

**CLAUDIA RINGLER**  
Senior Research Fellow  
Environment and Production Technology Division  
International Food Policy Research Institute  
Email: [c.ringler@cgiar.org](mailto:c.ringler@cgiar.org)

## EDUCATION

---

- 1998 -2001*      **PhD in Agricultural Economics**  
Center for Development Research (ZEF), Bonn University, Germany  
Dissertation: *Optimal Allocation and Use of Water Resources  
in the Mekong River Basin: Multi-Country and Intersectoral Analyses*  
[Completion with summa cum laude]
- Aug 95 - May 96*      **M.A. International and Development Economics**  
Yale University, USA
- June 1995*      **B.A. in European Business Studies**  
*Oct/93 – June/95*      Universidad Pontificia Comillas, ICADE, Madrid, Spain  
*Oct/91 – June/93:*      Fachhochschule für Technik und Wirtschaft, Reutlingen,  
Germany [Top graduate in Spanish-English program]  
Thesis: *Evaluation and sustainability of technical development  
projects. Comparative study between AECI and GTZ* (in Spanish)

## RESEARCH AND PROFESSIONAL EXPERIENCE

---

### Summary:

- since 01/2007:      Senior Research Fellow, Environment and Production Technology  
Division, International Food Policy Research Institute (IFPRI)
- since 01/2004:      Research Fellow, EPTD, IFPRI; (Co-)Theme 5 leader, Challenge  
Program on Water and Food; Co-team leader of IFPRI's Water  
Research Program
- 2001 – 2003:      Postdoctoral Research Fellow, IFPRI, outposted at Sub-Institute for  
Water Res. Planning, Ho Chi Minh City, Viet Nam
- 1998 – 2000:      Junior Fellow, Center for Development Research (ZEF), Bonn,  
Germany, short-term posting at the Mekong River Commission
- 1997 – 2001:      Research Analyst, IFPRI
- 1996 – 1997:      Senior Research Assistant, IFPRI

*Since 2007***Senior Research Fellow, IFPRI, Environment and Production Technology Division, Washington, DC**

- As Co-Team Leader of IFPRI's Water Research Program, implementation of IFPRI's new Research Strategy; with a focus on water quality and global change research: Development of program documents; liaising with donors and development of networks of collaborators
- As IFPRI's representative in the Challenge Program on Water and Food (CPWF), liaising with CGIAR centers and other members of the Challenge Program, and implementation of the Theme 5 research program on the Global and National Food and Water System [until 9/2006 and co-Theme leader since 3/2007 through 12/2008]
- Contribution to the development of the CGIAR Challenge Program on Climate Change
- Organization on conferences on adaptation to climate change in Ethiopia and South Africa
- Program management—focusing on water, water quality, and climate change; fund raising, synthesis research—and research implementation, leadership of several projects [titles of selected projects are listed below]
  - Project leader, Kenya adaptation to climate change project
  - Project leader: Yellow River Basin Focal Project, China
  - Project collaborator, Strategies for Adapting to Climate Change in Rural Sub-Saharan Africa: Targeting the Most Vulnerable
  - Project collaborator: Agricultural water management strategies for Sub-Saharan Africa and South Asia, Gates Foundation
  - Resource Person, EU-funded climate change cost study
- Publications in the areas water management at the basin level, global food and water security, natural resource constraints to global food production, and adaptation to climate change (22 journal articles, 6 refereed books and monographs, 29 chapters in books and proceedings, 22 mimeographs and discussion papers)

*Since 2004***Research Fellow, IFPRI, Environment and Production Technology Division, Washington, DC**

- Program management—focusing on water, water quality, and climate change; fund raising, synthesis research—and research implementation, leadership of several projects [titles of selected projects are listed below]
  - Project leader, German-funded large-scale Climate Change Adaptation Project: Ethiopia, South Africa, and rural Africa
  - Project leader: Chile Rural Water Quality Management project
  - Project leader: Potential of River Basin Organizations for India
  - Project coordinator: Agriculture and Rural Development Strategy Study for Indonesia
  - Project collaborator, Ex-ante Impact Assessment for the CPWF

- Project collaborator, European Agriculture to 2020
- Coordinating role, lead author, and collaborator, international assessments related to agriculture and food:
  - Scenario Working Group, International Assessment of Agricultural Science and Technology for Development (IAASTD)
  - Lead author in the Scenarios Working Group of the Millennium Ecosystem Assessment
  - Involved in the GEO-4 (UNEP) State of the Environment Assessment
- Outreach of IFPRI's water and food projections research in national, regional, and international fora, participating in approximately 5 conferences annually
- Organization of conferences, symposia, and meetings:
  - Organized international conference on “Globalization and Trade: Implications for Water and Food Security [2005]
  - Organizes approximately 2-4 symposia annually

#### ***July 2004***

**Short-term Consultancy, Black and Veatch, HCMC, Viet Nam** for the sub-project “Implementation of Information, Technology and Research (ITR) Strategy” in the Dong Nai River Basin, Viet Nam

- Supervision of modeling exercises, database development, and model adaptations for the ongoing “Capacity Building for Water Resources Management Project.”

#### ***June 2003-March 2004***

**Outposted Expert in Indonesia and (Postdoctoral) Research Fellow, IFPRI, at CASER (now CASEPS), Bogor, Indonesia.**

Technical Coordinator for the *Agriculture and Rural Development Strategy Study* for the Ministry of Agriculture in Indonesia

- Liaison with partners and collaborators at the Ministry of Agriculture and the Center for Agro-Socioeconomic Research in Bogor, Indonesia.
- Coordination of domestic and international consultants
- Write-up of several chapters of the Strategy Study, including Sources of Agricultural Growth, Aquaculture Case Study, and Trends and Projections for Food Supply and Demand.

#### ***August 2002-June 2003***

**Postdoctoral Research Fellow, IFPRI, Washington D.C.**

- Completion of river basin analysis and strategies for enhanced food security and farm incomes for the Mekong Delta and Dong Nai basin
- Development of research for the Mekong River Basin together with the MRC
- Organization of International Workshop on Water Rights in Hanoi, Vietnam

***July 2000-August 2002***

**Outposted Expert in Vietnam and Postdoctoral Research Fellow, IFPRI, Ho Chi Minh City, Viet Nam**

Team leader for the Vietnam component of the multi-year research project “Irrigation Investment, Fiscal Policy, and Water Resource Allocation in Indonesia and Viet Nam.”

- Liaison with partners and collaborators at the Vietnamese Ministry of Agriculture and Rural Development and the Sub-Institute for Water Resources Planning
- Supervised the design, collection, analysis and interpretation of primary (field) and secondary meteorologic, hydrologic, and agro-economic data
- Carried out a major and two smaller farm household surveys in southern Vietnam
- Developed a state-of-the-art integrated economic-hydrologic model of the Dong Nai River Basin, Southern Vietnam; and utilized the model to evaluate water resources allocation and investment policy scenarios
- Contributed to a report on river basin institutions for the Dong Nai River Basin and to a report on the implications of agricultural taxation and investments on irrigation
- Trained collaborators in mathematical modeling techniques and data analysis methods
- Prepared project documentation and publications
- Presented project results at several national and international workshops and conferences.

***Sep. 2000-Dec. 2002***

**Principal Researcher** in the IFPRI-IWMI project “Economic Value of Water in the Mekong Delta, Vietnam, Under Alternative Mekong River Flow Regimes,” carried out in collaboration with the Sub-Institute for Water Resources Planning, Vietnam.

- Development of an economic framework for the valuation of water uses in the Mekong Delta that takes account of and quantifies the multiple uses of water, assists in conceptualizing the efficient regional management of this international resource; and clarifies the effects of transboundary management options on the Mekong Delta in Vietnam.

***Sep. 2001***

**Short-term Consultancy, Center for Development Research (ZEF), Bonn, Germany** for “GLOWA project in the Volta River Basin, Ghana” in Ghana

- Data collection and modeling assistance for “Optimal Allocation of Water Resources in the Volta River Basin” (Supervision of doctoral student).

