

WEI ZHANG

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EDUCATION

Ph.D. Agricultural, Food, and Resource Economics, Michigan State University, East Lansing, Michigan, 2007.

Major field: Environmental and Resource Economics

Minor fields: Econometrics; Agricultural Markets and Price Analysis

Dissertation: Optimal Pest Management in the Presence of Natural Pest Control Services

(Honorable Mention, 2008 American Agricultural Economics Association

Outstanding Doctoral Dissertation Award; Departmental Best Dissertation Award for 2007, Michigan State University.)

M.S. Community Development and Applied Economics, University of Vermont, Burlington, Vermont, 2002.

B.A. International Economics, Renmin University of China, Beijing, P.R. China, 1997.

PROFESSIONAL EXPERIENCE

Research Fellow, Environment, Production and Technology Division, the International Food Policy Research Institute (IFPRI). Washington D.C., November 2011-present.

Associate Research Fellow, Environment, Production and Technology Division, the International Food Policy Research Institute (IFPRI). Washington D.C., November 2008-October 2011.

Consultant (Environmental Economist), Environment Department, the World Bank. Washington D.C., November 2006-October 2008.

Research Assistant, Department of Agricultural, Food, and Resource Economics, Michigan State University, Fall 2001-Fall 2006.

Intern, China National Forestry Economics and Development Research Center, State Forestry Administration of China, Beijing, P.R. China, Summer 2004.

Research and Teaching Assistant, Department of Community Development & Applied Economics, University of Vermont, Spring 2000-Summer 2001.

REFEREED JOURNAL ARTICLES AND BOOK CHAPTERS

1. **Zhang, W.**, E. Kato, F. Bianchi, P. Bhandary, G. Gort, and W. van der Werf. “Farmers’ perceptions of crop pest severity in Nigeria are associated with landscape, agronomic and socio-economic factors.” (Accepted with minor revisions) *Agriculture, Ecosystems and Environment*.
2. Wood, S., S. Jones, J.A. Johnson, K. Brauman, R. Chaplin-Kramer, A. Fremier, E. Girvetz, L.J. Gordon, C. Kappel, L. Mandle, M. Mulligan, P. O’Farrell, W.K. Smith, L. Willemsen, **W. Zhang**, F. DeClerck. 2018. Distilling the role of ecosystem services in the Sustainable Development Goals. *Ecosystem Services* 29 (A): 70–82.
3. DeClerck, F.A.J., S. Jones, S. Attwood, D. Bossio, E. Girvetz, B. Chaplin-Kramer, E. Enfors, A. Fremier, L. J. Gordon, F. Kizito, I. Lopez Noriega, N. Matthews, M. McCartney, M.

- Meacham, A. Noble, M. Quintero, R. Remans, R. Soppe, L. Willemsen, S. Wood, and **W. Zhang**. 2016. Agricultural ecosystems and their services: the vanguard of sustainability? *Current Opinion in Environmental Sustainability* 23 (December 2016): 92–99.
<http://dx.doi.org/10.1016/j.cosust.2016.11.016>
4. **Zhang, W.**, E. Kato, P. Bhandary, E. Nkonya, H.I. Ibrahim, M. Agbonlahor, H.Y. Ibrahim, and C. Cox. Awareness and Perceptions of Ecosystem Services in Relation to Land Use Types: Evidence from Rural Communities in Nigeria. 2016. *Ecosystem Services* 22(A): 150-160. DOI: 10.1016/j.ecoser.2016.10.011
 5. Bell, A. and **W. Zhang**. 2016. Payments discourage coordination in ecosystem services provision: Evidence from Behavioral experiments in Southeast Asia. *Environmental Research Letters* 11 (2016) 114024.
 6. Tschardtke, T., D. Karp, R. Chaplin-Kramer, P. Batáry, F. deClerck, C. Gratton, A. Ives, M. Jonsson, E. Martin, A. Martínez-Salinas, T.D. Meehan, M. O'Rourke, K. Poveda, J.A. Rosenheim, A. Rusch, N. Schellhorn, S. Wratten, **W. Zhang**. 2016. When natural habitat fails to enhance biological pest control – five hypotheses. *Biological Conservation* 204 (Part B): 449–458.
 7. Bell, A.R., **W. Zhang**, and K. Nou. 2016. Pesticide use and cooperative management of natural enemy habitat in a framed field experiment. *Agricultural Systems* 143: 1–13.
 8. Bell, A., N. Matthews, and **W. Zhang**. 2016. Opportunities for improved promotion of ecosystem services in agriculture under the WEF Nexus. *Journal of Environmental Studies and Sciences* 6(1): 183-191. DOI: 10.1007/s13412-016-0366-9
 9. Koo, J., N. M. Ephraim, C. Azzarri, C. Cox, T. Johnson, A.M. Komarek, H.Y. Kwon, A. De Pinto, C. Roberts, and **W. Zhang**. 2016. Land and soil management: Promoting healthy soils for healthier agricultural systems. In 2016 Global Food Policy Report. Chapter 5. Pp. 40-47. Washington, D.C.: International Food Policy Research Institute (IFPRI).
<http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/130213>
 10. Swinton, S. M., C. B. Jolejole-Foreman, F. Lupi, S. Ma, **W. Zhang** and H. Chen (2015). Economic Value of Ecosystem Services from Agriculture. Chapter 3 in S. K. Hamilton, J. E. Doll, and G. P. Robertson, editors. *The Ecology of Agricultural Landscapes: Long-Term Research on the Path to Sustainability*. Oxford University Press, New York, New York, USA.
 11. Zhou, K., J. Huang, X. Deng, W. van der Werf, **W. Zhang**, Y. Lu, K. Wu, and F. Wu. (2014) “Effects of land use and insecticides on natural enemies of aphids in cotton: first evidence from smallholder agriculture in the North China Plain.” *Agriculture, Ecosystems and Environment* 183: 176– 184.
 12. Yang, J., **W. Zhang**, and S. Tokgoz. (2013) “The Macro Economic Impact of Chinese Currency Appreciation on China and the United States: a Global CGE Analysis.” *Journal of Policy Modeling* 35(6): 1029 – 1042.
 13. **Zhang, W.**, E. Yu, S. Rozelle, J. Yang, and S. Msangi. 2013. “The Impact of Biofuel Growth on Agriculture: Why is the Range of Estimates so Wide?” *Food Policy* 38: 227 – 239.
 14. Tokgoz, S., **W. Zhang**, S. Msangi, and P. Bhandary. 2012.” Biofuels and the Future of Food: Competition and Complementarities.” *Agriculture* 2012, 2(4), 414-435.
 15. **Zhang, W.**, and S.M. Swinton. 2012. “Optimal Control of Soybean Aphid in the Presence of Natural Enemies and the Implied Value of Their Ecosystem Services.” *Journal of Environmental Management* 96 (1): 7-16.

