11.
- Lubell, Y., H. Reyburn, H. Mbakiwa, R. W. Mwangi, S. Chonya, C. J. M. Whitty, and A. Mills. 2008. The impact of response to the results of diagnostic tests for malaria: cost-benefit analysis. *BMJ* 336:202-205.
- Lusingu, J. P. A., L. S. Vestergaard, B. P. Mmbando, C. J. Drakeley, C. Jones, J. Akida, Z. X. Savaeli, A. Y. Kitua, M. M. Lemnge, and T. G. Theander. 2004. Malaria morbidity and immunity among residents of villages with different *Plasmodium falciparum* transmission intensity in North-Eastern Tanzania. *Malaria Journal* 3.
- Lyimo, E. O., and W. Takken. 1993. Effects of adult body size on fecundity and the pre-gravid rate of *Anopheles gambiae* females in Tanzania. *Medical and veterinary entomology* 7:328-332.

- Lysenko, A. J., and I. N. Semashko. 1968. Geography of malaria. A medico-geographic profile of an ancient disease. Pages 25-146 in A. W. Lebedew, editor. *Itogi Nauki: Medicinskaja Geografija*. Academy of Sciences, USSR, Moscow.
- Macdonald, G. 1957. *The epidemiology and control of malaria*. Oxford University Press, New York.
- Macintyre, K., J. Keating, S. Sosler, L. Kibe, C. Mbogo, A. Githeko, and J. Beier. 2002. Examining the determinants of mosquito-avoidance practices in two Kenyan cities. *Malaria Journal* 1:14.
- Madon, T., K. Hofman, L. Kupfer, and R. Glass. 2007. Implementation science. *Science* 318:1728-1729.
- Mahmoud, A. A. 1985. Mosquitofish *Gambusia affinis holbrooki* as a malaria vector control agent in Gezira irrigation canals of the Sudan. *Journal of the American Mosquito Control Association* 1:524-526.
- Makani, J., W. Matuja, E. Liyombo, R. W. Snow, K. Marsh, and D. A. Warrell. 2003. Admission diagnosis of cerebral malaria in adults in an endemic area of Tanzania: implications and clinical description. *QJM* 96:355-362.
- Makundi, E. A., H. M. Malebo, P. Mhame, A. Y. Kitua, and M. Warsame. 2006. Role of traditional healers in the management of severe malaria among children below five years of age: the case of Kilosa and Handeni Districts, Tanzania. *Malaria Journal* 5:1-9.
- Malaria Consortium. 2007. *Artemisinin-Based Combination Therapy (ACT)*.
- Manisha A. Kulkarni, Robert Malima, Frank W. Mosha, Shandala Msangi, Ezra Mrema, Bilali Kabula, Boniface Lawrence, Safari Kinung'hi, John Swilla, William Kisinza, Manfred E. Rau, Jane E. Miller, Joanna Armstrong Schellenberg, Caroline Maxwell, Mark Rowland, Stephen Magesa, Chris Drakeley . 2007. Efficacy of pyrethroid-treated nets against malaria vectors and nuisance-biting mosquitoes in Tanzania in areas with long-term insecticide-treated net use. *Trop Med Int Health* 12(9): 1061-1073.
- Marchant, T., J. A. Schellenberg, T. Edgar, R. Nathan, S. Abdulla, O. Mukasa, H. Mponda, and C. Lengeler. 2002. Socially marketed insecticide-treated nets improve malaria and anaemia in pregnancy in southern Tanzania. *Trop Med Int Health* 7:149-158.
- Markandya, A. 1998. The valuation of health impacts in developing countries. *Planejamento e Politicas Publicas* 18:119-158.
- Marrama, L., R. Jambou, I. Rakotoarivony, J. M. Leong Pock Tsi, J. B. Duchemin, S. Laventure, J. Mouchet, and J. Roux. 2004. Malaria transmission in Southern Madagascar: influence of the environment and hydro-agricultural works in sub-arid and humid regions. Part 1. Entomological investigations. *Acta Tropica* 89:193-203.
- Marsh, K. 1998. Malaria disaster in Africa. *Lancet* 352:924.
- Marsh, K., D. Forster, C. Waruiru, I. Mwangi, M. Winstanley, V. Marsh, C. Newton, P. Winstanley, P. Warn, N. Peshu, G. Pasvol, and R. W. Snow. 1995. Indicators of life-threatening malaria in African children. *The New England Journal of Medicine* 332:1399.
- Marsh, K., and R. W. Snow. 1999. Malaria transmission and morbidity. *Parasitologia* 41:241-246.

- Martens, P., R. S. Kovats, S. Nijhof, P. d. Vries, M. T. J. Livermore, D. J. Bradley, J. Cox, and A. J. McMichael. 1999. Climate change and future populations at risk of malaria. *Global Environmental Change* 9:S89-S107.
- Martens, W. J., L. W. Niessen, J. Rotmans, T. H. Jetten, and A. J. McMichael. 1995. Potential impact of global climate change on malaria risk. *Environmental Health Perspectives* 103:458-464.
- Mathenge, E. M., G. O. Misiani, D. O. Oulo, L. W. Irungu, P. N. Ndegwa, T. A. Smith, G. F. Killeen, and B. G. Knols. 2005. Comparative performance of the Mbita trap, CDC light trap and the human landing catch in the sampling of *Anopheles arabiensis*, *An. funestus* and culicine species in a rice irrigation in western Kenya. *Malaria Journal* 4:7.
- Matuschewski, K., and A. K. Mueller. 2007. Vaccines against malaria - an update. *FEBS Journal* 274:4680-4687.
- Maxwell, C. A., E. Msuya, M. Sudi, K. J. Njunwa, I. A. Carneiro, and C. F. Curtis. 2002. Effect of community-wide use of insecticide-treated nets for 3-4 years on malarial morbidity in Tanzania. *Tropical Medicine & International Health* 7:1003-1008.
- Mboera, L. 1998. Decision analysis in malaria vector control programmes. *Tanzania Health Research Bulletin* 1:18-26.
- Mboera, L. E. G., C. I. Farnello, R. C. Malima, A. Talbert, P. Fogliati, P. Bobbio, and F. Molteni. 2006. Comparison of the Paracheck-Pf test to microscopy for confirmation of the *Plasmodium falciparum* malaria in Tanzania. *Annals of Tropical Medicine and Parasitology* 100:115-122.
- Mboera, L. E. G., A. M. Kilale, R. N. Manumbu, S. P. Kilima, D. J. B. Mwaseba, N. S. Range, and T. Edwin. 2009. Evidence-informed Policy-making and Priority Setting in the United Republic of Tanzania. National Institute for Medical Research, Dar es Salaam, Tanzania.
- Mboera, L. E. G., E. A. Makundi, and A. Y. Kitua. 2007. Uncertainty in Malaria Control Tanzania: Crossroads and Challenges for Future Interventions. *American Journal of Tropical Medicine and Hygiene* 77.
- Mboera, L. E. G., M. R. S. Mlozi, K. P. Senkoro, R. T. Rwegoshora, S. F. Rumisha, S. F. Mayala, E. H. Shayo, E. Senkondo, B. Mutayoba, V. Mwingira, and A. Maerere. 2007. Malaria and Agriculture in Tanzania: Impact of Land-Use and Agricultural Practices on Malaria Burden in Mvomero District in Tanzania National Institute for Medical Research, editor, Dar es Salaam, Tanzania.
- McCarthy, E., M. O'Brien, and W. Rodrigues. 2006. Training and HIV-treatment scale up: establishing an implementation research agenda. *Plos Medicine* 3:989-993.
- McKenzie, F., and E. Samba. 2004. The role of mathematical modeling in evidence-based malaria control. *American Journal of Tropical Medicine and Hygiene* 71:94-96.
- McMichael, A. J. 2004. Environmental and social influences on emerging infectious diseases: past, present and future. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 359:1049-1058.

