

Mid-Term Report

to the Robert Bosch Foundation

on the status of the Junior Research Group

„Determinants and Effects of Alternative Institutions for Natural Resource Management in Developing Countries“ (Project No. 32.5.8041.0003.0)

April 1, 2001 – September 30, 2002

Research Group Leader:

Dr. Stefanie Engel¹, Center for Development Research, University of Bonn

¹ Formerly Stefanie Kirchhoff.

Participants and Hiring Process

Table 1 (Appendix) shows the members of the international research group as established up to date. In addition to the research group leader and an external advisor (Professor Ramón López from the University of Maryland), the group now comprises five doctoral students and one student assistant. Of the five doctoral students participating in the research group, two (Mr. Gyasi, and Mr. Palmer) are funded directly through the project. The other three are participants of ZEF's international doctoral studies program who have been integrated into the group and are working on research topics closely related to the objectives of the project. Their stipend and most of their field work is financed by other organizations, namely DAAD (Sawhney), Ökumenisches Studentenwerk (Mr. Le Quang), and ZEF (Mr. Korf). Their integration into the group has permitted an extension of the geographic, thematic, and methodological area covered by the project. Mr. Kollmann recently replaced Ms. Angelow as the student assistant. While Ms. Angelow had assisted the research group particularly in administrative matters and in establishing a detailed literature database until finishing her diploma, Mr. Kollmann is now working on his Master's thesis as part of the project.

Contents

The general objective of the research group is to contribute to an understanding of the comparative outcomes of alternative property rights institutions for the management of common-pool resources, and the key factors and policies affecting the outcomes and the long-run stability of property rights regimes. The specific objective is to develop a conceptual framework and empirical methodology for analysing the key factors and policies which affect the outcomes and dynamics of alternative property rights institutions. The motivation for the research lies in the observed trend towards decentralization and devolution in natural resource management and the enhanced role given to local communities and common property regimes in this context. As a consequence, the research is focused particularly on the role of local communities in natural resource management and the determinants of success of policies which devolve rights and responsibilities over the resources to communities.

Consultation with cooperating partners and the research network helped to identify specific issues for which a detailed analysis would contribute most to the current state of knowledge. The integration of additional doctoral students into the research group and the strategic link to ongoing related interdisciplinary projects has also permitted an extension of both the thematic and the geographic area covered by the project. While the proposal had aimed at focusing on one country only, the research group now covers various issues in six countries (Ghana,

Indonesia, Vietnam, India, Sri Lanka, and Chile) and two resources (irrigation water and forests) .

Water management in Ghana, Sri Lanka, and Chile

Discussions with experts from the academic and policy arena confirmed the importance of an improved understanding of the determinants of success of community-based resource management, particularly for African countries. While these determinants are believed to be better understood in Asia and to some extent Latin America, very few studies have focused on Africa and none of them has attempted a more rigorous econometric testing of the prevailing hypotheses there. We have therefore decided to focus our analysis on this issue on Ghana, where we are working in cooperation with ZEF's ongoing project on water use and water security (GLOWA) in the Ghanaian Volta basin. During a visit to Ghana and discussion with local experts it became clear that – while devolution and community-based management are a strong trend in all natural resource sectors – the sector of irrigation management is most suitable for our analysis. This is because community-based irrigation management has been implemented in a larger number of communities and for a longer time, while initiatives in other resource sectors (e.g., forests, biodiversity, wetlands) are largely still in the pilot phase. In May 2002, Dr. Engel and Mr. Gyasi jointly organized a preparatory workshop in Ghana which served to discuss the research ideas with local experts and helped to clarify specific aspects of the analysis. The workshop was well-received and well-attended. The field work will start in December 2002 and will be conducted by Mr. Gyasi who brings into the project considerable experience in conducting surveys in Ghana as well as knowledge of local conditions and networks. His research will very likely be co-funded by the International Water Management Institute (IWMI) and will be conducted in close cooperation with the GLOWA team. This will permit Mr. Gyasi to conduct both a village-level and a household level analysis, which in the proposal was thought to be split up between two students. The integration of both surveys into one doctoral thesis is preferable because both types of data are required for the implementation of the econometric framework. In addition, Mr. Kollmann's Master's thesis will review the implications of existing game-theoretic models for irrigation management in Ghana and will develop a new model analysing the effect of the endogenous distribution of irrigated land on irrigation management.

Institutional arrangements of land and water allocation in irrigation projects are also the focus of Mr. Korf's doctoral thesis on Sri Lanka. His analysis is based on theories of institutional

economics and the dispute resolution literature and is more qualitative in nature. It focuses on the specific constraints imposed on community-based irrigation management under the conditions of an armed ethno-political conflict, in particular how the institutional rationale of the political economy of war affects local-level institutions in dispute resolution of common-pool resources.

Dr. Engel—in cooperation with Dr. Berger (ZEF)—is currently developing a multi-agent simulation model of community-based irrigation management in Chile. The case of Chile was selected because a Chilean baseline model had earlier been developed by Dr. Berger. The new model serves to simulate the outcomes of community-based management under different policy scenarios. An early presentation of the approach was accepted at the World Congress of Environmental Economists in Monterey in June 2002.

Forest management in Indonesia, Vietnam, and India

In consultation with our cooperating partners at the Center for International Forestry Research (CIFOR), Indonesia was chosen as the focus country for the second doctoral thesis funded by the project. The decentralization process in Indonesia has led to a stronger role of communities in deciding on the use of local forest land. In Kalimantan, where forest stands are still significant, this has led to community-company negotiations over logging concessions. The focus of our research will be to examine the factors which have led some communities to negotiate better deals than others—in terms of economic and environmental provisions as well as their enforcement. The negotiation approach forms an important part of current decentralization programs in many countries, but the outcomes have received little attention in economic analysis. We intend to use game-theoretic modelling to formulate hypotheses on the determinants of negotiation outcomes and test these hypotheses through econometric analysis of data from a cross section of communities in Kalimantan. The data will be collected by Mr. Palmer as part of his Ph.D. thesis.