16. **Zhang, W.**, and S. Pagiola. 2011. “Assessing the potential for synergy in the implementation of Payment for Environmental Services (PES) programs: an empirical analysis in Costa Rica.” *Environmental Conservation* 38(4): 406-416.
17. Tallis, H., S. Pagiola, **W. Zhang**, S. Shaikh, E. Nelson, C. Stanton, and P. Shyamsundar. 2011. “Poverty Implications of Ecosystem Service Distributions”, In *Natural Capital: Theory and Practice of Mapping Ecosystem Services*, Chapter 16, Pages 278-295, Oxford University Press.
18. **Zhang, W.**, W. van der Werf, and S.M. Swinton. 2010. “Spatially Optimal Habitat Management for Enhancing Natural Control of an Invasive Agricultural Pest: Soybean Aphid.” *Resource and Energy Economics* 32 (2010) 551–565.
19. Pagiola, S., **W. Zhang**, and A. Colom. 2010. “Can payments for watershed services help save biodiversity? A spatial analysis of highland Guatemala.” *Journal of Natural Resources Policy Research* 2(1): 7-24.
20. Wang, Q., and **W. Zhang**. 2010. “An economic analysis of potato demand in China.” *American Journal of Potato Research* 87:245–252.
21. **Zhang, W.**, and S.M. Swinton. 2009. “Incorporating Natural Enemies in an Economic Threshold for Dynamically Optimal Pest Management.” *Ecological Modeling* 220: 1315–1324.
22. **Zhang, W.**, T.H. Ricketts, C. Kremen, K. Carney, and S.M. Swinton. 2007. “Ecosystem Services and Dis-services to Agriculture.” *Ecological Economics* 64(2): 253-260. [Top three articles published in Ecological Economics ranked by WoS citations in each of the years from 2004 to 2014 (Costanza et al. 2016, Ecological Economics 123: 68–76)]
23. Liu, C., S. Wang, **W. Zhang**, and D. Liang. 2007. “Compensation for Forest Ecological Services in China.” *Forestry Studies in China* 9(1): 68-79.
24. Liu, C., and **W. Zhang**. 2006. “Impacts of Conversion of Farmland to Forestland Program on Household Income: Evidence from a Sand Control Program in the Vicinity of Beijing and Tianjin.” *China Economic Quarterly* (Chinese) 6(1): 273-290.
25. Wang, Q., and **W. Zhang**. 2004. “China’s Potato Industry and Potential Impacts on the Global Market.” *American Journal of Potato Research* 81 (2):101-109.

RESEARCH MANUSCRIPTS IN THE PIPELINE

1. **Zhang, W.**, Y.H. Lu, W. van der Werf, J.K. Huang, F. Wu, K. Zhou, X.Z. Deng, Y.Y. Jiang, K.M. Wu, M.W. Rosegrant. “Land use patterns, Bt cotton adoption, and weather jointly influenced major cotton pests: a long-term county scale analysis in China” Being revised for resubmission to the journal of *PNAS*.
2. Huang, J., K. Zhou, **W. Zhang**, X. Deng, W. van der Werf, Y. Lu, K. Wu, and M.W. Rosegrant. “Uncovering the economic value of natural enemies and the true cost of chemical insecticides to cotton farmers in China” Under review at the journal of *Environmental Research Letters* (December 2017)
3. Karp, D.S. et al. Crop pests and predators exhibit inconsistent responses to surrounding landscape composition. Under review at the journal of *PNAS* (January 2018).
4. **Zhang, W.** et al. “Systems approach for the eco-agri-food system” Chapter 2 in the “Scientific and economic foundations” report of The Economics of Ecosystems & Biodiversity (TEEB) for Agriculture & Food study. United Nations Environment, Geneva, Switzerland. Revised and Resubmitted (December 2017).

5. Tallis, H. et al. Aligning Evidence Generation and Use Across Health, Development and Environment. Under review at the journal of *Nature Sustainability* (February 2018).
6. **Zhang, W.**, E. Dulloo, G. Kennedy, A. Bailey, H. Sandhu, and E. Nkonya. Biodiversity and Ecosystem Services. Chapter in *Sustainable Food and Agriculture: An Integrated Approach*, FAO. Revised and resubmitted (October 2017)
7. Li, M., **W. Zhang**, Z. Guo, P. Bhandary. Deforestation and Smallholder Income: Evidence from Remittances to Nepal. Under review at the *Journal of the Association of Environmental and Resource Economists* (October 2017).
8. Masuda, Y.J., J.R.B. Fisher, **W. Zhang**, T. Boucher, C. Castilla, and G. Blundo. A participatory method for mapping small agricultural plots with high resolution imagery. Under review at the journal of *Journal of Development Studies*.
9. Matthews, N., **W. Zhang**, and A. Bell. (under review) Ecosystems at the Nexus, Chapter 4 in *The Food-Energy-Water Nexus*, P. Saundry editor, Springer, New York.
10. **Zhang, W.**, Yanyan Liu, Andrew Bell. Skipping pesticide application to protect family? Evidence from Cambodia and Vietnam. In preparation for *Agricultural Economics*.
11. Chaplin-Kramer, R., et al. Conservation biocontrol: Are we measuring the right things? In preparation for the journal of *BAEE*.
12. **Zhang, W.**, Y.J. Masuda, C. Castilla, P. Bhandary. Intra-household decision-making power and time allocation in Kenya. In preparation.
13. Castilla, C., Y.J. Masuda, **W. Zhang**. Spousal communication and intra-household allocation in Kenya. In preparation.
14. Liu, Y., **W. Zhang**, N. Prasai, P. Bhandary, and Z. Guo. The impact of irrigation on crop choices and diversification in Nepal: Evidence from a panel household data. In preparation for the journal of *Agricultural Economics*.
15. **Zhang, W.**, Yanyan Liu, Man Li, Zhe Guo, Prapti Bhandary. “Land use change in Nepal and role of agricultural technologies and input use.” In preparation.
16. Ye, L., Y. Lu, X. Fu, **W. Zhang**, W. van der Werf, X. Deng, J. Huang, F. Wu and K. Wu. Massive planting of poplar affects insect natural enemies and pest control service at landscape level. In preparation for submission to the journal of *Agriculture, Ecosystems and Environment*.