Medicins Sans Frontieres. April 2003. ACT now to get malaria treatment that works to Africa in D. Berman, editor. Medicins Sans Frontieres

Meltzer, M. I., D. J. Terlouw, M. S. Kolczak, A. Odhacha, F. O. ter Kuile, J. M. Vulule, J. A. Alaii, B. L. Nahlen, W. A. Hawley, and P. A. Phillips-Howard. 2003. The household-level economics of using permethrin-treated bed nets to prevent malaria in children less than five years of age. *American Journal of Tropical Medicine and Hygiene* 68:149-160.

Minja, H., J. A. Schellenberg, O. Mukasa, R. Nathan, S. Abdulla, H. Mponda, M. Tanner, C. Lengeler, and B. Obrist. 2001. Introducing insecticide-treated nets in the Kilombero Valley, Tanzania: the relevance of local knowledge and practice for an Information, Education and Communication (IEC) campaign. *Tropical Medicine & International Health* 6:614-623.

Miranda, M. L., M. Abrams, and M. Arcaya. 2000. Pesticides in the Environment: DDT and Malaria (Unpublished Course Notes). Nicholas School of the Environment, Duke University.

Mlozi, M. R. S., E. H. Shayo, K. P. Senkoro, B. K. Mayala, S. F. Rumisha, B. Mutayoba, E. Senkondo, A. Maerere, and M. L.E.G. 2006. Participatory involvement of farming communities and public sectors in determining malaria control strategies in Mvomero District, Tanzania. *Tanzania Health Research Bulletin* 8:134-140.

Mnzava, A. E. P., B. L. Sharp, D. J. Mthembu, S. S. Diamini, J. K. Gumede, I. Kleinschmidt, and C. Goodman. 2000. Use of insecticide-treated bednets by communities reduces malarai transmission in comparison to house spraying in Kwazulu-Natal. Policy Brief. South African Medical Research Council.

Montalvo, J. G., and M. Reynal-Querol. 2007. Fighting against malaria: Prevent wars while waiting for the "miraculous" vaccine. *Review of Economics and Statistics* 89:165-177.

Morey, E. R., V. R. Sharma, and A. Mills. 2003. Willingness to pay and determinants of choice for improved malaria treatment in rural Nepal. *Social Science & Medicine* 57:155-165.

Morlais, I., N. Poncon, F. Simard, A. Cohuet, and D. Fontenille. 2004. Intraspecific nucleotide variation in *Anopheles gambiae*: New insights into the biology of malaria vectors. *American Journal of Tropical Medicine and Hygiene* 71:795-802.

Morner, J., R. Bos, and M. Fredrix. 2002. Reducing and eliminating the use of persistent organic pollutants: Guidance on alternative strategies for sustainable pest and vector management. UNEP, Geneva.

Mouchet, J., S. Blanchy, A. Rakotonjanabelo, G. Ranaivoson, E. Rajaonarivelo, S. Laventure, M. Rossella, and F. Aknouche. 1993. [Epidemiological stratification of malaria in Madagascar]. *Archives de l'Institut Pasteur de Madagascar* 60:50-59.

Mouchet, J., and J. Brengues. 1990. [Agriculture-health interface in the field of epidemiology of vector-borne diseases and the control of vectors]. *Bulletin de la Societe de Pathologie Exotique* 83:376-393.

Mouchet, J., and P. Carnevale. 1997. [Impact of changes in the environment on vector-transmitted diseases]. *Sante* 7:263-269.

- Muela, S. H., J. M. Ribera, A. K. Mushi, and M. Tanner. 2002. Medical syncretism with reference to malaria in a Tanzanian community. *Social Science & Medicine* 55:403-413.
- Mugittu, K., S. Abdulla, N. Falk, H. Masanja, I. Felger, H. Mshinda, H. P. Beck, and B. Genton. 2005. Efficacy of sulfadoxine-pyrimethamine in Tanzania after two years as first-line drug for uncomplicated malaria: assessment protocol and implication for treatment policy strategies. *Malaria Journal* 4:55.
- Mugittu, K., M. Ndejemi, A. Malisa, M. Lemnge, Z. Premji, A. Mwita, W. Nkya, J. Kataraihya, S. Abdulla, H. P. Beck, and H. Mshinda. 2004. Therapeutic efficacy of sulfadoxine-pyrimethamine and prevalence of resistance markers in tanzania prior to revision of malaria treatment policy: Plasmodium falciparum dihydrofolate reductase and dihydropteroate synthase mutations in monitoring in vivo resistance. *American Journal of Tropical Medicine and Hygiene* 71:696-702.
- Mukhtar, M., N. Herrel, F. P. Amerasinghe, J. Ensink, W. van der Hoek, and F. Konradsen. 2003. Role of wastewater irrigation in mosquito breeding in south Punjab, Pakistan. *The Southeast Asian Journal of Tropical Medicine and Public Health* 34:72-80.
- Mukiama, T. K., and R. W. Mwangi. 1989. Seasonal population changes and malaria transmission potential of Anopheles pharoensis and the minor anophelines in Mwea Irrigation Scheme, Kenya. *Acta Tropica* 46:181-189.
- Mumford, J. D., and G. A. Norton. 1984. Economics of Decision-Making in Pest-Management. *Annual Review of Entomology* 29:157-174.
- Munga, S., N. Minakawa, G. F. Zhou, E. Mushinzimana, O. O. J. Barrack, A. K. Githeko, and G. Y. Yan. 2006. Association between land cover and habitat productivity of malaria vectors in western Kenyan highlands. *American Journal of Tropical Medicine and Hygiene* 74:69-75.
- Murru, M. 2004. Malaria and DDT: myths and facts. *Health Policy and Development* 2:112-121.
- Mushi, A. K., J. R. M. A. Schellenberg, H. Mponda, and C. Lengeler. 2003. Targeted subsidy for malaria control with treated nets using a discount voucher system in Tanzania. *Health Policy and Planning* 18:163-171.
- Mutabingwa, T. K. 2005. Artemisinin-based combination therapies (ACTs): best hope for malaria treatment but inaccessible to the needy! *Acta Tropica* 95:305-315.
- Mutabingwa, T. K., D. Anthony, A. Heller, R. Hallett, J. Ahmed, C. Drakeley, B. M. Greenwood, and C. J. M. Whitty. 2005. Amodiaquine alone, amodiaquine plus sulfadoxine-pyrimethamine, amodiaquine plus artesunate, and artemether-lumefantrine for outpatient treatment of malaria in Tanzanian children: a four-arm randomised effectiveness trial. *Lancet* 365:1474-1480.
- Mutero, C. M., F. Amerasinghe, E. Boelee, F. Konradsen, W. van der Hoek, T. Nevondo, and F. Rijsberman. 2005. Systemwide initiative on malaria and agriculture: an innovative framework for research and capacity building. *EcoHealth* 2:11-16.