***January 1998 - June 2000***

**Junior Research Fellow and Doctoral Student, ZEF, Bonn, Germany**

- Theory and fieldwork in Cambodia for dissertation titled “Optimal Allocation and Use of Water Resources in the Mekong River Basin: Multi-Country and Intersectoral Analyses”

***June 1996 –December 2000***

**Senior Research Assistant and Research Analyst, IFPRI, Washington, D.C.**

*Water Resource Allocation at the Basin Level*

- Collection, review, and synthesis of scientific literature on modeling of water allocation at the

river basin level and contribution to IWMI research report on this topic

- Contribution to the establishment of model design and structure, model validation and baseline results of an integrated hydrologic-economic-institutional river basin model for the Maipo River Basin in Chile within an interdisciplinary research team, with focus on agricultural production functions and combined municipal & industrial demand functions
- Contribution to disaggregation of municipal and industrial demand function and extension of the agricultural production functions to include labor and agricultural chemicals as decision variables in addition to land, water and irrigation technology.

#### *Transferring Water out of Agriculture*

- Literature review and synthesis of the available evidence of the effects of water transfers from agricultural to urban and industrial areas on local and regional rural economies

#### *Water Allocation in the Mekong River Basin*

- Outposted at the Mekong River Commission Secretariat (MRCS), Phnom Penh, Cambodia, Feb-April 1999, under a research project of the Center for Development Research, Bonn University
- Participation in preparatory activities for the plan and process of a Basin Development Plan for the Sustainable Development of the Mekong River Basin
- Meetings with various line ministries and agencies on Basin Development Plan activities
- Contribution to various other MRCS activities and studies
- Drafting of final report and submission of ZEF Discussion Paper on Development Policy
- Successful finalization of dissertation on this topic

#### *Investment in Irrigation Indicators in Latin America and the Caribbean*

- Survey of organizations in Latin America and the Caribbean on indicators for investment in irrigation and water resources
- Collection, review, and synthesis of scientific literature on water resources and irrigation in the region
- Responsible for final report on findings of survey and literature reviews
- Responsible for series of Country Briefs on Irrigation and Water Resources in Latin America and the Caribbean.

#### *Global Trends in Food Supply and Demand*

- Updated IFPRI's International Model for Policy Analysis of Agricultural Commodities and Trade from base year of 1992-94 to 1994-96
- Contribution to scenario analysis for a wide range of issues, including the future of root and tuber crops, livestock supply and demand, to the potential effects of a rapid increase in environmental degradation in China

*Water Scarcity and Global Food Security*

- Data collection and other assistance to establish a database for water availability and use
- Co-author in paper for the first phase for the World Commission on Water for the 21<sup>st</sup> Century

*Other Activities*

- Assistance in grant proposal writing at IFPRI and at the Center for Development Research (ZEF), Germany
- Presentation of Water Research Team results at various meetings, including the Scenario Development Panel of the World Commission on Water for the 21<sup>st</sup> Century, International Water and Resource Economics Consortium, the International Water Congress at Bonn, and the World Futures Society conference
- Participation in a variety of other meetings and conferences related to irrigation management and the water sector

**March 1996**

**Intern, TRICKLE UP PROGRAM, New York**

- Creation of database for evaluation of program activities
- Assistance in evaluation of performance of small businesses in several developing countries

**July/95 - Aug/95**

**Intern, GTZ GmbH, Frankfurt a.m., Germany, Quality Assurance Department**

- Assistance in database creation and management of survey results for the internal evaluation of GTZ technical development projects
- Drafting of short papers on evaluation, impact monitoring, and sustainability in technical development projects

**June/92 - Dec/92**

**Intern, ALCATEL SEL AG, Transportation Division, Stuttgart, Germany, and Madrid, Spain**

- Assistance in system planning and project controlling for high-speed train projects in Spain and Portugal

**July/93 - Aug/93**

**Volunteer Work, SAN GABRIEL, Lima, Peru**

- Assistance in administration of poor urban area

**OTHER SKILLS**

---

**Languages:**

German:	native speaker
English:	fluent
Spanish:	fluent
French:	good
Vietnamese:	basic

**Computing, Technical:**

Programming: GAMS  
 Statistical: STATA  
 GIS: ArcView (basic)  
 General: MS Office  
 Field methods: Carried out several farm household surveys  
 Conferences: Organized several conferences

**Professional Associations:**

International Water Resource Association (IWRA)  
 International Agricultural Economics Association (IAAE)

**Awards and Fellowships:**

Zayed International Prize for the Environment 2005, to all Millennium Ecosystem Assessment authors  
 German Developing Country Prize for Best Dissertation (2004)  
 ERASMUS Scholarship for BA program  
 DAAD (German Academic Exchange Service) Scholarship for MA program at Yale

**PUBLICATIONS**

---

**JOURNAL ARTICLES**

- [J31] Ringler, C., X. Cai, J. Wang, A. Ahmed, Y. Xue, Z. Sue, E. Yang, J. Zhao, T. Zhu, L. Cheng, Y. Fu, X. Fu, X. Gu, and L. You. 2010. Yellow River Basin: Living with scarcity. *Water International*. 35: 5, 681—701. DOI: 10.1080/02508060.2010.509857
- [J30] Bryan, E., W. Akpalu, M. Yesuf, and C. Ringler. Global carbon markets: Opportunities for sub-Saharan Africa in agriculture and forestry. *Climate and Development*. 2 (2010) 309–331 doi:10.3763/cdev.2010.0057.
- [J29] Deressa, T.T., R.M. Hassan, and C. Ringler. 2010. Perception of and adaptation to climate change by farmers in the Nile basin of Ethiopia. *Journal of Agricultural Science*. doi: 10.1017/S0021859610000687
- [J28] Gbetibouo, G.A., C. Ringler, and R.M. Hassan. 2010. Vulnerability of the South African farming sector to climate change and variability: An indicator approach. *Natural Resource Forum* 34 (2010) 175–187. DOI: 10.1111/j.1477-8947.2010.01302.x.
- [J27] de Moraes, M., X. Cai, C. Ringler, B. E. Albuquerque, S. P. Vieira da Rocha, and C. A. Amorim. 2010. "Joint Water Quantity-Quality Management in a Biofuel Production Area: Integrated Economic-Hydrologic Modeling Analysis," ASCE, *Journal of Water Resources Planning and Management* 136(4): 502-511. [http://dx.doi.org/10.1061/\(ASCE\)WR.1943-5452.0000049](http://dx.doi.org/10.1061/(ASCE)WR.1943-5452.0000049).
- [J26] Sulser, T.B., C. Ringler, T. Zhu, S. Msangi, E. Bryan, and M. Rosegrant. 2009. Green and blue water accounting in the Ganges and Nile basins: implications for food and agricultural policy. *Journal of Hydrology*. doi: 10.1016/j.jhydrol.2009.10.003.