OTHER PUBLICATIONS AND REPORTS

1. Wood, S., S. Jones, F. DeClerck, and **W. Zhang**. 2017. Measuring ecosystem services, managing progress. Thrive Blog. CGIAR’s research program on Water, Land and Ecosystems (WLE). December 14, 2017 <http://bit.ly/2zeoiiu>. Reposted on IFPRI Blog “Measuring ecosystem services, managing progress- Leveraging natural capital to help meet the SDGs”, February 5, 2018 <http://www.ifpri.org/blog/measuring-ecosystem-services-managing-progress>.
2. Tallis, H. et al. 2017. A Call to Action for Health, Environment, and Development Leaders. A Report by the Bridge Collaborative. <http://bridgecollaborativeglobal.org/wp-content/uploads/2017/10/Bridge-Collaborative-Call-to-Action-2017.pdf> (I am one of the lead authors)
3. Tallis, H. et al. 2017. Bridge Collaborative Practitioner’s Guide- Principles and Guidance for Cross-sector Action Planning and Evidence Evaluation.

- <http://bridgecollaborativeglobal.org/wp-content/uploads/2017/10/Bridge-Collaborative-Principles-and-Guidance-2017.pdf> (I am one of the lead authors)
4. **Zhang, W.** 2017. What makes people aware of ecosystem services? Thrive Blog. CGIAR’s research program on Water, Land and Ecosystems (WLE). February 12, 2017
<https://wle.cgiar.org/thrive/2017/02/12/what-makes-people-aware-ecosystem-services>. Edited and cross-posted to IFPRI research blog on February 27, 2017
<https://www.ifpri.org/blog/what-makes-people-aware-ecosystem-services>
 5. **Zhang, W.** and M. Victor. 2017. China's new agro-investment: opportunity for sustainability? Thrive Blog. CGIAR’s research program on Water, Land and Ecosystems (WLE). January 23, 2017. <https://wle.cgiar.org/thrive/2017/01/23/chinas-new-agro-investment-opportunity-sustainability>. Reposted in IFPRI Research Blog on January 24, 2017
<https://www.ifpri.org/blog/chinas-new-agro-investment-opportunity-sustainability>
 6. **Zhang, W.** 2017. Experimental games test efficacy of subsidies to encourage farmers to invest in natural ecosystem services - Study in Vietnam and Cambodia shows impact depends on local context. IFPRI Research Blog, January 13, 2017.
<https://www.ifpri.org/blog/experimental-games-test-efficacy-subsidies-encourage-farmers-invest-natural-ecosystem-services>
 7. The Economics of Ecosystems & Biodiversity (TEEB). 2015. Chapter contributor for Chapter 1 “Eco-agri-food systems” and Chapter 4 “From economic analysis to solutions for policy, farming, business and consumers”. In *TEEB for Agriculture & Food: an interim report*, United Nations Environment Programme, Geneva, Switzerland.
http://img.teebweb.org/wp-content/uploads/2013/08/TEEBAgFood_Interim_Report_2015_Final_web2.pdf
 8. Guo, Z., R. Shrestha, **W. Zhang**, P. Bhandary, E. Yu, L. Di. 2015. “Land cover classification and change detection analysis using LandSat series and geospatial datasets in Nepal from 1980 to 2010”. 2015 Fourth International Conference on Agro-geoinformatics, IEEE conference proceedings, pp.414-418, 20-24 July 2015. doi: 10.1109/Agro-Geoinformatics.2015.7248159
 9. **Zhang, W.**, E. Kato, P. Bhandary, E. Nkonya, H.I. Ibrahim, M. Agbonlahor, and H.Y. Ibrahim. 2015. Communities’ perceptions and knowledge of ecosystem services: Evidence from rural communities in Nigeria. IFPRI Discussion Paper 01418. Washington DC.
<http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/128961>
 10. CGIAR Research Program on Water, Land and Ecosystems (WLE). 2014. Ecosystem services and resilience framework. Colombo, Sri Lanka: International Water Management Institute (IWMI). CGIAR Research Program on Water, Land and Ecosystems (WLE). 46p. doi: 10.5337/2014.229 [One of the main contributors]
 11. **Zhang, W.**, D. Mekonnen, C. Ringler, Y. Kura, M. Samonn, T. Bunnarith, P. Gatke, and P. Bhandary, 2014. “Water resource uses and potential impact of hydropower development - Case study from northeast Cambodia.” Report for the Challenge Program on Water & Food Mekong Project MK2: “Assessing the Value of Water” 20 July, 2014.
 12. Video. 2014. “Of beneficial insects and behavioral games: Promoting insect-based Ecosystem Services in Southeast Asia - Cambodia.”
<https://www.youtube.com/watch?v=rKH6hCW6shE>. [One of the main contributors]