- Mutero, C. M., C. Kabutha, V. Kimani, L. Kabuage, G. Gitau, J. Ssenyonga, J. Githure, L. Muthami, A. Kaida, L. Musyoka, E. Kiarie, and M. Oganda. 2004. A transdisciplinary perspective on the links between malaria and agroecosystems in Kenya. *Acta Tropica* 89:171-186.
- Mutero, C. M., C. Kabutha, V. Kimani, L. Kabuage, G. Gitau, J. Ssenyonga, J. Githure, L. Muthami, A. Kaida, L. Musyoka, E. Marie, and M. Oganda. 2004. A transdisciplinary perspective on the links between malaria and agroecosystems in Kenya. *Acta Tropica* 89:171-186.
- Mutero, C. M., F. Mosha, A. Odulaja, B. G. Knols, and R. Bos. 1999. Livestock management and malaria prevention in irrigation schemes. *Parasitol Today* 15:394-395.
- Mutero, C. M., P. N. Ng'ang'a, P. Wekoyela, J. Githure, and F. Konradsen. 2004. Ammonium sulphate fertiliser increases larval populations of *Anopheles arabiensis* and culicine mosquitoes in rice fields. *Acta Tropica* 89:187-192.
- Mwenesi, H., T. Harpham, and R. W. Snow. 1995. Child Malaria Treatment Practices among Mothers in Kenya. *Social Science & Medicine* 40:1271-1277.
- Mwenesi, H. A. 2005. Social science research in malaria prevention, management and control in the last two decades: An overview. *Acta Tropica* 95:292-297.
- Nahlen, B. L., J. P. Clark, and D. Alnwick. 2003. Insecticide-treated bed nets. *The American Journal of Tropical Medicine and Hygiene* 68:1-2.
- National Malaria Control Programme. 2008. Medium Term Malaria Strategic Plan in Ministry of Health and Social Welfare, editor, Dar es Salaam, Tanzania.
- Nganda, R. Y., C. Drakeley, H. Reyburn, and T. Marchant. 2004. Knowledge of malaria influences the use of insecticide treated nets but not intermittent presumptive treatment by pregnant women in Tanzania. *Malaria Journal* 3.
- N'Guessan, R., V. Corbel, M. Akogbéto, and M. Rowland. 2007. Reduced efficacy of insecticide-treated nets and indoor residual spraying for malaria control in pyrethroid resistance area, Benin. *Emerging infectious diseases* 13:199-206.
- Ngugi, I. K., A. N. Chiguzo, and H. L. Guyatt. 2004. A cost analysis of the employer-based bednet programme in Coastal and Western Kenya. *Health Policy and Planning* 19:111-119.
- Noedl, H., B. Attlmayr, W. H. Wernsdorfer, H. Kollaritsch, and R. S. Miller. 2004. A Histidine-rich Protein 2-Based Malaria Drug Sensitivity Assay for Field Use. *American Journal of Tropical Medicine and Hygiene* 71:711.
- Nozais, J. P. 2003. The origin and dispersion of human parasitic diseases in the old world (Africa, Europe and Madagascar). *Memorias do Instituto Oswaldo Cruz* 98 Suppl 1:13-19.
- Nuwaha, F. 2002. People's perception of malaria in Mbarara, Uganda. *Tropical Medicine & International Health* 7:462-470.

- Nwane, P., J. Etang, M. Chouaibou, J. C. Toto, C. Kerah-Hinzoumbe, R. Mimpfoundi, H. P. Awono-Ambene, and F. Simard. 2009. Trends in DDT and pyrethroid resistance in *Anopheles gambiae* s.s. populations from urban and agro-industrial settings in southern Cameroon. *BMC Infect Dis* 9:163.
- Oberlander, L., and B. Elverdan. 2000. Malaria in the United Republic of Tanzania: cultural considerations and health-seeking behaviour. *Bulletin of the World Health Organization* 78:1352-1357.
- Obonyo, C. O., E. W. Steyerberg, A. J. Oloo, and J. D. F. Habbema. 1998. Blood transfusions for severe malaria-related anemia in Africa: A decision analysis. *American Journal of Tropical Medicine and Hygiene* 59:808-812.
- Ocampo, C. B., W. G. Brogdon, C. M. Orrego, G. Toro, and J. Montoya-Lerma. 2000. Insecticide susceptibility in *Anopheles pseudopunctipennis* from Colombia: comparison between bioassays and biochemical assays. *Journal of the American Mosquito Control Association* 16:331-338.
- Okrah, J., T. C., A. Pale, J. Sommerfeld, and O. Muller. 2002. Community factors associated with malaria prevention by mosquito nets: an exploratory study in rural Burkina Faso. *Tropical Medicine & International Health* 7:240-248.
- Oliva, W. M., and E. M. Sallum. 1996. Periodic dynamic systems for infected hosts and mosquitoes. *Revista de saude publica* 30:218-223.
- Organization, W. H. 2004. Global Strategic Framework for Integrated Vector Management. WHO/CDS/CPE/PVC/2004.10.
- Orr, A. 2003. Integrated Pest Management for Resource-Poor African Farmers: Is the Emperor Naked? *World Development* 31:831-.
- Over, M., B. Bakote'e, R. Velayudhan, P. Wilikai, and P. M. Graves. 2004. Impregnated nets or DDT residual spraying? Field effectiveness of malaria prevention techniques in Solomon Islands 1993-1999. *American Journal of Tropical Medicine and Hygiene* 71:214-223.
- Owusu-Agyei, S., D. J. Fryauff, D. Chandramohan, K. A. Koram, F. N. Binka, F. K. Nkrumah, G. C. Utz, and S. L. Hoffman. 2002. Characteristics of severe anemia and its association with malaria in young children of the Kassena-Nankana District of northern Ghana. *The American Journal of Tropical Medicine and Hygiene* 67:371-377.
- Ozer, N. 2006. [West Nile virus and its vectors]. *Mikrobiyoloji Bulteni* 40:121-128.
- Panter-Bricka, C., S. E. Clarke, H. Lomasa, M. Pinderc, and S. W. Lindsay. 2006. Culturally compelling strategies for behaviour change: A social ecology model and case study in malaria prevention. *Social Science & Medicine* 62:2810-2825.
- Parent, G., A. Ouedraogo, N. M. Zagre, I. Compaore, R. Kambire, and J. N. Poda. 1997. [Large dams, health and nutrition in Africa: beyond the controversy]. *Sante* 7:417-422.

Parikh, S., G. Dorsey, and P. J. Rosenthal. 2004. Host polymorphisms and the incidence of malaria in Ugandan children. *American Journal of Tropical Medicine and Hygiene* 71:750.