- [J25] Rosegrant, M.W., C. Ringler, and T. Zhu. 2009. Water for agriculture: Maintaining food security under growing scarcity. *Annual Review of Environment and Resources*. 2009. 34:205–223. doi: 10.1146/annurev.environ.030308.090351.
- [J24] Jawahar, P. and C. Ringler. 2009. Water Quality is Essential to Food Safety: Risks and drivers of global change. *Water Policy*. Vol.11: 680-695. doi:10.2166/wp.2009.037.
- [J23] Ringler, C. and A. K. Sikka (eds.) 2009. Special Issue on “Integrated Water Resources Management for Livelihood Improvement in the Indo-Gangetic Basin” Vol 7(2). *International Journal of River Basin Management*:
- Sikka, A.K. and C. Ringler. 2009. Introduction to Special Issue. *International Journal of River Basin Management* 7(2): 107-110.
- Ringler, C., S.A. Cline, and M.W. Rosegrant. 2009. Water supply and food security: Alternative scenarios for the Indian Indo-Gangetic River Basin. *International Journal of River Basin Management* 7(2): 167-173.
- [J22] Deressa, T.D., R.M. Hassan, C. Ringler, T. Alemu, and M. Yesuf. 2009. Determinants of farmers’ choice of adaptation methods to climate change in the Nile Basin of Ethiopia. *Global Environmental Change*. 19 (2009) 248–255. doi:10.1016/j.gloenvcha.2009.01.002.
- [J21] Bryan, E., T. T. Deressa, G. A. Gbetibouo, and C. Ringler. 2009. Adaptation to climate change in Ethiopia and South Africa: Options and constraints. *Environmental Science & Policy*. 12: 413–426. doi:10.1016/j.envsci.2008.11.002.
- [J20] Cai, X., D. Wang, T. Zhu, and C. Ringler. 2009. Assessing the regional variability of GCM simulations. *Geophysical Research Letters*, 36, L02706, doi:10.1029/2008GL036443.
- [J19] Cai, X., C. Ringler, and J.Y. You. 2008. Substitution between Water and other Agricultural Inputs: Implications for Water Conservation in a River Basin Context. *Ecological Economics* 66(1): 38-50.
- [J18] Ringler, C. 2008. The Millennium Ecosystem Assessment: Tradeoffs between Food Security and the Environment. *Turkish Journal of Agriculture and Forestry*. 32, 3: 147-157.
- [J17] Meinzen-Dick, R., and C. Ringler. 2008. Water reallocation: Drivers, challenges, threats, and solutions for the poor. *Journal of Human Development* 9:1, 47 – 64. DOI: 10.1080/14649880701811393.
- [J16] Rosegrant, M., C. Ringler, S. Msangi, T. Zhu, T. Sulser, R. Valmonte-Santos, M. W. Rosegrant, and S. Wood. 2007. Agriculture and food security in Asia: The role of agricultural research and knowledge in a changing environment. *Journal of Semi-Arid Tropical Agricultural Research* 4(1): 1-35. <http://ejournal.icrisat.org/specialproject.htm>; <http://www.icrisat.org/journal/specialproject/sp6.pdf>
- [J15] Cai, X. and C. Ringler. 2007. Balancing agricultural and environmental water needs in China: alternative scenarios and policy options. *Water Policy* Vol 9(S1):95–108 doi:10.2166/wp.2007.047.
- [J14] Ringler, C., N.V. Huy, and S. Msangi. 2006. Water Allocation Policy Modeling for the Dong Nai River Basin: An Integrated Perspective. *Journal of the American Water Resources Association* 42(6): 1465-1482.
- [J13] Ringler, C., and X. Cai. 2006. Valuing Fisheries and Wetlands Using Integrated Economic-Hydrologic Modeling—Mekong River Basin. *Journal of Water Resources Planning and Management* Vol 132(6): 399-525.
- [J12] Msangi, S., C. Ringler, and M.W. Rosegrant. 2006. Doing the right thing with water: combining market-based principles with policy intervention for the sustainable management of water

in agriculture. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources* 2006 1, No. 037, pp. 1-13. <http://www.cababstractsplus.org/cabreviews/>.

[J11] Alcamo, J., D. van Vuren, C. Ringler, W. Cramer, T. Masui, J. Alder, and K. Schulze. 2005. Changes in nature's balance sheet: model-based estimates of future worldwide ecosystem services. *Ecology and Society* 10(2): 19 [online] URL:<http://www.ecologyandsociety.org/vol10/iss2/art19/>

[J10] Ringler, C., M. Rosegrant, X. Cai, and S. Cline. Auswirkungen der zunehmenden Wasserverknappung auf die globale und regionale Nahrungsmittelproduktion. *Zeitschrift für angewandte Umweltforschung (ZAU) (Journal for Environmental Research)*. Jg. 15/16 (2003/2004), H. 3-5, pp. 604-619.

[J9] Ringler, C., J. von Braun, and M.W. Rosegrant. 2004. Water policy analysis for the Mekong River Basin. *Water International* 29(1): 30–42.

[J8] Cai, X., M.W. Rosegrant, and C. Ringler. 2003. Physical and economic efficiency of water use in the river basin: Implications for efficient water management, *Water Resources Research* 39(1), 1013, doi:10.1029/2001WR000748, 2003.

[J7] Son, N.D., Huy, N.V., and C. Ringler. 2002. Mo Hinh Tong Hop Kinh Te - Thuy Van Luu Vuc Song, Cong Cu Toi Uu Hoa Nguon Nuoc Luu Vuc Song Dong Nai Va Luu Vuc Phu Can (Integrated Economic-Hydrologic River Basin Model - An Optimization Tool for Water Resources Allocation in the Dong Nai and Surrounding River Basins). *Nong Nghiep Va Phat Trien Nong Thon (Science & Technology Journal of Agriculture and Rural Development)* No. 8, 2002, pp. 711-712.

[J6] Berger, T. and C. Ringler. 2002. Tradeoffs, efficiency gains and technical change – Modeling water management and land use within a multiple-agent framework, *Quarterly Journal of International Agriculture* 41(1/2): 119-144 [Special Issue on Agricultural Water Management and Land Use In Relation To Future Water Supply].

[J5] Scott, G.J., M.W. Rosegrant, and C. Ringler. 2000. Global projections for root and tuber crops to the year 2020. *Food Policy* (25)5: 561-597.

[J4] Rosegrant, M.W. and C. Ringler. 2000. Asian economic crisis and the long-term global food situation. *Food Policy*, 25(3): 243-254.

[J3] Rosegrant, M.W., C. Ringler, D.C. McKinney, X. Cai, A. Keller, and G. Donoso. 2000. Integrated economic-hydrologic water modeling at the basin scale: The Maipo river basin. *Agricultural Economics* (24)1: 33-46.

[J2] Rosegrant M.W. and C. Ringler. 1998. Impact on food security and rural development of transferring water out of agriculture. *Water Policy*, 1(6): 567-586.

[J1] Rosegrant, M.W. and C. Ringler. 1997. World food markets into the 21<sup>st</sup> century: Environmental and Resource Constraints and Policies. *Australian Journal of Agricultural and Resource Economics* 41(3): 401-428.

## REFEREED BOOKS AND MONOGRAPHS

[B8] Ringler, C., A. Biswas and S. A. Cline (eds.). 2010. Global Change: Impact on Water and Food Security. Springer.

[B7] Asian Development Bank and International Food Policy Research Institute. [Authors: M. Rosegrant, C. Ringler, T. Zhu, J. Koo, R. Valmonte-Santos, M. Magalhaes, R. Robertson, G. Nelson, and T. Sulser]. 2009. Building Climate Resilience in the Agriculture Sector. ADB, Manila,

Philippines. 322 pp. <http://www.adb.org/Documents/Books/Building-Climate-Resilience-Agriculture-Sector/default.asp>

[B6] Cai, X., C. Ringler, and M.W. Rosegrant. 2006. Modeling Water Resources Management at the Basin Level: Methodology and Application to the Maipo River Basin. *IFPRI Research Report No. 149*.

[B5] Bruns, B., C. Ringler, and R. Meinzen-Dick (eds.). 2005. *Water rights reform: Lessons for institutional design*. Washington, D.C.: IFPRI. <http://www.ifpri.org/pubs/books/oc49.asp>

[B4] Rosegrant, M.W., C. Ringler, T. Benson, X. Diao, D. Resnick, J. Thurlow, M. Torero, and D. Orden. 2006. *Agriculture and achieving the Millennium Development Goals*. Washington, D.C.: World Bank [Report No. 32729-GLB].

[B3] Barker, R. C. Ringler, N.M. Tien, and M.W. Rosegrant. 2004. Macro Policies and Investment Priorities for Irrigated Agriculture in Vietnam. *Comprehensive Assessment Research Report No. 6*. Sri Lanka: IWMI.

[B2] Ringler, C. 2001. *Optimal Allocation and Use of Water Resources in the Mekong River Basin: Multi-Country and Intersectoral Analyses*. Development Economics and Policy Series. Vol. 20. Peter Lang.

[B1] Rosegrant, M.W., J. Witcover, R.V. Gerpacio, and C. Ringler (eds.). 1998. *Agricultural sustainability, growth and poverty alleviation in East and Southeast Asia: Issues and policies*, eds. Proceedings of a conference held in Kuala Lumpur, Malaysia, October 4-6, 1994. DSE and IFPRI.

## BOOK CHAPTERS AND PROCEEDINGS

[C35] Deressa, T.T., R.M. Hassan and C. Ringler. 2010. Assessing Household Vulnerability to Climate Change: The case of farmers in the Nile Basin of Ethiopia. In *Finance and Banking Developments*, ed. C.V. Karzone. NOVA Science Publishers.

[C34] Gbetibouo, G.A., R.M. Hassan, and C. Ringler. 2010 Modelling farmers' adaptation strategies for climate change and variability. The Case of the Limpopo Basin, South Africa. *Agrekon*. 49(2): 217-234.

[C33] Truong, T.V., T. Ketelsen, and C. Ringler. 2010. Water resources management strategy to mitigate the impact of climate change in the Mekong Delta of Vietnam. Forthcoming book chapter.