13. Bell, A. **W. Zhang, F.**, Bianchi, and W. vander Werf, 2013 and 2014. NonCropShare – a coordination game for provision of insect-based ecosystem services. IFPRI Biosight Program. <http://www.ifpri.org/biosight/noncropsharegame>
14. **Zhang, W.** and M. Rosegrant. 2013. “Ladybeetles: Cotton’s secret ingredient.” Published on CGIAR Research Program on Water, Land and Ecosystems (WLE)’s Agriculture and Ecosystems blog. <http://wle.cgiar.org/blogs/2013/08/20/ladybeetles-cottons-secret-ingredient/>. August 20, 2013. The blog was then cross-posted to the IFPRI website on August 27, 2013 at the following link: <http://www.ifpri.org/blog/ladybeetles-cotton%E2%80%99s-secret-ingredient>
15. **Zhang, W.** and M. Rosegrant. 2013. “It’s Complicated: Landscape Diversity for Pest Control.” Published on the Landscapes blog for People, Food, and Nature by EcoAgriculture, May 6, 2013. http://blog.ecoagriculture.org/2013/05/06/ifpri_pestcontrol/
16. **Zhang, W.** 2013. “Landscapes, beetles and cotton: nature’s answer to pest control” Project highlight, CGIAR Research Program on Water, Land and Ecosystems (WLE), February 26, 2013. <http://wle.cgiar.org/blog/2013/02/26/landscapes-beetles-and-cotton-natures-answer-to-pest-control/>
The blog post was then re-published by ESPA program on February 28, 2013
<http://www.espa.ac.uk/news-events/espa-blog/landscapes-beetles-and-cotton-nature’s-answer-pest-control>.
17. **Zhang, W.** and M. Rosegrant. 2012. “Landscape Diversity and Ecosystem Services in Agricultural Ecosystems: Implications for Sustainable Growth and Rural Poverty in China.” ESPA Project highlight, ESPA Newsletter October 2012: <http://www.espa.ac.uk/october-2012-newsletter>
18. Yang, J., **W. Zhang**, and S. Tokgoz. 2012. “The macroeconomic impacts of Chinese currency appreciation on China and the rest of world: A global computable general equilibrium analysis” IFPRI Discussion Paper 01178. April 2012.
19. Rosegrant, M. W., and the IMPACT Development Team. 2012. “International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT): Model Description.” Washington, DC: International Food Policy Research Institute.
20. Sobczynska, E., **W. Zhang** and S. Msangi. 2011. “The potential for ethanol as a sustainable household cooking energy option in Africa”. Selected paper, the 15th *International Consortium on Applied Bioeconomy Research (ICABR) Annual Conference on “Sustainability and the Bioeconomy”*, Frascati (Rome), Italy, June 26-29, 2011.
21. Siwa Msangi, S., P. Dorosh, and **W. Zhang**, 2008. “Biofuels and Human Welfare: Balancing Energy Needs for Fuel and Food.” Conference proceedings of the workshop on Biofuels at Addis Ababa University, October 20th –21st 2008, Addis Ababa, Ethiopia.
22. **Zhang, W.** 2008. “Optimal Pest Management in the Presence of Natural Pest Control Services” *American Journal of Agricultural Economics* 90(5). Abstract of doctoral dissertation being honored at the 2008 American Agricultural Economics Association Meeting.
23. Pagiola, S., Zhang, W., and Colom, A., 2007. “Assessing the Potential for Payments for Watershed Services to Reduce Poverty in Highland Guatemala.” Washington DC: World Bank.
24. Pagiola, S., A. Colom, and W. Zhang. 2007. “Mapping Environmental Services in Highland Guatemala.” Washington DC: World Bank.

25. Swinton, S.M., and W. Zhang. 2005. “Rethinking Ecosystem Services from an Intermediate Product Perspective.” Selected paper, the annual meeting of *American Agricultural Economics Association*, Providence, Rhode Island, July 24-27, 2005.
26. Zhang, W., and C. Liu. 2005. “The Impact of Environmental Policy on Household Income and Activity Choice: Evidence from Sandstorm Source Control Program in North China.” In *Proceedings of the Chinese Economists Society 2005--Sustainable Economic Growth in China: Investing in Human Capital and Environment*.
27. Horan, R.D., R. Claassen, and W. Zhang. 2004. “Instrument Choice and Targeting.” Staff paper 04-15, Department of Agricultural Economics, Michigan State University.
28. Horan, R.D., R. Claassen, J. Agapoff, and W. Zhang. 2004. “Instrument Choice and Budget-Constrained Targeting.” Staff paper 04-14, Department of Agricultural Economics, Michigan State University.
29. Swinton, S.M., C.M. Lanser, and W. Zhang. 2005. “Economic Analysis of Sustainable Agriculture and Food Systems.” Web site developed for the Sustainable Agriculture and Food Systems program at Michigan State University, <http://www.safs.msu.edu/econ/about.htm>.
30. Zhang, W., R. Parsons, and D. Meals. 2001. “Financial Impacts vs. Environmental Impacts of Alternative Phosphorus Management Practices on Vermont Dairy Farms.” *Agricultural and Resource Economics Review* 30(2): 223. Selected abstract of the Northeastern Agricultural and Resource Economics Association Meeting, Bar Harbor, Maine, June 2001.
31. Zhang, W., Q. Wang, and C. Fang. 2001. “China’s Urban Consumer Demand for Dairy Products and Implications for Trade.” *Agricultural and Resource Economics Review* 30(2): 217. Selected abstract of the Northeastern Agricultural and Resource Economics Association Meeting, Bar Harbor, Maine, June 2001.