Pattanayak, S., K. Dickinson, C. Corey, B. Murray, E. Sills, and R. A. Kramer. 2006. Deforestation, malaria, and poverty: a call for transdisciplinary research to support the design of cross-sectoral policies. *Sustainability: Science, Practice, and Policy* 2:45-56.

Patz, J., and S. Olson. 2006. Climate Change and Health: Global to Local Influences on Disease Risk. *Annals of Tropical Medicine and Parasitology* 100:535-549.

Patz, J. A., P. Daszak, G. M. Tabor, A. A. Aguirre, M. Pearl, J. Epstein, N. D. Wolfe, A. M. Kilpatrick, J. Foufopoulos, D. Molyneux, and D. J. Bradley. 2004. Unhealthy landscapes: Policy recommendations on land use change and infectious disease emergence. *Environmental Health Perspectives* 112:1092-1098.

Patz, J. A., T. K. Graczyk, N. Geller, and A. Y. Vittor. 2000. Effects of environmental change on emerging parasitic diseases. *International Journal for Parasitology* 30:1395-1405.

Patz, J. A., and S. Olson. 2006. Climate Change and Health: Global to Local Influences on Disease Risk. *Annals of Tropical Medicine and Parasitology* 100:535-549.

Pezzoli, K., R. Tukey, H. Sarabia, I. Zaslavsky, M. L. Miranda, W. A. Suk, A. Lin, and M. Ellisman. 2007. The NIEHS Environmental Health Sciences Data Resource Portal: Placing Advanced Technologies in Service to Vulnerable Communities. *Environmental Health Perspectives* 115:564-571.

Phillips, M., A. Mills, and C. Dye 1993. *Guidelines for Cost-Effectiveness Analysis of Vector Control*. World Health Organization, Geneva.

Phillips-Howard, P. A., B. L. Nahlen, J. A. Alaii, F. O. ter Kuile, J. E. Gimnig, D. J. Terlouw, S. P. Kachur, A. W. Hightower, A. A. Lal, E. Schoute, A. J. Oloo, and W. A. Hawley. 2003. The efficacy of permethrin-treated bed nets on child mortality and morbidity in western Kenya. Development of infrastructure and description of study site. *The American Journal of Tropical Medicine and Hygiene* 68:3-9.

Phillips-Howard, P. A., B. L. Nahlen, M. S. Kolczak, A. W. Hightower, F. O. ter Kuile, J. A. Alaii, J. E. Gimnig, J. Arudo, J. M. Vulule, A. Odhacha, S. P. Kachur, E. Schoute, D. H. Rosen, J. D. Sexton, A. J. Oloo, and W. A. Hawley. 2003. Efficacy of permethrin-treated bed nets in the prevention of mortality in young children in an area of high perennial malaria transmission in western Kenya. *The American Journal of Tropical Medicine and Hygiene* 68:23-29.

Phillips-Howard, P. A., F. O. ter Kuile, B. L. Nahlen, J. A. Alaii, J. E. Gimnig, M. S. Kolczak, D. J. Terlouw, S. K. Kariuki, Y. P. Shi, S. P. Kachur, A. W. Hightower, J. M. Vulule, and W. A. Hawley. 2003. The efficacy of permethrin-treated bed nets on child mortality and morbidity in western Kenya II. Study design and methods. *The American Journal of Tropical Medicine and Hygiene* 68:10-15.

- Piyaratne, M. K., P. H. Amerasinghe, F. P. Amerasinghe, and F. Konradsen. 2005. Food of larval *Anopheles culicifacies* and *Anopheles varuna* in a stream habitat in Sri Lanka. *Journal of the American Mosquito Control Association* 21:387-394.
- Potanov, A. G. 1951. [Significance of the new system of field irrigation in prevention of malaria.]. *Gigiena i Sanitariia* 4:42-44.
- Potapov, A. G. 1950. [New system of irrigation and control of malaria.]. *Fel'dsher i akusherka* 12:31-32.
- Premasiri, D. A., A. R. Wickremasinghe, D. S. Premasiri, and N. Karunaweera. 2005. Malarial vectors in an irrigated rice cultivation area in southern Sri Lanka. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 99:106-114.
- President's Malaria Initiative. 2007. Tanzania Malaria Operational Plan.
- Prugger, C. 2008. Malariological baseline survey and in vitro antimalarial drug resistance in Gulu district, Northern Uganda. *Wiener klinische Wochenschrift* 120:63.
- Qunhua, L., K. Xin, C. Changzhi, F. Shengzheng, L. Yan, H. Rongzhi, Z. Zhihua, G. Gibson, and K. Wenmin. 2004. New irrigation methods sustain malaria control in Sichuan Province, China. *Acta Tropica* 89:241-247.
- Rajagopalan, P. K., P. K. Das, S. P. Pani, P. Jambulingam, S. S. Mohapatra, K. Gunasekaran, and L. K. Das. 1990. Parasitological aspects of malaria persistence in Koraput district Orissa, India. *Indian Journal of Medical Research* 91:44-51.
- Rajagopalan, P. K., P. K. Menon, and G. D. Brooks. 1977. A study on some aspects of *Culex pipiens fatigans* population in an urban area, Faridabad, northern India. *Indian J Med Res* 65 Suppl:65-76.
- Raloff, J. 2000. The case for DDT. *Science News* 158:12.
- Ramasamy, R., R. De Alwis, A. Wijesundere, and M. S. Ramasamy. 1992. Malaria transmission at a new irrigation project in Sri Lanka: the emergence of *Anopheles annularis* as a major vector. *American Journal of Tropical Medicine and Hygiene* 47:547-553.
- Ramasamy, R., M. S. Ramasamy, D. A. Wijesundera, A. P. Wijesundera, I. Dewit, C. Ranasinghe, K. A. Srikrishnaraj, and C. Wickremaratne. 1992. High seasonal malaria transmission rates in the intermediate rainfall zone of Sri Lanka. *Annals of Tropical Medicine and Parasitology* 86:591-600.
- Rea, L. M., and R. A. Parker 2005. *Designing and Conducting Survey Research: A Comprehensive Guide*. Jossey-Bass, San Francisco.
- Ree, H. I. 2005. Studies on *Anopheles sinensis*, the vector species of vivax malaria in Korea. *Korean Journal of Parasitology* 43:75-92.
- Reyburn, H., H. Mbakiwa, R. W. Mwangi, O. Mwerinde, R. Olomi, C. Drakeley, and C. J. M. Whitty. 2007. Rapid diagnostic tests compared with malaria microscopy for guiding outpatient treatment of febrile illness in Tanzania: randomised trial. *BMJ* 334:403-409.

Ribeiro, J. M., F. Seulu, T. Abose, G. Kidane, and A. Teklehaimanot. 1996. Temporal and spatial distribution of anopheline mosquitos in an Ethiopian village: implications for malaria control strategies. *Bulletin of the World Health Organization* 74:299-305.

Roberts, L. 2007. *COMBATING MALARIA: Battling Over Bed Nets*. Pages 556-559.

Rogers, D. J. 2002. Satellite imagery in the study and forecast of malaria. *Nature* 415:710.

Roll Back Malaria. 2005. Kenya country profile: Overview of malaria control activities and programme progress. The World Health Organization.

Roll Back Malaria. 2005. Tanzania country profile: Overview of malaria control activities and programme progress. The World Health Organization.