[C32] Asaduzzaman, M., C. Ringler, J. Thurlow, and S. Alam. 2010. Investing in crop agriculture in Bangladesh for higher growth and productivity, and adaptation to climate change. Bangladesh Food Security Investment Forum, 26–27 May 2010, Dhaka. <http://bangladeshfoodsecurity.wordpress.com/conference-papers/>.

[C31] Rosegrant, M.W., C. Ringler, and I. De Jong. 2009. Irrigation: Tapping potential. In *Africa Infrastructure: A time for transformation*, eds. V. Foster and C. Briceño-Garmendia. A co publication of the Agence Française de Développement and the World Bank.

[C30] Rosegrant, M.W., M. Fernandez, and A. Sinha, and others, including C. Ringler [chapter coordinator]. 2009. Looking into the future for agriculture and AKST. In *International assessment of agricultural knowledge, science and technology for development (IAASTD): Global report*, eds. B.D. McIntyre, H.R. Herren, J. Wakhungu, and R.T. Watson. Washington, D.C.: Island Press.

[C29] Rosegrant, M.W., C. Ringler, T. B. Sulser, S. Msangi, T. Zhu, R. Valmonte-Santos, and S. Wood. 2007. Agriculture in Asia: Challenges and opportunities. In *Reducing poverty and hunger in Asia*, ed. N. Islam. 2020 Focus No. 15. Washington, D.C.: IFPRI.

- [C28] Ringler, C., P. Jawahar, R. Meinzen-Dick, KV Raju with P R Choudhury, C. Karthikeyan, R. Mahapatra, K Palanisami, N Rout, and A. Taron. 2007. *Institutional Options for Improving Water Management in India – The Potential Role of River Basin Organizations*. New Delhi: Asian Development Bank.
- [C27] Harrington, L.W., F. Gichuiki, A. Huber-Lee, E. Humphries, N. Johnson, S. Nguyen-Khoa, C. Ringler, K. Geheb and J. Woolley. 2007. *Synthesis 2006*. Challenge Program on Water and Food. Colombo, Sri Lanka. In press.
- [C26] Ringler, C. and X. Cai. 2007. An integrated economic-hydrologic model and alternative water policy analyses for the Mekong River Basin. Proceedings, Assessment of Changes in Water Cycles on Food Production and Alternative Scenarios--Expectations for the Scenarios. Tsukuba, Japan, Nov 22, 2007.
- [C25] Ringler, C. and S. Msangi. 2007. Food security and other aspects of human well-being in the GEO-4 scenarios. In *Global assessments: bridging scales and linking to policy. Report on the joint TIAS-GWSP workshop held at the University of Maryland University College, Adelphi, USA, 10 and 11 May 2007*, eds. C. Van Bers, D. Petry, and C. Pahl-Wostl. GWSP Issues in Global Water System Research, No.2. GWSP IPO, Bonn, pp. 32-35. [http://www.gwsp.org/downloads/gwsp\\_issues\\_no2.pdf](http://www.gwsp.org/downloads/gwsp_issues_no2.pdf)
- [C24] Ringler, C. 2007. The impact of climate variability and climate change on water and food outcomes: A framework for analysis. In *Global assessments: bridging scales and linking to policy. Report on the joint TIAS-GWSP workshop held at the University of Maryland University College, Adelphi, USA, 10 and 11 May 2007*, eds. C. Van Bers, D. Petry, and C. Pahl-Wostl. GWSP Issues in Global Water System Research, No.2. GWSP IPO, Bonn, pp. 90-94. [http://www.gwsp.org/downloads/gwsp\\_issues\\_no2.pdf](http://www.gwsp.org/downloads/gwsp_issues_no2.pdf)
- [C23] Msangi, S; C. Ringler, and M.W. Rosegrant. 2006. The future of agriculture and water: market and policy-based strategies for sustainability: What can the developing world learn from North America?. In *Water and Agriculture: Sustainability, Markets and Policies*. Paris: Organization for Economic Cooperation and Development.
- [C22] Harrington, L., F. Gichuki, B. Bouman, N. Johnson, C. Ringler, and V. Sugunan. 2006. *Synthesis 2005*. Challenge Program on Water and Food. Colombo, Sri Lanka.
- [C21] Rosegrant, M.W., R.A. Valmonte-Santos, S.A. Cline, C. Ringler, and W. Li. 2005. Water resources, agriculture and pasture: implications of growing demand and increasing scarcity. In *Grasslands: a global resource, Plenary and invited papers from the XX International Grassland Congress, Dublin, Ireland, 26 June - 1 July, 2005*, D.A. McGilloway, ed. Wageningen, The Netherlands: Wageningen Academic Publishers.
- [C20] Alcamo, J. D. van Vurren, and W. Kramer (CLAs), C. Ringler and others, LAs. 2005. Changes in Ecosystem Services and Their Drivers Across Scenarios. In *Ecosystems and Human Wellbeing. Scenarios*. Vol. 2, pp. 300-373. <http://www.maweb.org/en/Products.Global.Scenarios.aspx>
- [C19] Alcamo, J. D. van Vurren, and C. Ringler. 2005. Methodology for Developing the MA Scenarios. In *Ecosystems and Human Wellbeing. Scenarios*. Vol. 2, pp. 147-172. <http://www.maweb.org/en/Products.Global.Scenarios.aspx>
- [C18] Kareiva, P. (CLA), M. Rosegrant, C. Ringler and others, LAs. 2005. State of the Art in Simulating Future Changes in Ecosystem Services. In *Ecosystems and Human Wellbeing. Scenarios*. Vol. 2, pp. 73-115. <http://www.maweb.org/en/Products.Global.Scenarios.aspx>
- [C17] Rosegrant, M.W., C. Ringler, and C. Rodgers. 2005. The water brokerage mechanism – Efficient solution for the irrigation sector. In *Proceedings of XII World Water Congress “Water for*

*Sustainable Development - Towards Innovative Solutions,*” 22-25 November 2005, New Delhi, India.

[C16] Rosegrant, M.W., X. Cai, C. Ringler, and S. Cline. 2005. Market adaptations to increased water prices in China: The impact on water demand and food production. In *Proceedings of the 2nd International Yellow River Forum on Keeping Healthy Life of the River*. Yellow River Conservancy Press, ed. Shang Hongqi, pp. 332-339.

[C15] Ringler, C. 2005. The role of economic incentives for the optimal allocation and use of water resources - case study of the Dong Nai River Basin in Vietnam. In: *Water and Sustainable Development*, ed. P. Michael Schmitz. Frankfurt: Peter Lang GmbH. pp. 61-92.

[C14] Ringler, C., N.V. Huy and S. Msangi. 2005. "An Integrated Perspective on Water Allocation Policies in the Dong Nai Basin of Vietnam." In *Proceedings of AWRA's 2005 Summer Specialty Conference "Institutions for Sustainable Watershed Management: Reconciling Physical and Management Ecology in the Asia-Pacific"* (eds. J.K. Levy, C.C.K. Liu, J.E.T. Moncur, and C.F. Ice), American Water Resources Association, Middleburg, Virginia, TPS-05-2, CD-ROM.

[C13] Cline, S., M.W. Rosegrant and C. Ringler. 2005. The Role of Water Rights and Market Approaches to Water Quality Management in the Americas. In *Water Quality Management in the Americas*, Asit K. Biswas, Cecilia Tortajada, Benedito Braga and Diego J. Rodriguez (eds.) Springer-Verlag.

[C12] Svendsen, M., C. Ringler, and N., Duy Son. 2005. Water Resource Management in the Dong Nai Basin: Current Allocation Processes and Perspectives for the Future. In *Irrigation and River Basin Management: Options for Governance and Institutions*, ed. Mark Svendsen. Wallingford: CAB International.

[C11] Ringler, C., N., Huy, N.V, X. Cai, and H. Gia Linh. 2003. Alternative Futures for Water Allocation and Use in the Dong Nai River Basin, Vietnam. In *Governance for Integrated Water-Resources Management in a River-Basin Context*. Proceedings of a Regional Seminar, Bangkok, May 2002, eds. Bryan Bruns and D.J. Bandaragoda, Colombo, Sri Lanka: IWMI.