PRESENTATIONS

1. Zhang, W. and M. Li. 2018. Do disabilities promote migration in Bangladesh? Evidence from panel household survey. Abstract submitted to 2018 AAEA.
2. Zhang, W. and M. Li. 2018. Do disabilities promote migration in Bangladesh? Evidence from panel household survey. Abstract submitted to CGIAR-PIM Pre-Conference Symposium “Rural Transformation in the 21st Century: The Challenges of Low-Income, Late-Transforming Countries” at the International Conference of Agricultural Economists (ICAE).
3. Li, M. and W. Zhang. 2018. Farm Size, Risk Aversion, and Labor Migration under Natural Disaster Risks. Abstract submitted to 2018 AAEA.
4. Li, M. and W. Zhang. 2018. Farm Size, Risk Aversion, and Labor Migration under Natural Disaster Risks. Abstract submitted to CGIAR-PIM Pre-Conference Symposium “Rural Transformation in the 21st Century: The Challenges of Low-Income, Late-Transforming Countries” at the International Conference of Agricultural Economists (ICAE).
5. Zhang, W., Y. Liu, A. Bell. 2018. Disentangling determinants of insecticide use to manage production, food security, and health risks: Evidence from household survey and risk assessment experiments in Cambodia and Vietnam. Abstract submitted to the 2018 Annual Meeting of the Planetary Health Alliance, May 29–31, 2018, Edinburgh, UK.
6. Zhang, W. 2018. Pesticide use determinants and human health. Concurrent session, the 9th International IPM Symposium, March 19-22, 2018, Baltimore, Maryland, USA.

7. Zhang, W. 2017. Managing insects-based ecosystem services: lessons and recommendations. Invited panel presentation, FAO-North America Roundtable Discussion: Scaling Up Pollinator Action for Food, Environmental and Health Resilience. November 3, 2017, Washington DC.
8. Zhang, W. 2017. Natural Resource Management Games for Research and Impact: Evidence from framed field experiments in India and Southeast Asia. Agricultural Policy Support Unit (APSU), Ministry of Agriculture, Dhaka, Bangladesh, November 7, 2017; IFPRI-New Delhi office, New Delhi, India, November 15, 2017.
9. Zhang, W. 2017. Cooperative management of natural enemy habitat for ecosystem services provision: Evidence from behavioral experiments in Southeast Asia. Invited presentation, The 2nd South Lake Innovation Forum for International Young Talents, Huazhong Agricultural University, Wuhan, China, May 17-19, 2017 (Based on Bell and Zhang, 2016, *ERL*)
10. Zhang, W., Y. Liu, A. Bell. 2016. “Farmers’ pesticide use behavior toward own consumption- versus sale-oriented production: Joint effects of risk preferences and perceptions of health risks.” Selected paper presentation at the 2016 Agricultural and Applied Economics Association (AAEA) annual meeting, July 31-August 2, 2016, Boston, USA.
11. Bell, A. and W. Zhang. 2016. “Payments crowd out coordination in ecosystem services provision: Evidence from behavioral experiments in Southeast Asia.” Selected paper presentation at the Association for Environmental Studies and Sciences (AESS) annual conference, Washington DC. June 8-11, 2016.
12. Liu, Y., W. Zhang, P. Bhandary. 2016. “Impact of irrigation on crop choices and diversification in Nepal” Paper presented at the National Center for Science and the Environment (NCSE) national conference on “The Food-Water-Energy Nexus”, January 19-21, 2016, Washington DC.
13. Bell, A., N. Matthews, and W. Zhang. 2016. “Opportunities for improved promotion of ecosystem services in agriculture under the WEF Nexus.” Paper presented at the National Center for Science and the Environment (NCSE) national conference on “The Food-Water-Energy Nexus”, January 19-21, 2016, Washington DC.
14. Guo, Z., R. Shrestha, W. Zhang, P. Bhandary, E. Yu, L. Di, 2015. “Land cover classification and change detection analysis using Landsat series and geospatial datasets in Nepal from 1980 to 2010” Selected paper, Agro-Geoinformatics 2015: Information for Sustainable Agriculture, the 4th International Conference on Agro-Geoinformatics. Istanbul, Turkey, July 20-24, 2015.
15. Zhang, W., E. Kato, P. Bhandary, E. Nkonya, H.I. Ibrahim, M.U. Agbonlahor, and H.Y. Ibrahim. 2015. “Communities’ perceptions and knowledge of ecosystem services: Evidence from rural communities in Nigeria.” Selected poster, the International Association of Agricultural Economists (IAAE) Triennial Conference: 29th ICAE, August 8-14, 2015, Milan, Italy.
16. Liu, Y., W. Zhang, P. Bhandary. 2015. “Measuring the impact of irrigation on crop diversity and productivity in Nepal: Evidence from a panel household data.” Invited presentation at the 6th International Seminar on “Small Scale Irrigation Systems: Challenges to Sustainable Livelihood” organized by the Farmer Managed Irrigation Systems Promotion Trust (FMIST), February 15-16, 2015, Kathmandu, Nepal.