Roll Back Malaria. 2005. Uganda country profile: Overview of malaria control activities and programme progress. The World Health Organization.

Rolland, E., F. Checchi, L. Pinoges, S. Balkan, J. P. Guthmann, and P. J. Guerin. 2006. Operational response to malaria epidemics: are rapid diagnostic tests cost-effective? *Tropical Medicine & International Health* 11:398-408.

Rollin, H. B., T. M. Sandanger, L. Hansen, K. Channa, and J. O. Odland. 2009. Concentration of selected persistent organic pollutants in blood from delivering women in South Africa. *Sci Total Environ* 408:146-152.

Rossi, P. H., and H. E. Freeman 1993. *Evaluation: A Systematic Approach*. Sage Publication, Newury Park, CA.

Rossi, P. H., M. W. Lipsey, and H. E. Freeman 2004. *Evaluation: A Systematic Approach*. Sage Publications, New York.

Rowe, A. K. 2007. Predictions of the impact of malaria control efforts on all-cause child mortality in sub-Saharan Africa. *The American journal of tropical medicine and hygiene* 77:48.

RTI_International. 2006. Programmatic Environmental Assessment. Page 480. USAID, Research Triangle Park, NC.

Ruebush, T. K., M. K. Kern, C. C. Campbell, and A. J. Oloo. 1995. Self-treatment of malaria in a rural area of western Kenya. *Bull World Health Organ* 73:229-236.

Sachs, J., and P. Malaney. 2002. The economic and social burden of malaria. *Nature* 415:680-685.

Sanders, D., and A. Haines. 2006. Implementation research is needed to achieve international health goals. *Plos Medicine* 3:719-722.

Sangrujee, N., R. J. C. Duintjer Tebbens, V.M., and M. Thompson. 2003. Policy decision options during the first 5 years following certification of polio eradication. *Medscape General Medicine* 5.

Saterson, K. A. 1995. Ecological principles and environmental indicators: the challenge of defining sustainability in a dynamic world in S. Batie, editor. Resource Policy Consortium Symposium. The Ohio State University, Columbus, OH.

Savedoff, W., R. Levine, and N. Birdsall. 2006. When will we ever learn? Improving lives through impact evaluation. Center for Global Development, Washington, DC.

Saxena, V. K., M. V. Narasimham, and N. L. Kalra. 1992. Critical appraisal of entomological data of Madhya Pradesh for 1991 and its relevance to the National Malaria Eradication Programme. *Journal of Communicable Diseases* 24:97-108.

Schellenberg, J. R. M. A., S. Abdulla, R. Nathan, O. Mukasa, T. J. Marchant, N. Kikumbih, A. K. Mushi, H. Mponda, H. Minja, H. Mshinda, M. Tanner, and C. Lengeler. 2001. Effect of large-scale social marketing of insecticide-treated nets on child survival in rural Tanzania. *The Lancet* 357:1241-1247.

Service, M. W. 1989. Rice, a challenge to health. *Parasitology Today* 5:162-165.

Service, M. W. 1991. Agricultural development and arthropod-borne diseases: a review. *Revista de Saude Publica* 25:165-178.

Sharma, V. P., and A. Srivastava. 1997. Role of geographic information system in malaria control. *Indian Journal of Medical Research* 106:198-204.

Sharp, B. L., I. Kleinschmidt, E. Streat, R. Maharaj, K. I. Barnes, D. N. Durrheim, F. C. Ridl, N. Morris, I. Seocharan, S. Kunene, L. A. G. JJ, J. D. Mthembu, F. Maartens, C. L. Martin, and A. Barreto. 2007. Seven years of regional malaria control collaboration--Mozambique, South Africa, and Swaziland. *American Journal of Tropical Medicine and Hygiene* 76:42-47.

Sharp, B. L., I. Kleinschmidt, E. Streat, R. Maharaj, K. I. Barnes, D. N. Durrheim, F. C. Ridl, N. Morris, I. Seocharan, S. Kunene, L. A. G. JJ, J. D. Mthembu, F. Maartens, C. L. Martin, and A. Barreto. 2007. Seven years of regional malaria control collaboration--Mozambique, South Africa, and Swaziland. *American Journal of Tropical Medicine and Hygiene* 76:42-47.

Sharp, B. L., F. C. Ridl, D. Govender, J. Kuklinski, and I. Kleinschmidt. 2007. Malaria vector control by indoor residual insecticide spraying on the tropical island of Bioko, Equatorial Guinea. *Malar J* 6:52.

Shepard, D. S., M. B. Ettlign, U. Brinkmann, and R. Sauerborn. 1991. The economic cost of malaria in Africa. *Tropical Medicine and Parasitology* 42:199-203.

Shiff, C. 2002. Integrated approach to malaria control. *Clinical Microbiology Reviews* 15:278-293.

Shigidi, M. M. T., R. A. Hashim, M. N. A. Idris, M. M. Mukhtar, and T.-E. O. Sokrab. 2004. Parasite diversity in adult patients with cerebral malaria: a hospital based, case-control study. *American Journal of Tropical Medicine and Hygiene* 71:754.

- Shillcutt, S., C. Morel, C. Goodman, P. Coleman, D. Bell, C. J. M. Whitty, and A. Mills. 2008. Cost-effectiveness of malaria diagnostic methods in sub-Saharan Africa in an era of combinational therapy. *Bulletin of the World Health Organization* 86:101-110.
- Shukla, R. P., A. C. Pandey, V. K. Kohli, V. P. Ojha, and V. P. Sharma. 1995. Bionomics of vector anophelines in District Naini Tal, Uttar Pradesh. *Indian Journal of Malariology* 32:153-163.
- Shukla, R. P., A. C. Pandey, and A. Mathur. 1995. Investigation of malaria outbreak in Rajasthan. *Indian Journal of Malariology* 32:119-128.
- Silver, J. B. 2008. *Mosquito Ecology: Field Sampling Methods*. Springer, New York.
- Singh, N., R. K. Mehra, and V. P. Sharma. 1999. Malaria and the Narmada-river development in India: a case study of the Bargi dam. *Annals of Tropical Medicine and Parasitology* 93:477-488.
- Singh, N., and A. K. Mishra. 2000. Anopheline ecology and malaria transmission at a new irrigation project area (Bargi Dam) in Jabalpur (Central India). *Journal of the American Mosquito Control Association* 16:279-287.
- Singh, N., O. P. Singh, and V. Soan. 1989. Mosquito breeding in rice fields and its role in malaria transmission in Mandla district, M.P. *Indian Journal of Malariology* 26:191-198.
- Sinha, C., K. Seth, F. Islam, R. K. Chaturvedi, S. Shukla, N. Mathur, N. Srivastava, and A. K. Agrawal. 2006. Behavioral and neurochemical effects induced by pyrethroid-based mosquito repellent exposure in rat offsprings during prenatal and early postnatal period. *Neurotoxicology and Teratology* 28:472-481.
- Sissoko, M. S., A. Dicko, O. J. Briet, M. Sissoko, I. Sagara, H. D. Keita, M. Sogoba, C. Rogier, Y. T. Toure, and O. K. Doumbo. 2004. Malaria incidence in relation to rice cultivation in the irrigated Sahel of Mali. *Acta Tropica* 89:161-170.
- Sithiprasasna, R., W. J. Lee, D. M. Ugsang, and K. J. Linthicum. 2005. Identification and characterization of larval and adult anopheline mosquito habitats in the Republic of Korea: potential use of remotely sensed data to estimate mosquito distributions. *International Journal of Health Geographics* 4:17.
- Smith, A. G. 2000. How toxic is DDT? *Lancet* 356:267-268.
- Smith, D. L., S. A. Levin, and R. Laxminarayan. 2005. Strategic interactions in multi-institutional epidemics of antibiotic resistance. *Proceedings of the National Academy of Science* 102:3153-3158.
- Smith, T. 2004. Relationships between the outcome of *Plasmodium falciparum* infection and the intensity of transmission in Africa. *The American journal of tropical medicine and hygiene* 71:80.
- Snow, R. W., M. Craig, U. Deichmann, and K. Marsh. 1999. Estimating mortality, morbidity and disability due to malaria among Africa's non-pregnant population. *Bulletin of the World Health Organization* 77:624-640.
- Snow, R. W., C. A. Guerra, A. M. Noor, H. Y. Myint, and S. I. Hay. 2005. The global distribution of clinical episodes of *Plasmodium falciparum* malaria. *Nature* 434:214-217.