[C10] Ringler, C., Huy, N.V., Cai, X., and H. Gia Linh, H. 2002. Water allocation policies for the Dong Nai river basin in Viet Nam: An integrated perspective. In: *Irrigation Water Policies: Micro and Macro Considerations*. Proceedings of an International Conference held in Agadir, Morocco, June 15-17 2002. Vol. 4.

[C9] Ringler, C., Cong, N.C., and Huy, N.V. 2002. Water allocation and use in the Dong Nai river basin in the context of water sector reforms. In: *Integrated Water-Resources Management in a River Basin Context: Institutional Strategies for Improving the Productivity of Agricultural Water Management*, Proceedings of a Regional Workshop, Malang, Indonesia January 15-19, 2001, IWMI, Colombo, Sri Lanka.

[C8] Cai, X., C. Ringler, and M.W. Rosegrant. 2001. Examining physical and economic efficiencies of water use through integrated economic-hydrologic water modeling. In *Integrated Water Resources Management* (Proceedings of a symposium held at Davis, California, April, 2000). IAHS Publication No. 227.

[C7] Cai, X., M.W. Rosegrant, D.C. McKinney, and C. Ringler. 2001. Holistic Water Resources-Economic Modeling. Section 1, Chapter 193 , (doi 10.1061/40569(2001)71) in *Bridging the Gap: Meeting the World's Water and Environmental Resources Challenges*, eds. D. Phelps and G. Shelke, ASCE, Virginia.

[C6] Rosegrant, M.W., C. Ringler, and M.S. Paisner. 2001. Agricultural research, technology and world food markets. In *Tomorrow's agriculture: Incentives, institutions, infrastructure and*

*innovations*. Proceedings of the 24<sup>th</sup> International Conference of Agricultural Economists, eds. G.H. Peters and P. Pingali. Oxford: Asghate.

[C5] Rosegrant, M.W., M.S. Paisner, and C. Ringler. 2001. Global and Southeast Asian Trends in Food Supply, Demand, and Food Security. *Conference Proceedings*. UN World Food Program. Phnom Penh, Cambodia, February 8-9, 2001.

[C4] Ringler, C. and M.W. Rosegrant. 2000. Konkurrenz um Wassernutzungen im Kontext von Flusseinzugsgebieten (Competition for water uses in the context of river basins). In *Wasser*, Schriftenreihe Forum Bd. 9, Wienand, Cologne, 2000.

[C3] McKinney, D.C., X. Cai, M.W. Rosegrant, C. Ringler, and C.A. Scott. 1999. *Integrated basin-scale water resources management modeling: Review and future directions*. IWMI SWIM Paper No. 6. Colombo, Sri Lanka: IWMI.

[C2] Rosegrant, M.W., C. Ringler, and R.V. Gerpacio. 1999. Water and land resources and global food supply. In *Food security, diversification and resource management: Refocusing the role of agriculture?* Proceedings of the 23 International Conference of Agricultural Economics, held at Sacramento, California, 10-16 August, 1997, eds. G.H. Peters, and J. von Braun. Oxford: Ashgate.

[C1] Rosegrant, M.W. and C. Ringler. 1998. *Asian economic crisis and the long-term global food situation*. Proceedings of a Conference of the International Agricultural Trade Research Consortium (IATRC), eds. R. Paarlberg and T.L. Roe. St. Paul, Minnesota: University of Minnesota, Department of Applied Economics, IATRC.

## DISCUSSION PAPERS AND OTHER IFPRI PUBLICATIONS

[D21] Deressa, T.D., C. Ringler, and R. Hassan. 2010. *Factors Affecting the Choices of Coping Strategies for Climate Extremes. The Case of Farmers in the Nile Basin of Ethiopia*. IFPRI Discussion Paper No. 1032.

[D20] de Pinto, A., M. Magalhaes, and C. Ringler. 2010. *The Potential of Carbon Markets for Small Farmers: A Literature Review*. IFPRI Discussion Paper No. 1004.

[D19] You, L., C. Ringer, G. Nelson, U. Wood-Sichra, R. Robertson, S. Wood, Z. Guo, T. Zhu, and Y. Sun. 2010. *What Is the Irrigation Potential for Africa? A Combined Biophysical and Socioeconomic Approach*. IFPRI Discussion Paper No. 993.

[D18] Breisinger, C., T. van Rheenen, C. Ringler, A. Nin Pratt, N. Minot, C. Aragon, B. Yu, O. Ecker, and T. Zhu. 2010. Food Security and Economic Development in the Middle East and North Africa: Current State and Future Perspectives. IFPRI Discussion Paper No. 985. <http://www.ifpri.org/sites/default/files/publications/ifpridp00985.pdf>

[D17] Zhu, T. and C. Ringler. 2010. *Climate Change Implications for Water Resources in the Limpopo River Basin*. IFPRI Discussion Paper No. 961. Washington, D.C.: IFPRI.

[D16] You, G. J.-Y. and C. Ringler. 2010. *Hydro-Economic Modeling of Climate Change Impacts in Ethiopia*. IFPRI Discussion Paper No. 960. Washington, D.C.: IFPRI.

[D15] Deressa, T.T. R. Hassan, and C. Ringler. 2009. *Assessing household vulnerability to climate change. The case of farmers in the Nile Basin of Ethiopia*. IFPRI Discussion Paper No. 935. Washington, D.C.: IFPRI.

[D14] Gbetibouo, G.A. and C. Ringler. 2009. *Mapping South African Farming Sector Vulnerability to Climate Change and Variability*. IFPRI Discussion Paper 885. Washington D.C.: IFPRI.

- [D13] Sulser, T.B., C. Ringler, T. Zhu, S. Msangi, E. Bryan, and M.W. Rosegrant. 2009. *Green and blue water accounting in the Limpopo and Nile Basins*. IFPRI Discussion Paper No. 907. Washington D.C.: IFPRI.
- [D12] Nelson, J.C., M.W. Rosegrant, J. Koo, R. Robertson, T. Sulser, T. Zhu, C. Ringler, S. Msangi, A. Palazzo, M. Batka, M. Magalhaes, R. Valmonte-Santos, M. Ewing, and D. Lee. 2009. Climate change. Impact on agriculture and costs of adaptation. *Food Policy Report*. Washington, D.C.: IFPRI.
- [D11] Kato, E., C. Ringler, M. Yesuf, and E. Bryan. 2009. *Soil and Water Conservation Technologies. A Buffer against Production Risk in the Face of Climate Change? Insights from the Nile basin in Ethiopia*. IFPRI Discussion Paper No. 871. Washington D.C.: IFPRI.
- [D10] Calzadilla, A., T. Zhu, K. Rehdanz, R. Tol, and C. Ringler. 2009. *Economy-wide impacts of adaptation options to climate change in Sub-Saharan Africa*. IFPRI Discussion Paper No. 873. Washington D.C.: IFPRI.
- [D9] Akpalu, W., R. Hassan, and C. Ringler. 2009. *Climate Variability and Maize Yield in South Africa*. IFPRI Discussion Paper No. 843. Washington D.C.: IFPRI.
- [D8] Bryan, E., W. Akpalu, M. Yesuf, and C. Ringler. 2008. *Global Carbon Markets: Are there Opportunities for Sub-Saharan Africa?* IFPRI Discussion Paper No. 832. Washington D.C.: IFPRI.
- [D7] Yesuf, M., S. Di Falco, T. Deressa, C. Ringler, and G. Kohlin. 2008. *The impact of climate change and adaptation on food production in low-income countries: Evidence from the Nile Basin, Ethiopia*. IFPRI Discussion Paper No. 828. Washington D.C.: IFPRI.
- [D6] Deressa, T.T., R. Hassan, and C. Ringler. 2008. *Measuring vulnerability of Ethiopian farmers to climate change across regional states*. IFPRI Discussion Paper No. 806. Washington, D.C.: IFPRI.
- [D5] Deressa, T.T., R.M. Hassan, T. Alemu, M. Yesuf, and C. Ringler. 2008. *Analyzing the Determinants of Farmers' Choice of Adaptation Methods and Perceptions of Climate Change in the Nile Basin of Ethiopia*. IFPRI Discussion Paper No. 798. Washington, D.C.: IFPRI.
- [D4] Ringler, C., and N.V. Huy. 2004. Water Allocation Policies for the Dong Nai River Basin in Vietnam: An Integrated Perspective. *Environment and Production Technology Discussion Paper* No. 127. Washington, D.C.: IFPRI.
- [D3] Ringler, C. 2001. Optimal water allocation in the Mekong River Basin. *ZEF Discussion Paper on Development Policy* No. 38. Bonn: ZEF.
- [D2] Scott, G., M.W. Rosegrant, and C. Ringler. 2000. Roots and tubers for the 21st century: Trends, projections, and policy options. *2020 Vision, Discussion Paper 31*, Washington D.C.: IFPRI.
- [D1] Ringler, C., M.W. Rosegrant, and M.S. Paisner. 2000. *Irrigation and water resources in Latin America and the Caribbean: Challenges and strategies*. EPTD Discussion Paper 64. Washington, D.C.: IFPRI.