17. Li, M., W. Zhang, Z. Guo, Y. Liu, and P. Bhandary. 2015. Deforestation and Smallholder Income: Evidence from Remittances to Nepal. Abstract accepted by the 4th Annual Association of Environmental and Resource Economists (AERE) Summer Conference. June 3-5, 2015, San Diego, California.
18. Zhang, W., E. Kato, P. Bhandary, E. Nkonya, H.I. Ibrahim, M.U. Agbonlahor, and H.Y. Ibrahim. 2014. "Communities' perceptions and knowledge of ecosystem services: Evidence from rural communities in Nigeria." Selected paper, CGIAR workshop on "Institutions for Ecosystems Services", October 27-29, 2014, Washington DC, USA.
19. Ringler, C. and W. Zhang. 2014. "Challenges and opportunities of undertaking social surveys in the context of interdisciplinary projects on ecosystem services." ESPA Social Surveys Event, London, UK, October 23-24, 2014.
20. Zhang, W. 2014. "Land Use Diversity, Insecticides, and the Value of Natural Enemies in Cotton: First Evidence from Smallholder Agriculture in the North China Plain." AFRE Department Brown Bag Seminar, Michigan State University, East Lansing, Michigan, USA, May 30, 2014.
21. Zhang, W. 2014. "Ecosystem valuation case study – Pest control as an ecosystem service." Invited lecture at the Training workshop on "Economic Tools for Integrating Biodiversity and Ecosystem Services into Agricultural Sector Investments" Biodiversity and Ecosystem Services Program, Inter-American Development Bank, Washington D.C. May 20-21, 2014.
22. Koo, J., W. Zhang, C. Cox, 2014. "Developing Sustainable Agricultural Productivity Indicators." Sustainable Agricultural Productivity Target Meeting, Washington DC, USA, January 24, 2014.
23. Bell, A. and W. Zhang, 2014. "Promoting Insect-based Ecosystem Services in Smallholder Landscapes: Pilot results from Framed Field Experiment – Cambodia", IFPRI Brown bag seminar, Washington DC, USA, March 24, 2014.
24. Zhang, W., P. Bhandary, E. Kato, E. Nkonya, H. I. Ibrahim, M. U. Agbonlahor, and H. U. Ibrahim. 2013. "Farmers' perceptions and knowledge of ecosystem services: Initial findings from Nigeria." Workshop on "BioSight/SustainableFutures" project, Washington DC, December 3-5, 2013.
25. Nkonya, E., W. Zhang, E. Kato and P. Bhandary. 2013. "Local Institutions for Collective Management of Ecosystem services." Workshop on "BioSight/SustainableFutures" project, Washington DC, December 3-5, 2013.
26. Zhang, W. 2013. "Integrating Institutions into Bio-Economic Modeling for Development." Discussant for the paper entitled "Integrating Institutions into Bio-Economic Modeling for Development: A Background Paper for the IFPRI BioSight Project on Sustainable Agricultural Intensification at the Nexus of Food, Water, Land, Energy and the Environment", by Kimberly A. Swallow and Brent M. Swallow. Workshop on "BioSight/SustainableFutures" project, Washington DC, December 3-5, 2013.
27. Zhang, W., Jikun Huang, Ke Zhou, Xiangzheng Deng, Wopke van der Werf, Yanhui Lu, Kongming Wu, Feng Wu, and Mark Rosegrant. 2013. "Land use, pest regulation ecosystem services, and economic value of natural enemies: Evidence from China." Invited presentation at the International Symposium on Agro-biodiversity for Sustainability Development, June 3-4, Beijing, China. The Symposium was co-organized by Biodiversity International and Chinese Academy of Agricultural Sciences.

28. Zhang, W., Y. Lu, F. Wu, J. Huang, K. Zhou, W. van der Werf, X. Deng, K. Wu, M.W. Rosegrant. 2012. “The Effects of Land Use Diversity on Pest Pressure and Insecticide Use in Cotton: A County Level Analysis for China.” Selected paper presented at the China Section AAEA Annual Meeting, August 12-14, Seattle, Washington, USA. The same paper was also presented at the ESPA project workshop held at Center for Chinese Agricultural Policy, Chinese Academy of Sciences, July 19, 2012, Beijing, China; The Nigeria Strategy Support Program (NSSP) Policy Seminar, September 13, 2012, Abuja, Nigeria; FAO, April 12, 2012, Rome, Italy; Biodiversity International, April 13, 2012, Rome, Italy; and the Crop Systems Analysis seminar, Wageningen University, October 8, 2012, the Netherlands.
29. Zhang, W. and M. Rosegrant. 2012. “Landscape Diversity and Ecosystem Services in Agricultural Ecosystems: Preliminary Results from China.” Poster presented at the ESPA Annual Science Conference, November 19-20, 2012, London, UK.
30. Yang, J., W. Zhang, and S. Tokgoz. 2012. “The Macro Economic Impact of Chinese Currency Appreciation on China and the United States: a Global CGE Analysis.” Paper submitted for consideration of presentation at the 28th *International Conference of Agricultural Economists* (ICAE) of the IAAE, Foz do Iguacu, Brazil, August 18- 24, 2012
31. Zhang, W., S.M. Swinton, A. Egbendewe-Mondzozo, W. van der Werf, F. Bianchi, and J. Huang. 2012. “Optimizing landscape-level habitat set-aside for natural enemies of agricultural pests.” Presentation at the 7th International IPM Symposium, Memphis, Tennessee, March 27-29, 2012.
32. Zhang, W., and S.M. Swinton. 2012. “Adjusting the Economic Threshold to Account for Natural Enemies: the case of Soybean Aphids.” Presentation at the 7th International IPM Symposium, Memphis, Tennessee, March 27-29, 2012.
33. Tokgoz, S., W. Zhang, S. Msangi, and P. Bhandary. 2011. “Agriculture and Energy: Implications for Food Security, Water, and Land Use.” American Geophysical Union (AGU) fall meeting, San Francisco, CA, December 5-9, 2011.
34. Zhang, W. 2011. “Ecosystem services in agriculture”. Presentation at the capacity building workshop for the Ecosystem Services and Poverty Alleviation (ESPA) Framework Programme project “Landscape Diversity and Ecosystem Services in Agricultural Ecosystems: Implications for Sustainable Growth and Rural Poverty in China.” Institute of Plant Protection, Beijing, China, July 6-7, 2011.
35. Zhang, W. S.M. Swinton, A. Egbendewe-Mondzozo, W. van der Werf, and F. Bianchi. 2011. “Habitat Management to Enhance Natural Pest Control Ecosystem Services at the Landscape Scale: A Spatial Land Use Optimization Approach”. Selected paper presented at the *Association of Environmental and Resource Economists* (AERE) Summer Conference, Seattle, WA, June 9-10, 2011.
36. Zhang, W. S.M. Swinton, A. Egbendewe-Mondzozo, W. van der Werf, and F. Bianchi. 2011. “Spatially optimal habitat land use management for natural pest control ecosystem services in agricultural landscapes”. Selected paper presented at the *Northeastern Agricultural and Resource Economics Association* (NAREEA) annual meeting, Pittsburgh, PA, July 24-26, 2011.
37. Sobczynska, E., W. Zhang and S. Msangi. 2011. “The potential for ethanol as a sustainable household cooking energy option in Africa”. Paper presented at the 15th *International Consortium on Applied Bioeconomy Research* (ICABR) Annual Conference on “Sustainability and the Bioeconomy”, Frascati (Rome), Italy, June 26-29, 2011.