Spielman, A. 2003. Introduction in H. K. Heggenhougen, V. Hackethal, and P. Vivek, editors. The behavioural and social aspects of malaria and its control: An introduction and annotated bibliography. Special Program for Research and Training in Tropical Diseases (TDR).

Srivastava, A., B. N. Nagpal, R. Saxena, and V. P. Sharma. 1999. Geographic information system as a tool to study malaria receptivity in Nadiad Taluka, Kheda district, Gujarat, India. *Southeast Asian Journal of Tropical Medicine and Public Health* 30:650-656.

Ssenkibirwa, A.-M., and S. Kibuuka. 2006. Ugandans applaud DDT clearance. *The Monitor*, Kampala, September 26, 2006.

Steinman, P., J. Keiser, R. Bos, M. Tanner, and L. Itzinger. 2006. Schistosomiasis and water resources development: systematic review, meta-analysis, and estimates of people at risk. *Lancet Infectious Diseases* 6:411-425.

Stejskal, V. 2003. 'Economic Injury Level' and preventive pest control. 76:170-172.

Stewart, C. D., S. K. Braman, B. L. Sparks, J. L. Williams-Woodward, G. L. Wade, and J. G. Latimer. 2004. Comparing an IPM pilot program to a traditional cover spray program in commercial landscapes. *Journal of Economic Entomology* 95:789-796.

Sutherst, R. W. 2004. Global change and human vulnerability to vector-borne diseases. *Clinical Microbiology Reviews* 17:136-173.

Enayati AA, Hemingway J, Mshinda H, Tami A, Lengeler C.. 2004. Field issues related to effectiveness of insecticide-treated nets in Tanzania. *Med Vet Entomol*18(2): 153-160.

Taha, A. Z., and O. A. Merghani. 1990. Community health in a rural area of Sudan. *Journal of Community Health* 15:267-274.

Talisuna, A. O., P. Bloland, and U. D'Alessandro. 2004. History, dynamics, and public health importance of malaria parasite resistance. *Clinical Microbiology Reviews* 17:235-254.

Talisuna, A. O., P. Langi, N. Bakyaita, T. Egwang, T. K. Mutabingwa, W. Watkins, E. Van Marck, and U. D'Alessandro. 2002. Intensity of malaria transmission, antimalarial-drug use and resistance in Uganda: what is the relationship between these three factors? *Transactions of the Royal Society of Tropical Medicine and Hygiene* 96:310-317.

Talisuna, A. O., A. Nalunkuma-Kazibwe, N. Bakyaita, P. Langi, T. K. Mutabingwa, W. W. Watkins, E. Van Marck, U. D'Alessandro, and T. G. Egwang. 2004. Efficacy of sulphadoxine-pyrimethamine alone or combined with amodiaquine or chloroquine for the treatment of uncomplicated falciparum malaria in Ugandan children. *Tropical Medicine and International Health* 9:222-229.

Tami, A. 2004. Evaluation of OlysetTM insecticide-treated nets distributed seven years previously in Tanzania. *Malaria journal* 3.

- Tanaka, S., S. Sugita, T. Ando, and E. Marui. 2009. [How was endemic malaria eradicated?: community-based action in postwar Hikone]. *Nippon Ishigaku Zasshi* 55:15-30.
- Tanner, M., and C. Vlassoff. 1998. Treatment-seeking behaviour for Malaria: A typology based on endemicity and gender. *Social Science & Medicine* 46:523-532.
- Tanzania, U. R. o. 2000. National Guidelines for Malaria Diagnosis and Treatment. Pages 1-42 in M. o. Health, editor.
- Tarimo, D. S. 2000. Mothers' perceptions and knowledge on childhood malaria in the holendemic Kibaha district, Tanzania: implications for malaria control and the IMCI strategy. *Tropical medicine & international health* 5:179.
- Tarimo, D. S. 2007. Appraisal on the prevalence of malaria and anaemia in pregnancy and factors influencing uptake of intermittent preventative therapy with Sulfadoxine-Pyrimethamine in Kibaha District, Tanzania. *East African Journal of Public Health* 4:80-83.
- Temel, T. 2004. Malaria from the gap: need for cross-sector co-operation in Azerbaijan. *Acta Tropica* 89:249-259.
- Temel, T. 2005. A systems approach to malaria control: an institutional perspective. *Health Policy* 71:161-180.
- ter Kuile, F. O., D. J. Terlouw, S. K. Kariuki, P. A. Phillips-Howard, L. B. Mirel, W. A. Hawley, J. F. Friedman, Y. P. Shi, M. S. Kolczak, A. A. Lal, J. M. Vulule, and B. L. Nahlen. 2003. Impact of permethrin-treated bed nets on malaria, anemia, and growth in infants in an area of intense perennial malaria transmission in western Kenya. *American Journal of Tropical Medicine and Hygiene* 68:68-77.
- Tetteh, I. K., E. Frempong, and E. Awuah. 2004. An analysis of the environmental health impact of the Barekese Dam in Kumasi, Ghana. *Journal of Environmental Management* 72:189-194.
- The World Bank Group. 2005. Social Marketing of Bednets in Tanzania.
- The World Bank Group. 2006. World Development Indicators – Table 2.17.
- Thompson, K. M. 2006. Poliomyelitis and the Role of Risk Analysis in Global Infectious Disease Policy and Management. *Risk Analysis* 26:1419.
- Thompson, K. M., R. J. Duintjer Tebbens, and M. A. Pallansch. 2006. Evaluation of response scenarios to potential polio outbreaks using mathematical models. *Risk Analysis* 26:1541-1556.
- Thompson, K. M., R. J. Duintjer Tebbens, M. A. Pallansch, O. M. Kew, R. W. Sutter, R. B. Aylward, M. Watkins, H. Gary, J. P. Alexander, L. Venczel, D. Johnson, V. M. Caceres, N. Sangrujee, H. Jafari, and S. L. Cochi. 2006. Development and consideration of global policies for managing the future risks of poliovirus outbreaks: insights and lessons learned through modeling. *Risk Analysis* 26:1571-1580.
- Thompson, K. M., and R. J. Tebbens. 2006. Retrospective cost-effectiveness analyses for polio vaccination in the United States. *Risk Analysis* 26:1423.