## **MIMEOGRAPHS AND PROJECT REPORTS**

- [M26] Nkonya, E., N. Cenacchi, and C. Ringler. 2010. International cooperation for sustainable land and water management. Background chapter for the forthcoming Soil, Land and Water Review of the Food and Agriculture Organization.
- [M25] Binswanger, H.P., R. Meinzen-Dick, and C. Ringler. 2010. Policies, Rights, and Institutions for Sustainable Management of Land and Water Resources. Background chapter for

the forthcoming Soil, Land and Water Review of the Food and Agriculture Organization.

[M24] Gbetibouo, G.A. and C. Ringler. 2009. Mapping South African Farming Sector Vulnerability to Climate Change and Variability: A Sub-national Assessment A paper presented at the 2009 Amsterdam Conference on the Human Dimensions of Global Environmental Change ‘Earth System Governance: People, Places and the Planet’, Theme: Adaptiveness of Earth System Governance, 2-4 December 2009.

[M23] The Role of International Trade in Climate Change Adaptation, INCTSD and Food & Agricultural Trade Issue Brief No. 4. 2009. Nelson, G., A. Palazzo, C. Ringler, T. Sulser, and M. Batka. <http://www.agritrade.org/documents/IssueBrief4.pdf>

[M22] Herrero, M, J. van de Steeg, C. Ringler, P. Thornton, T. Zhu, E. Bryan, and J. Koo. 2009. Kenya: Climate variability and climate change and their impacts on the agricultural sector. Submitted to the World Bank.

[M21] You, L. C. Ringler, G. Nelson, U. Wood-Sichra, R. Robertson. S. Wood, G. Zhe, T. Zhu, and Y. Sun. 2009. *Torrents and trickles: Irrigation spending needs in Africa*. Africa Infrastructure Country Diagnostics. World Bank, Washington DC. <http://www.infrastructureafrica.org/aicd/library/doc/677/torrents-and-trickles-irrigation-spending-needs-africa>

[M20] Rosegrant, M.W., C. Ringler, T.B. Sulser, M. Ewing, A. Palazzo, T. Zhu, G.C. Nelson, J. Koo, R. Robertson, S. Msangi, and M. Batka. 2009. Agriculture and Food Security under Global Change: Prospects for 2025/2050. Prepared for the Strategy Committee of the CGIAR. Washington, D.C.: IFPRI. [http://alliance.cgxchange.org/documentation-for-the-development-of-the-cgiar-strategy-and-mega-programs/SRF\\_IMPACT10-10-09c.pdf](http://alliance.cgxchange.org/documentation-for-the-development-of-the-cgiar-strategy-and-mega-programs/SRF_IMPACT10-10-09c.pdf)

[M19] Ringler, C. 2009. “Effect of reduced water supplies on food production economies,” for OECD proceedings of the Co-operative Research Programme Conference: “Challenges for Agricultural Research”, Prague, 6-8 April 2009.

[M18] Banse, M., T. Jansson, B. Eickhout, T. Sulser, and C. Ringler. 2009. Analysis of major challenges and constraints. Trade and market measures and policies. For Foresight analysis for world agricultural markets (2020) and Europe. Priority Area 1: Sustainable management of Europe’s natural resources: 1.1. Modernization and sustainability of agriculture and forestry, including their multifunctional role, in order to ensure the sustainable development and promotion of rural areas. Contract no.: 44280-AG2020, STREP, January 2007 – December 2009.

[M17] Pender, J., F. Place, C. Ringler, and M. Magalhaes. 2009. The Role of Sustainable Land Management (SLM) for Climate Change Adaptation and Mitigation in Sub-Saharan Africa (SSA). Paper prepared under the TerrAfrica Work Program (submitted to the World Bank). Mimeo.

[M16] Rosegrant, M.W., C. Ringler, A. Shinha, J. Huang, H. Ahammad, T. Zhu, S. Msangi, T. Sulser, and M. Batka. 2009. Exploring alternative futures for agricultural knowledge, science and technology (AKST). FR2009-34. ISBN:978 1 921615 32 0. Australia. ACIAR. <http://www.aciar.gov.au/publication/FR2009-34>

[M15] Zhu, T., C. Ringler and M. Rosegrant. 2008. OECD agriculture’s use of water: Projections to 2030, OECD consultants report prepared by the Environment and Production Technology Division, International Food Policy Research Institute, Washington, D.C., United States, COM/TAD/CA/ENV/EPOC/RD(2008)13.

- [M14] Bouman, B, S. Cook, B. Douthwaite, C. Ringler, J. Rubiano, and T. Zhu. June 2007. "Impact Potential of the "Temperate and Tropical Aerobic Rice (STAR) in Asia". Internal document prepared by the CPWF Impact Project for the External Review team.
- [M13] Rosegrant, M.W., C. Ringler, T.B. Sulser, R. Valmonte-Santos, T. Zhu, and S. Wood. 2007. The situation facing agriculture across Asia: challenges and opportunities. Mimeo. Presented at the Asian Development Bank. Manila. August 9.
- [M12] Rosegrant, M.W., S. Msangi, T. Sulser, and C. Ringler. 2006. Future Scenarios for Agriculture: Plausible Futures to 2030 and Key Trends in Agricultural Growth. Background Paper to World Development Report 2008.
- [M11] Ringler, C., M.W. Rosegrant, X. Cai, and S. Cline. 2006. Ensuring agricultural water supplies in a world of competing demand. Paper prepared for the 2006 IFA Agriculture Conference on "Optimizing Resource Use Efficiency for Sustainable Intensification of Agriculture." Mimeo.
- [M10] Ringler, C. 2006. Global Food, Feed, Fiber and Bioenergy Demand Prospects: Implications for Natural Resources – Drawing on the Millennium Ecosystem Assessment. Paper prepared for the 2006 IFA Agriculture Conference on "Optimizing Resource Use Efficiency for Sustainable Intensification of Agriculture." Mimeo.
- [M9] Ringler, C., M. Rosegrant, J. Roumasset, and S. Ponkijvorasin. 2006. Charge-Subsidy Mechanism for Irrigation Pricing in Developing Countries. Mimeo.
- [M8] Cline, S.A., C. Ringler, P. Jawahar, H. Heyd, R. Valmonte-Santos. 2006. Review and Synthesis of Water Quality Policies in Developing Countries. Mimeo.
- [M7] Ringler, C., A. Leon, E. Parra, T. Sulser, T. Zhu, and S. Cline. 2006. Enhancing Rural Water Security through Improved Water Quality Management in the Maipo River Basin. Submitted to Alcoa Foundation.
- [M6] ADB. 2006. *Indonesia. Strategic vision for agriculture and rural development*. Manila: ADB [coordinated by C. Ringler, together with ~10 co-authors]
- [M5] Rosegrant, M.W., T.B. Sulser, C. Ringler, C. S.A. Cline, and S. Msangi. 2005. International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT): Distributed Version 1.0. Washington, D.C.: IFPRI.
- [M4] SEARCA/IFPRI/CRESCENT. 2003. Pro-poor Agricultural and Rural Development in Indonesia. Public Policies, Investment, and Governance. Laguna, Philippines: SEARCA. [coordinated by C. Ringler].
- [M3] Amisigo, B., T. Berger, M. Iskandarani, W. Laube, J. Liebe, O. Müller, P. Obeng-Asiedu, Y. Osei-Asare, C. Ringler, N. van de Giesen, A. van Edig, C. van der Schaaf. 2002. Optimizing Water Use for Future Supply and Demand. *Status Report. GLOWA Volta Project*. Water Use Cluster. Project ID: 07 GWK 01.
- [M2] Rosegrant, M.W. and C. Ringler. 1999. *World Water Vision scenarios: Consequences for food supply, demand, trade, and food security: Results from the IMPACT implementation of the World Water Vision Scenarios*. Prepared for the Scenario Development Panel of the World Commission on Water for the 21<sup>st</sup> Century.
- [M1] Global food markets and US exports in the twenty-first century, by M. W. Rosegrant, M. A. Sombilla, R.V. Gerpacio, and C. Ringler. Paper presented at the Illinois World Food and Sustainable Agriculture Program Conference "Meeting the Demand for Food in the 21st Century: Challenges and Opportunities for Illinois Agriculture," May 28, 1997, Urbana-Champaign.