38. Hill, R., S. Msangi, and W. Zhang. 2010. “Understanding small-holder constraints to jatropha investment”. Selected poster, the annual meeting of *American Agricultural Economics Association*, Denver, Colorado. July 25-27, 2010.
39. Zhang, W., and S. Pagiola. 2009. “Assessing the potential for synergy in the implementation of Payment for Environmental Services (PES) programs: an empirical analysis of Costa Rica.” Contributed poster, the 27th conference of *International Association of Agricultural Economists*, Beijing, China. August 16-22, 2009.
40. Zhang, W., E. Yu, S. Rozelle, J. Yang, and S. Msangi. 2009. “The Impact of Biofuel Growth on Agriculture: Why is the Range of Estimates so Wide?” Organized Symposium paper, the 27th conference of *International Association of Agricultural Economists*, Beijing, China. August 16-22, 2009. Also presented at the brown-bag seminar at IFPRI, Washington DC, February, 2009.
41. Tallis, H., S. Pagiola, W. Zhang, S. Shaikh, E. Nelson, C. Stanton, and P. Shyamsundar, 2009. “Mapping distributional effects of ecosystem services on human well-being.” Selected paper, the annual meeting of the *Society for Conservation Biology*, Beijing, China, July 11-16, 2009.
42. Msangi, S. W. Zhang, and S. Thornhill. 2009. “Biofuels in Sub-Saharan Africa Policies, Issues and Concerns”. The Biofuel Situation & Policies in Developing Countries, 7-8 May 2009, Bancroft Hotel, UC Berkeley.
43. Pagiola, S., W. Zhang, and A. Colom. 2008. “Assessing the Potential for Payments for Watershed Services to Reduce Poverty in Guatemala.” Selected poster, the annual meeting of *American Agricultural Economics Association*, Orlando, Florida. July 27-29, 2008.
44. van der Werf, W., D.A. Landis, M.M. Gardiner, A.C. Costamagna, J.M. Baveco, P.W. Goedhart, F.J.J.A. Bianchi, N.C. Schellhorn, W. Zhang, and S.M. Swinton. 2008. “Modelling and design of pest suppressive landscapes.” *The 5th International Crop Science Congress*, Korea, April 13-18, 2008.
45. Swinton, S.M., W. Zhang, and F. Song. 2007. “Managing an Invasive Agricultural Pest Using Information about Natural Enemies.” *Invasive Species Workshop*, Michigan State University, East Lansing, Michigan, October 2007.
46. Pagiola, S. W. Zhang, and A. Colom. 2007. “Can the poor participate in PES? Empirical evidence from Latin America.” *Poverty and Environment Partnership (PEP) 11th Meeting*, Copenhagen, Denmark, June 18-20, 2007
47. Pagiola, S. W. Zhang, and A. Colom. 2007. “Current ideas for mapping distributional effects and other social outcomes of resource management.” *Collaboration Opportunities for Ecosystem Service Science in Environmental Management: The World Bank and the Natural Capital Project*. Washington, D.C., September 26, 2007.
48. Zhang, W., W. van der Werf, and S.M. Swinton. 2007. “Spatially Optimal Habitat Management For Natural Pest Control Services.” Selected poster, the annual meeting of *American Agricultural Economics Association*, Portland, Oregon. July 29-August 1, 2007.
49. Colom, A., S. Pagiola, and W. Zhang. 2007. “Where Are the Services? Spatial Mapping of Water Services in Guatemala.” *Global Workshop of Payment for Environmental Services*, Lombok, Indonesia, January 22-27, 2007.
50. Zhang, W., and S.M. Swinton. 2006. “A Natural Enemies-Adjusted Economic Threshold for Pest Control.” Selected paper, the *8th Annual BIOECON Conference on the Economic*

- Analysis of Ecology and Biodiversity*, Kings College Cambridge, United Kingdom, August 29-30, 2006.
51. Zhang, W., and S.M. Swinton. 2006. "The Effect of Natural Enemies on Profit-Maximizing Pest Control." Poster, the *Long-Term Ecological Research All-Scientists Meeting*, Estes Park, Colorado, September 20-23, 2006. Also presented at *Graduate Student Research Symposium*, Department of Agricultural, Food, and Resource Economics, Michigan State University, East Lansing, Michigan, January 27, 2007.
 52. Zhang, W., and S.M. Swinton. 2006. "Pest Control in the Presence of Pest Suppression by Natural Enemies." Selected paper, the annual meeting of *American Agricultural Economics Association*, Long Beach, California, July 23-26, 2006.
 53. Zhang, W., and S.M. Swinton. 2006. "How Pest Suppression by Natural Enemies Contributes to Optimal Pest Management." *Ecological Research in Agricultural Landscapes: The 2006 Kellogg Biological Station Long-Term Ecological Research Symposium and Poster Forum*, Michigan State University, East Lansing, Michigan, May 9, 2006.
 54. Zhang, W., and S.M. Swinton. 2006. "Valuing Ecosystem Service from an Intermediate Product Perspective." Selected poster, *American Association for the Advancement of Science*, annual meeting, St. Louis, Missouri, February 16-20, 2006. Also presented at *Ecological Research in Agricultural Landscapes: The 2006 Kellogg Biological Station Long-Term Ecological Research Symposium and Poster Forum*, Michigan State University, East Lansing, Michigan, May 9, 2006
 55. Swinton, S.M., and W. Zhang. 2005. "Rethinking Ecosystem Services from an Intermediate Product Perspective." Selected paper, the annual meeting of *American Agricultural Economics Association*, Providence, Rhode Island, July 24-27, 2005.
 56. Zhang, W., and C. Liu. 2005. "The Impact of Environmental Policy on Household Income and Activity Choice: Evidence from Sandstorm Source Control Program in North China." Selected paper, the annual meeting of *American Agricultural Economics Association*, Providence, Rhode Island, July 24-27, 2005. Also presented at *Chinese Economists Society International Conference on Sustainable Economic Growth in China*, Chongqing, P.R. China, June 24-26, 2005, and the *Second Annual Conference of the Consortium for Western China Development Studies: Rural and Sustainable Development in Western China*, Yinchuan, Ningxia, P.R. China, June 21-22, 2005 (invited panel paper).
 57. Wang, Q., and W. Zhang. 2005. "U.S.-China Agricultural Trade: Potentials and Challenges." Selected poster, the *Symposium on Ecological Complexity and Ecosystem Services: Opportunities for China-USA Collaboration*, University of Vermont, Burlington, Vermont, October 21-22, 2005.
 58. Horan, R.D., R. Claassen, J. Agapoff, and W. Zhang. 2004. "Instrument Choice and Budget-Constrained Targeting." Selected paper, the annual meeting of *American Agricultural Economics Association*, Denver, Colorado, August 1-4, 2004.
 59. Horan, R.D., R. Claassen, and W. Zhang. 2003. "The Economics of Green Payments for Reducing Agricultural Nonpoint Source Pollution in the Corn Belt." Selected paper, the annual meeting of *American Agricultural Economics Association*, Montreal, Canada, July 27-30, 2003. Also presented at the annual meeting of *American Water Resources Association International Congress "Watershed Management for Water Supply Systems"*, New York City, New York, June 29-July 3, 2003.