Toure, Y. T., V. Petrarca, S. F. Traore, A. Coulibaly, H. M. Maiga, O. Sankare, M. Sow, M. A. Di Deco, and M. Coluzzi. 1994. Ecological genetic studies in the chromosomal form Mopti of *Anopheles gambiae* s.str. in Mali, west Africa. *Genetica* 94:213-223.

Travis, P., S. Bennett, A. Haines, T. Pang, Z. Bhutta, A. A. Hyder, N. R. Pielemeier, A. Mills, and T. Evans. 2004. Overcoming health-systems constraints to achieve the Millennium Development Goals. *Lancet* 364:900-906.

Tren, R. The economic costs of malaria in South Africa. Malaria Foundation International site.

Tren, R., and R. Bate 2001. *Malaria and the DDT Story*. Institute of Economic Affairs, London.

Tren, R., J. Urbach, J. Zambone, and R. Bate. 2004. Is DDT safe? Considering its use for malaria control in Uganda. *Health Policy and Development* 2:105-111.

Tripp, S. D., and B. Bichelmeyer. 1990. Rapid Prototyping: An Alternative Instructional Design Strategy. *Educational Technology, Research and Development* 38:31-44.

Tseng, L., W. Chang, M. Ferreira, C. Wu, H. Rampão, and J. Lien. 2008. Rapid Control of Malaria by Means of Indoor Residual Spraying of Alphacypermethrin in the Democratic Republic of Sao Tome and Principe. *American Journal of Tropical Medicine and Hygiene* 78:248-250.

Turusov, V., V. Rakitsky, and L. Tomatis. 2002. Dichlorodiphenyltrichloroethane (DDT): ubiquity, persistence, and risks. *Environmental Health Perspectives* 110:125-.

Tyagi, B. K. 2004. A review of the emergence of *Plasmodium falciparum*-dominated malaria in irrigated areas of the Thar Desert, India. *Acta Tropica* 89:227-239.

Uganda Bureau of Statistics. 2002. 2002 Uganda Population and Housing Census - Analytical Report - Population Composition, Kampala.

Uganda Bureau of Statistics (UBOS) and Macro International Inc. 2007. Uganda Demographic and Health Survey 2006. Uganda Bureau of Statistics and Macro International Inc., Kampala, Uganda and Calverton, Maryland.

Uganda Ministry of Health. 1999. Malaria incidence in Uganda in 1999.

United Nations. 10 October 2005. Steps must be taken to avoid resistance to latest malarial drug, UN agency warns. UN News Centre.

United Nations Environment Programme. 2001. Stockholm Convention on Persistent Organic Pollutants (POPs).

USAID. 2005. New Tanzanian Demographic and Health Survey Results Show Dramatic Improvement in Child Survival Rates While Risky Sexual Behavior Remains Common.

USAID. 2006. Tanzania Tuberculosis Profile.

Utzinger, J., R. B. X. Shu-Hua, B. H. Singer, and M. Tanner. 2003. Sustainable schistosomiasis control--the way forward. *Lancet* 362:1932-1934.

Utzinger, J., Y. Tozan, and B. H. Singer. 2001. Efficacy and cost-effectiveness of environmental management for malaria control. *Tropical Medicine and International Health* 6:677-687.

van den Berg, H. 2009. Global Status of DDT and Its Alternatives for Use in Vector Control to Prevent Disease. *Environ Health Perspect* 117:1656-1663.

van den Berg, H., and W. Takken. 2009. Evaluation of integrated vector management. 25:71-76.

van Kerkhoff, L., and N. Szlezak. 2006. Linking local knowledge with global action: examining the Global Fund to Fight AIDS, Tuberculosis and Malaria through a knowledge system lens. *Bulletin of the World Health Organization* 84.

Van Kerkhoff, L., and N. Szlezak. 2006. Linking local knowledge with global action: examining the Global Fund to Fight AIDS, Tuberculosis and Malaria through a knowledge system lens. *Bulletin of the World Health Organization* 84:629-635.

Vatandoost, H., H. Shahi, M. R. Abai, A. A. Hanafi-Bojd, M. A. Oshaghi, and G. Zamani. 2004. Larval habitats of main malaria vectors in Hormozgan province and their susceptibility to different larvicides. *Southeast Asian Journal of Tropical Medicine and Public Health* 35 Suppl 2:22-25.

Vittor, A. Y., R. H. Gilman, J. Tielsch, G. Glass, T. Shields, W. S. Lozano, V. Pinedo-Cancino, and J. A. Patz. 2006. The effect of deforestation on the human-biting rate of *Anopheles darlingi*, the primary vector of falciparum malaria in the Peruvian Amazon. *American Journal of Tropical Medicine and Hygiene* 74:3-11.

Wacira, D., J. Hill, P. McCall, and A. Kroeger. 2007. Delivery of insecticide-treated net services through employer and community-based approaches in Kenya. *Trop Med Int Health* 12:140-149.

Wakibara, J. V., L. E. Mboera, and B. T. Ndawi. 1997. Malaria in Mvumi, central Tanzania and the in vivo response of *Plasmodium falciparum* to chloroquine and sulphadoxine pyrimethamine. *East African Medical Journal* 74:69-71.

Walker, K. 2000. Cost-comparison of DDT and alternative insecticides for malaria control. *Medical and Veterinary Entomology* 14:345-354.

Walker, K. 2002. A review of control methods for African malaria vectors. Office of Health, Infectious Diseases and Nutrition, Bureau for Global Health, U.S. Agency for International Development, Washington, DC.

Wang, S. J., C. Lengeler, T. A. Smith, P. Vounatsou, G. Cisse, D. A. Diallo, M. Akogbeto, D. Mtasiwa, A. Teklehaimanot, and M. Tanner. 2005. Rapid urban malaria appraisal (RUMA) in sub-Saharan Africa. *Malaria Journal* 4:40.

Wang, S. J., C. Lengeler, T. A. Smith, P. Vounatsou, D. A. Diadie, X. Pritroipa, N. Convelbo, M. Kientga, and M. Tanner. 2005. Rapid urban malaria appraisal (RUMA) I: Epidemiology of urban malaria in Ouagadougou. *Malaria Journal* 4:43.

Wang'ombe, J. K., and G. M. Mwabu. 1993. Agricultural land use patterns and malaria conditions in Kenya. *Social Science and Medicine* 37:1121-1130.

Wendo, C. 2004. Uganda considers DDT to protect homes from malaria. *The Lancet* 363:1376.

White, N. J. 2004. Antimalarial drug resistance. *Journal of Clinical Investigation* 113:1084-1092.