**POLICY BRIEFS**

- [B18] Water Productivity Assessment for China's Yellow River Basin. 2010. X. Cai, Y.-C.E. Yang, C. Ringler, and L. You
- [B17] Water Rights and Water Rights Trading: Option for the Yellow River Basin? --By Nicola Cenacchi, Yunpeng Xue, Fu Xinfeng, and Claudia Ringler
- [B16] Governance, Laws, and Water Interventions in the Yellow River Basin Over the Past 60 Years: From Supply- to Demand- Side Management--By Xue Yunpeng, Yan Sun, and Claudia Ringler
- [B15] Water Allocation Management in the Yellow River Basin: Potential for Water Trading? 2010. Ximing Cai, Yi-Chen E. Yang, Jianshi Zhao, and Claudia Ringler
- [B14] Green and Blue Water Accounting in the Limpopo and Nile Basins: Implications for Food and Agricultural Policy. 2010. Sulser, T.B., C. Ringler, T. Zhu, S. Msangi, E. Bryan, and M.W. Rosegrant
- [B13] Assessing Household Vulnerability to Climate Change: The Case of Farmers in the Nile Basin of Ethiopia. 2009. T.T. Deressa, R.M. Hassan, and C. Ringler. IFPRI Research Brief 15-4.
- [B12] Mapping the South African Farming Sector's Vulnerability to Climate Change and Variability: A sub-national assessment. 2009. G. Gbetibouo and C. Ringler. Research Brief 15-4.
- [B11] Are Soil and Water Conservation Technologies a Buffer Against Production Risk in the Face of Climate Change? 2009. E. Kato, C. Ringler, M. Yesuf, and E. Bryan (also in Amharic). Research Brief 15-4. <http://www.ifpri.org/publication/are-soil-and-water-conservation-technologies-buffer-against-production-risk-face-climate>
- [B10] Implications of AKST for Food Security. 2009. M. Rosegrant and C. Ringler.
- [B9] Measuring Ethiopian Farmers' Vulnerability to Climate Change Across Regional States. 2008. T.T. Deressa, R.M. Hassan, and C. Ringler (also in Amharic). Research Brief 15-4.
- [B8] The Impact of Climate Change and Adaptation on Food Production in Low-Income Countries: Evidence from the Nile Basin, Ethiopia. 2009. M. Yesuf, S. Di Falco, T. Deressa, C. Ringler, and G. Kohlin (also in Amharic). Research Brief 15-4.
- [B7] Understanding Farmers' Perceptions and Adaptations to Climate Change and Variability: The Case of the Limpopo Basin, South Africa. 2008. W. Akpalu, R.M. Hassan, and C. Ringler. Research Brief 15-4.
- [B6] Agriculture in Asia: Challenges and Opportunities. MW Rosegrant, C. Ringler, T. B. Sulser, S. Msangi, T. Zhu, R. Valmonte-Santos, and S. Wood. 2008. In N. Islam (eds), Reducing Poverty and Hunger in Asia. 2020 Focus No. 15. International Food Policy Research Institute, Washington, DC.
- [B5] Economywide Impacts of Climate Change on Agriculture in Sub-Saharan Africa. 2009. A. Calzadilla, T. Zhu, K. Rehdanz, R.S. J. Tol, and C. Ringler. Research Brief 15-4.
- [B4] Analysis of the Determinants of Farmers' Choice of Adaptation Methods and Perceptions of Climate Change in the Nile Basin of Ethiopia. 2008. T.T. Deressa, R. M. Hassan, C. Ringler, T. Alemu, and M. Yesuf. (also in Amharic) Research Brief 15-4.
- [B3] Climate Variability and Maize Yield in South Africa. 2008. W. Akpalu, R.M. Hassan, and C. Ringler. Research Brief 15-4.
- [B2] Global Carbon Markets: Are There Opportunities for Sub-Saharan Africa? 2008. E. Bryan,

W. Akpalu, C. Ringler, and M. Yesuf. Research Brief 15-4.

[B1] The Impact of Climate Variability and Climate Change on Water and Food Outcomes: A Framework for Analysis. 2008. C. Ringler. Research Brief 15-1.

### POPULAR PIECES

[P5] Ringler, C. Forthcoming. Climate Change and Hunger: Africa's Smallholder Farmers Struggle to Adapt. *Euro Choices* (9:3).

[P4] Ringler, C. and T. Sulser. 2010. Green water use in an era of growing water scarcity. SIWI. Stockholm.

[P3] Bryan, E., W. Akpalu, M. Yesuf, and C. Ringler. 2009. Ending the carbon market drought. *Trading Carbon*. [www.pointcarbon.com](http://www.pointcarbon.com) 3(2): 36-38 (March 2009).

[P2] Ringler, C. 2007. The Potential Role of Economic Instruments in River Basin Management - Increased economic efficiency through paying farmers to use less water. *Ökologisches Wirtschaften*. (Heft 1/2007), pp. 35-38.

[P1] Ringler, C., and J. Whitehead. 2006. Research on Water Rights and Allocation as Key to Sound Usage in Viet Nam. *Water for All*. August. <http://adb.org/water/actions/VIE/keys.asp>.

### UNDER REVIEW

[U7] You, Gene J-Y, and C. Ringler. Hydro-Economic Modeling of Climate Change Impacts in Ethiopia. Submitted to *Climate Change*.

[U6] Mulligan, M., Fisher, M., Sharma, B., Xue, Z., Ringler, C., Clanet, J.C., Mahe, G., Jarvis, A., Ramirez, J. and Giordano, M. The nature and impact of climate change in the CPWF basins. Submitted to *Water International*.

[U5] Calzadilla, A., T. Zhu, K. Rehdanz, R.S.J. Tol, and C. Ringler. Economy-wide impacts of climate change on agriculture – case study for adaptation strategies in Sub-Saharan Africa. Under review for “*Handbook on Climate Change and Agriculture*.”

[U4] Cai, X., Y-C. E. Yang, C. Ringler, J. Zhao, and L. You. Agricultural Water Productivity Assessment for the Yellow River Basin. Submitted to *Agricultural Systems*.

[U3] Deressa, T., C. Ringler, and R.M. Hassan. Perception of and adaptation to climate change of farmers in the Nile basin of Ethiopia. Submitted to *The Journal of Agricultural Science*.

[U2] Kato, E., C. Ringler, M. Yesuf, and E. Bryan. Soil and Water Conservation Technologies: A Buffer against Production Risk under Climate Change?" Submitted to *Agricultural Economics*.

[U1] Deressa, T.T., R.M. Hassan, and C. Ringler. Use of vulnerability index in measuring vulnerability to climate change in Ethiopia. Submitted to *Climate and Development*.

### BOOK REVIEWS

[R2] *Environment* (September/October). 2009. *Food and Water Security*, edited by U. Aswathanarayana (Taylor & Francis, London, 2007; 360 pp).

### SELECTED PRESENTATIONS

2010. “Climate Change and Water: Impacts on Global Food Security,” Third McGill Food Security Conference, October 20, Montreal, Canada.