60. Zhang, W., and Q. Wang. 2003. “Changes in China’s Urban Food Consumption and Implications for Trade.” Selected paper, the annual meeting of *American Agricultural Economics Association*, Montreal, Canada, July 27-30, 2003.
61. Zhang, W., and R. Parsons. 2001. “Financial Impacts of Alternative Phosphorus Management Practices: The Case of Vermont Dairy Farms.” Selected paper, the annual meeting of *American Agricultural Economics Association*, Chicago, Illinois, August 5-8, 2001.
62. Zhang, W., R. Parsons, and D. Meals. 2001. “Financial Impacts vs. Environmental Impacts of Alternative Phosphorus Management Practices on Vermont Dairy Farms.” Selected paper, the annual meeting of *Northeastern Agricultural and Resource Economics Association*, Bar Harbor, Maine, June 2001.
63. Zhang, W., Q. Wang, and C. Fang. 2001. “China’s Urban Consumer Demand for Dairy Products and Implications for Trade.” Selected paper, the annual meeting of *Northeastern Agricultural and Resource Economics Association*, Bar Harbor, Maine, June 2001.

MEDIA

Research was reported in article “NonCropShare game assesses usefulness of co-operation ‘sweeteners’” in the *Environmental Research Web* (Kate Ravilious, Dec 6, 2016). Retrieved from <http://environmentalresearchweb.org/cws/article/news/67220>

SERVICE TO THE PROFESSION

Committee member: Agricultural and Applied Economics Association (AAEA) Nominating Committee, 2017-2018.

Referee for journals: Journal of Environmental Economics and Management, Ecological Economics, Ecosystem Services, Resource and Energy Economics, Ecological Modelling, Agricultural Economics, Environmental Conservation, Applied Economic Perspectives & Policy, Canadian Journal of Agricultural Economics, China Economic Review, European Review of Agricultural Economics, Environmental Management, Journal of Environmental Economics and Policy, Ecological Engineering, Land Use Policy, Local Environment, Applied Economic Perspectives and Policy

Working Group Member: 1) the National Socio-Environmental Synthesis Center (SESYNC) Working Group on Evidence and Decision-Support Tools for Controlling Agricultural Pests with Conservation Interventions. 2014-2016. 2) Science for Nature and People Partnership (SNAPP) Working Group on “Making ecosystems count in the Sustainable Development Goals”, 2014-2015.

Reviewer for the following competitive grant programs: Natural Environment Research Council (NERC) of the UK, Alberta Water Research Institute of Canada, USDA-National Institute of Food and Agriculture’s (NIFA) Exploratory Research program of the Agriculture and Food Research Initiative.

Expert reviewer for the First Order Draft (FOD) of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) Assessment report on the Thematic assessment of pollinators, pollination and food production (Deliverable 3a) and Policy support tools and methodologies for scenario analysis and modelling of biodiversity and ecosystem services (Deliverable 3c). January-March, 2015.

Reviewer for selected papers and posters for the following associations: International Association of Agricultural Economists (IAAE)

Workshop or session organizer or co-organizer:

- “Pesticide use determinants and human health”, the 9th International IPM Symposium, March 19-22, 2018, Baltimore, Maryland, USA.
- “Trade-offs and Synergies in Provision of Environmental Services from Working Ecosystems” and “The role of Payments for Environmental Services (PES) in global efforts to reduce emissions from deforestation and forest degradation (REDD)”, the 4th World Congress of Environmental and Resource Economists (WCERE), Montreal, Canada, June 28-July 2, 2010.
- “Ecosystem Services and Valuation.” Graduate Student Symposium at the Long-Term Ecological Research All-Scientists Meeting, Estes Park, Colorado, September 20-23, 2006.

AWARDS

1. Financial assistance for attending the National Socio-Environmental Synthesis Center (SESYNC)’s Short Course on “Introduction to Spatial Agent-Based Modeling”, December 5-9, 2016, Annapolis, Maryland.
2. Recipient of the “Enhanced Negotiations Skills for Women” training through the AWARD Leadership Series, Mombasa, Kenya, September 23-26, 2013.
3. Visiting Scientist Grant, 2012. C.T. de Wit Graduate School for Production Ecology and Resource Conservation, Wageningen University, the Netherlands.
4. Honorable Mention, 2008 American Agricultural Economics Association Outstanding Doctoral Dissertation Award.
5. Best Ph.D. Dissertation Award. Department of Agricultural, Food, and Resource Economics, Michigan State University, 2007.
6. “AAAS/*Science* Program for Excellence in Science” Award. 2006. American Association for the Advancement of Science (AAAS).
7. Graduate Office Fellowship and International Scholars and Programs Travel Fund, Michigan State University, 2005.
8. Graduate Travel Grant, Northeastern Agricultural and Resource Economics Association, 2001.
9. Field Work Fellowship, Renmin University of China. Beijing, P.R. China, 1994.