White, N. J., F. Nosten, S. Looareesuwan, W. M. Watkins, K. Marsh, R. W. Snow, G. Kokwaro, J. Ouma, T. T. Hien, M. E. Molyneux, T. E. Taylor, C. I. Newbold, T. K. Ruebush, 2nd, M. Danis, B. M. Greenwood, R. M. Anderson, and P. Olliaro. 1999. Averting a malaria disaster. *Lancet* 353:1965-1967.

WHO. 2001a. Health Impact Assessment (HIA). Report of an interregional meeting on harmonization and mainstreaming of HIA in the World Health Organization and a partnership meeting on institutionalizing HIA capacity building in Africa. World Health Organization.

WHO. 2001b. Action plan for the reduction of reliance on DDT in disease vector control. Protection of the Human Environment. World Health Organization.

WHO. 2002. Roll Back Malaria Program brochure: "What is Malaria?".

WHO. 2002b. WHO progress report on activities related to the reduction and/or elimination of POPs. World Health Organization.

WHO. 2003. Roll Back Malaria Program Fact Sheet #94 "Malaria in Africa".

WHO. 2004. Children and Malaria. Roll Back Malaria Website. World Health Organization.

WHO. 2004. Global Strategic Framework for Integrated Vector Management. World Health Organization, Geneva.

WHO. 2005. Vector-Borne Disease. World Health Organization.

WHO. 2005. World Malaria Report 2005 - United Republic of Tanzania Country Profile.

WHO. 2006. Guidelines for the Treatment of Malaria.

WHO. 2006. Malaria in Africa.

WHO. 2006. Malaria Vector Control and Personal Protection.

WHO. 2006. The role of laboratory diagnosis to support malaria disease management. World Health Organization, Geneva, Switzerland.

WHO. 2006. What is malaria?

WHO, and Roll Back Malaria. 6-7 June 2005. Meeting on the Production of Artemisinin and ACTS, Arusha, United Republic of Tanzania.

WHO Regional Director Dr. Luis Sambo. Get your ACT together. Africa Malaria Day Event.

Wiener, J. B. 1998. Managing the iatrogenic risks of risk management. *Risk: Health Safety & Environment* 9:39-84.

Wiener, J. B. 2001. Precaution in a Multi-Risk World. Duke Law School Public Law and Legal Theory Working Paper Series. Duke University, Durham, NC.

Wiener, J. B. 2002. Precaution in a multi-risk world. Pages 1509-1531 in D. D. Paustenbach, editor. *Human and Ecological Risk Assessment: Theory and Practice*. John Wiley & Sons, New York.

Wijesundera Mde, S. 1988. Malaria outbreaks in new foci in Sri Lanka. *Parasitology Today* 4:147-150.

Wilcox, B. A., and R. R. Colwell. 2005. Emerging and re-emerging infectious diseases: biocomplexity as an interdisciplinary paradigm. *EcoHealth* 2:244-257.

Williams, H., D. Durrheim, and R. Shretta. 2004. The process of changing national malaria treatment policy: lessons from country-level studies. *Health Policy and Planning* 19:356-370.

Williamson, S. 2003. Economic costs of pesticide reliance. *Pesticide News* 61:3-5.

Wilson, D. B. 1957. Construction, irrigation and malaria. *East African Medical Journal* 34:479-485.

Wiseman, V., W. A. Hawley, F. O. ter Kuile, P. A. Phillips-Howard, J. M. Vulule, B. L. Nahlen, and A. J. Mills. 2003. The cost-effectiveness of permethrin-treated bed nets in an area of intense malaria transmission in western Kenya. *American Journal of Tropical Medicine and Hygiene* 68:161-167.

Wolff, C. G., D. G. Schroeder, and M. W. Young. 2001. Effect of improved housing on illness in children under 5 years old in northern Malawi: cross sectional study. *British Medical Journal* 322:1209-U1221.

Worrall. 2008. Improving the cost-effectiveness of IRS with climate informed health surveillance systems. *Malaria journal* 7:263.

Worrall, E., S. Basu, and K. Hanson. 2005. Is malaria a disease of poverty? A review of the literature. *Tropical Medicine and International Health* 10:1047-1059.

Yanez, L., V. H. Borja-Aburto, E. Rojas, H. de la Fuente, R. Gonzalez-Amaro, H. Gomez, A. A. Jongitud, and F. Diaz-Barriga. 2004. DDT induces DNA damage in blood cells: studies in vitro and in women chronically exposed to this insecticide. *Environmental Research* 94:18-24.

Yang, H. M., and M. U. Ferreira. 2000. Assessing the effects of global warming and local social and economic conditions on the malaria transmission. *Revista de Saúde Pública* 34(3): 214-222.

Yapabandara, A. M., and C. F. Curtis. 2004. Control of vectors and incidence of malaria in an irrigated settlement scheme in Sri Lanka by using the insect growth regulator pyriproxyfen. *Journal of the American Mosquito Control Association* 20:395-400.

- Yawson, A. E., P. J. McCall, M. D. Wilson, and M. J. Donnelly. 2004. Species abundance and insecticide resistance of *Anopheles gambiae* in selected areas of Ghana and Burkina Faso. *Medical and Veterinary Entomology* 18:372-377.
- Yeka, A., K. Banek, N. Bakyaite, S. G. Staedke, M. R. Kanya, A. Talisuna, F. Kironde, S. L. Nsohya, A. Kilian, M. Slater, A. Reingold, P. J. Rosenthal, F. Wabwire-Mangen, and G. Dorsey. 2005. Artemisinin versus nonartemisinin combination therapy for uncomplicated malaria: Randomized clinical trials from four sites in Uganda. *Plos Medicine* 2:654-662.
- Yeung, S., W. Pongtavornpinyo, I. M. Hastings, A. J. Mills, and N. J. White. 2004. Antimalarial drug resistance, artemisinin-based combination therapy, and the contribution of modeling to elucidating policy choices. *American Journal of Tropical Medicine and Hygiene* 71:179-186.
- Yohannes, M., M. Haile, T. A. Ghebreyesus, K. H. Witten, A. Getachew, P. Byass, and S. W. Lindsay. 2005. Can source reduction of mosquito larval habitat reduce malaria transmission in Tigray, Ethiopia? *Tropical Medicine and International Health* 10:1274-1285.
- Zaim, M., A. Aitio, and N. Nakashima. 2000. Safety of pyrethroid-treated mosquito nets. *Medical & Veterinary Entomology* 14:1-5.
- Zarocostas, J. 2009. Agencies scale up search for alternatives to DDT to control malaria. *BMJ* 338:b1942.
- Zhou, G., N. Minakawa, A. K. Githeko, and G. Yan. 2004. Association between climate variability and malaria epidemics in the East African highlands. *Proceedings of the National Academy of Sciences U S A* 101:2375-2380.
- Zhou, G. F., N. Minakawa, A. K. Githeko, and G. Y. Yan. 2004. Association between climate variability and malaria epidemics in the East African highlands *Proceedings of the National Academy of Sciences of the United States of America* 101:13694-13694.
- Zoppi de Roa, E., E. Gordon, E. Montiel, L. Delgado, J. Berti, and S. Ramos. 2002. Association of cyclopoid copepods with the habitat of the malaria vector *Anopheles aquasalis* in the peninsula of Paria, Venezuela. *Journal of the American Mosquito Control Association* 18:47-51.