2010. "A study on the perception and adaptation to climate change: The case of farmers in the Nile basin of Ethiopia" WCERE 2010, July 1, Montreal, Canada.
2009. Present at IFPRI COP15 side event "Synergies Between Mitigation and Adaptation to Climate Change: What is the potential for Sub-Saharan Africa?"
2009. Panelist on "The Role of Trade in Food and Agricultural Products under Climate Change" at the "Dialogue on Climate Change and Food Security: Taking Stock at the COP15", organized by International Center for Trade and Sustainable Development and International Food and Agricultural Trade Research Council, Dec 11, Copenhagen.
2009. "Climate change impacts on water and food—a developing-country perspective" McGill University--Agriculture and the Environment "Food for Thought Lecture Series" 27 October, Montreal, Canada.
- 2009., "Climate Change and Agriculture: Are We Going To Feed a Growing Population on a Hotter Planet?" Panelist at Society of Environmental Journalist Panel on Climate Change and Agriculture.
2009. "Climate Change and Agricultural Trade: How effective is reform as an adaptation measure? ICTSD and IPC Climate Change and International Agricultural Trade Rules, 1 October, Geneva.
2009. "Synergies Between Mitigation of and Adaptation to Climate Change: Experience from Kenya." Presented at Climate Change and Agricultural Adaptation in Developing Countries: Alternatives for Analysis and Action. Mini-symposium at the 27<sup>th</sup> International Association of Agricultural Economists meetings held in Beijing, China, August 17-22.
2009. "Policy interventions to improve food production through improvement and intensification of agriculture" presented at 2009 World Congress of the World Agriculture Forum, St. Louis, Missouri, May 20.
2009. "Effect of Reduced Water Supplies on Food Production Economies" OECD Conference Challenges in Agricultural Research, Prague, April 6-8.
2009. "How to Ensure Sustainable Access to Water for Food in a World of Growing Scarcity" presented at "New Green Revolution? Meeting the Global Food and Energy Demands", University of Illinois at Urbana-Champaign, March 4-6.
2009. "Water-for-food interactions under growing scarcity." Woods Institute for the Environment, Stanford University, January 26-27.
2008. "Key Messages: Food and Water Under Global Change: Developing Adaptive Capacity with a Focus on Rural Africa" presented at the Conference: "How can African Agriculture Adapt to Climate Change? Results and Conclusions for Ethiopia and beyond", Nazareth, Ethiopia, Dec. 11-13.
2008. "Impact of Climate Change on Food Production in Sub-Saharan Africa. New Insights. Presentation to Students from De Paul University, Dec. 4. Washington, D.C.: IFPRI.
2008. "Yellow River Basin Focal Project" presented at Yellow River Conservancy Commission Headquarters, Zhengzhou, China, January 10-12, 2008.
2007. "Biofuels and Global Food Security: Drawing the line between chances and threats to food security through the rapid development of biofuel markets" at the Conference Politik gegen Hunger VI - Bioenergie und Ernährungssicherheit" BEMLV, Berlin, Germany, December 17, 2007.
2007. "Institutional Options for Improving Water Management in India – Potential Role of River Basin Organizations. The Indian Context." Asian Development Bank, Delhi, August 3, 2007.

2007. "Global Scenarios for Biofuels: IMPACTs and Implications. Presented at "Linkages between Energy and Water Management for Agriculture in Developing Countries" Workshop. ICRISAT Campus, Hyderabad, India
2007. "Global Change Impacts on Water and Food Security. Economic Analysis. Session and Presentation at The Integrated Assessment Society (TIAS) & the Global Water System Project (GWSP) joint workshop titled "Global Assessments: Bridging Scales and Linking to Policy" held at the University of Maryland, May 11-12.
2007. "Energy Price and Groundwater Extraction for Agriculture: Exploring the Energy-Water-Food Nexus at the Global and Basin Levels" Linkages between Energy and Water Management for Agriculture in Developing Countries, ICRISAT Campus, Hyderabad, India, 29-30 January 2007
2007. "Global Scenarios for Biofuels: IMPACTs and Implications" - Linkages between Energy and Water Management for Agriculture in Developing Countries, ICRISAT Campus, Hyderabad, India, 29-30 January 2007
2006. "Global Water Policies: What does it mean? Is it important?" at the International Water Forum, Lao PDR, November 6-10.
2006. "The Potential Role of Economic Instruments in River Basin Management" at the Workshop on Economic Instruments, World Water Week, Stockholm, 20-26 August.
2006. "Economic and financial incentives for water-saving in rice" at the World Wildlife Fund-Food and Agriculture Organization of the United Nations' workshop, "Rice, the Millennium Development Goals and the Growing Freshwater Crisis," March 3-9, Los Baños, Philippines
2006. "Global food, feed, fiber and bioenergy demand prospects: Implications for natural resources – Drawing on the Millennium Ecosystem Assessment", at International Fertilizer Association Conference, Kunming, China, March 1.
2005. "The Water Brokerage Mechanism—Efficient Solution for the Irrigation Sector" at the World Water Congress of the International Water Resources Association conference on "Water for Sustainable Development-Towards Innovative Solutions" Nov 20-25, Delhi, India:
2005. "The Future of Water and Food Security" at a seminar titled "Competition for Water in Developing Countries: Public and Private Sector Perspectives", at the International Resources Group, and held in Washington, DC
2005. "Globalization-What's in it for the Poor in Terms of Water and Food Security?" at World Water and Environmental Resources Congress 2005 titled "Impacts of Global Climate Change", Anchorage, Alaska
2004. "Water Supply and Food Security: Alternative Scenarios for the Indian Indo-Gangetic River Basin" Seminar on "Integrated Water Resource Management for Livelihood Improvement in the Indo-Gangetic River Basin", Stockholm Water Week under the Challenge Program on Water and Food, Sunday, August 15th, 2004 (co-authors M.W. Rosegrant and S.A. Cline)
2004. "The Role of Water Rights and Market Approaches to Water Quality Management in the Americas." Paper presented at the "Workshop on Water Quality Management for North and South America," Fortaleza, Brazil, 12-13 April (co-authors: S. Cline & M.W. Rosegrant).
2004. "Experience with Integrated Economic-Hydrologic River Basin Models in Vietnam." Presentation at the ANU-MONRE Workshop "Managing Groundwater Access in Tay Nguyen (Central Highlands), Vietnam (ADP/2002/015)," Hanoi, July 13-14.
2003. "Water Allocation Policies for the Dong Nai River Basin in Vietnam: An Integrated Perspective." Paper prepared for the "Panel on Water Policy and Agricultural Production at the

- Global and River Basin Levels,” Durban, South Africa, August 16-23, 2003 (co-author: N. Vuy Huy).
2003. “Addressing Environmental Water Values in an Integrated Economic-Hydrologic River Basin Modeling Framework.” Paper presented at the workshop “Integrated Environmental Impacts into Water Allocation Models of the Mekong River Basin,” Ho Chi Minh City, 15 December, 2003 (co-author: X. Cai).
2002. “River Basin Management in Mainland Southeast Asia.” Presentation at the World Food Prize International Symposium “From the Middle East to the Middle West: Managing Freshwater Shortages and Regional Water Security”
2001. “Irrigation Service Provision in Cu Chi, HCMC, and Ninh Thuan Province.” Ho Chi Minh City, July (co-authors: N Chi Cong, N. Duy Son, N. Vu Huy, H. Gia Linh).
2001. “Competition for Water Uses in a River Basin Context.” Woman’s National Democratic Club (WNDC), Washington, D.C., January 18.
1999. “Water Resource Allocation in the Mekong River Basin: Challenges and Opportunities.” Paper presented at the Symposium on Food and Agricultural Policy, organized by IFPRI, Hanoi, Vietnam, March 1-2 (co-author: M.W. Rosegrant).
1998. “Competition for Water Uses in a River Basin Context.” Paper presented at the “International Water Congress Forum” in Bonn, Germany, October 21-25 (co-author: M.W. Rosegrant).

### **PhD Committees**

- Temesgen Tadesse Deressa, University of Pretoria (Assessment of the vulnerability of Ethiopian Agriculture to climate change and farmers’ adaptation strategies), 2010.
- Charles Nhemachena, University of Pretoria (Adaptation to Climate Change, Southern Africa), 2008
- Australian National University, Irrigation and water allocation modeling in Australia, 2006
- Patrick Obeng-Asiedu, Bonn University (Volta River Basin Water Allocation Modeling), 2004

### **Journal referee for:**

- Australian Journal of Agricultural and Resource Economics
- African Journal of Agricultural and Resource Economics
- Agricultural Water Management
- European Review of Agricultural Economics
- Environmental Engineering Science
- Food Policy
- Global Environmental Change
- Journal of Environmental Management
- Journal of Water Resources Planning and Management
- Natural Resources Forum
- Paddy and Water Environment
- Quarterly Journal of Agricultural Economics
- Water SA
- Water Resources Research