The doctoral thesis by Mr. Le Quang in Vietnam focuses on the role of tenure policies for local forest use. Contrary to our other country studies—where decentralization has essentially led to a strengthening of common property institutions (community-based management)—tenure reform in Vietnam has focused mainly on a privatisation of formerly state-owned forest land. The process is too new to be analysed through econometric analysis of a cross section of communities. Instead, Mr. Le Quang – who has a background in geography – is developing an

innovative multi-agent simulation model combined with spatial analysis tools (GIS) to simulate the effect of alternative tenure policies on forest use by local communities in the Hong Ha watershed in central Vietnam. The model is innovative in its focus on tenure policies and the interplay between ecological and economic factors.

Finally, the work by Ms. Sawhney focuses on the role of communities in the use of forest resources in Bandhavgarh National Park (BNP) in the Indian state of Madhya Pradesh. BNP represents a classic case of state management – with all the typical conflicts implied by establishing a protected area despite the presence of local communities which depend on park resources for their livelihood. In current conceptual and econometric analysis Dr. Engel and Professor López are using the data collected by Ms. Sawhney in extensive field work to take a closer look at two issues which have received little attention in past research: (i) whether the provision of alternative income (from involvement in park management or employment outside the park) decreases the pressure on park resources; and (ii) whether attitudes towards the park and perceptions about the scarcity of forest products affect people's extraction of such products from the park, and what affects these attitudes and perceptions. Both the provision of alternative income and the attempt to change local people's attitudes and perceptions are essential components of many current initiatives by NGOs and international donor agencies to reduce natural resource degradation, but the actual outcomes are still poorly understood.

Methods

In accordance with the proposal, the first three-year period of the proposed research is to focus mainly on the development of a framework for econometric analysis and on the application of this framework to empirical data collected initially in one country. Initial conceptual developments on a simulation model are to be pursued as well, but the more sophisticated development of the latter method is intended only in the case of a two-year extension of the project.

The expansion of the research group has made it possible to move beyond these objectives. The development and application of a framework for econometric analysis is a central component of the studies in Ghana, Indonesia, and India. In addition, however, other project components now involve the following:

- (i) more detailed game-theoretic modelling (Ghana and Indonesia),

- (ii) development of two applied multi-agent system simulation models for common-pool resource management (Chile) and the evaluation of tenure policies (Vietnam), and
- (iii) the conceptual and empirical analysis of the role of attitudes and perceptions in resource management (India).

Specific activities April 2001 – September 2002

The main activities conducted in the research group during the period April 2001 – September 2002 are the following:

- Establishment of a research network (see Appendix Table 2 for the main network)
- Choice of specific topics, country focus, methods in accordance with networks
- Recruitment of the research team
- Identification of cooperating partners for research
- Proposal writing
- Writing of first conceptual papers
- First field work phase in Ghana (collection of secondary information)
- Completion of field work in India and Sri Lanka
- Start of field work in Vietnam
- First analysis and articles using data from India and Sri Lanka
- Workshop on “Community-based irrigation management in Northern Ghana” held in May 2002, in Bolgatanga, Ghana, to discuss the research idea and related issues with local experts from the academic and policy arena
- Establishment of a website on the activities of the research group
- Visits by guest researchers:
 - Dr. Siddhartha Mitra, Indian Statistical Institute, New Delhi, India, to develop models on decentralization, corruption and natural resource management.
 - Mr. Roy Ayariga, Land Conservation and Smallholder Rehabilitation Project, Ministry of Agriculture, Bolgatanga, Ghana, to write a background paper on small-scale irrigation schemes in Ghana’s Upper East region and to aid with questionnaire development for the field work in Ghana
 - Dr. Krystof Obidzinski, University of Amsterdam and CIFOR, Indonesia, to discuss conceptual and empirical issues on community-company negotiations in Kalimantan.

Milestones April 2001 – September 2002

Publications and working papers directly related to the topic of the research group

- Asante, F., Berger, T., Engel, S., and M. Iskandarani. 2002. „**Water security in the Ghanaian Volta Basin: Patterns, determinants, and consequences**”. *Quarterly Journal of International Agriculture* 41(1/2) (Special Issue on Agricultural water management and land use in relation to future water supply): 145-167.
- Edig, A. van, Engel, S., and W. Laube. “**Ghana’s water institutions in the process of reforms: From the international to the local level.**” Forthcoming in *Reforming Institutions for Sustainable Water Management*. Neubert, S., Scheumann, W., and A. van Edig (eds.). 2002. DIE Bonn.
- Sawhney, P., and S. Engel. “**Forest resource use by people in Protected Areas and its implications for biodiversity conservation: The case of Bandhavgarh National Park in India**”. Paper accepted for presentation at the *STORMA (Stability of Rain Forest Margins) Conference* in Bogor, Indonesia, September 29 – October 3, 2002.
- Korf, B. “**Insights from the Extremes? An Essay on Institutional Logic in Civil Wars.**” Paper presented at the Conference *Institutionalism in Economics and Sociology: Variety, Dialogue and Future Challenges*, Rungstedgaard, Denmark, 23-25 May 2002.
- Korf, B. “**Ethnicised Entitlements in Land Tenure of Protracted Conflicts: The Case of Sri Lanka**” Paper presented at the 9th Biennial IASCP Conference *The Commons in an Age of Globalization*, Victoria Falls, Zimbabwe, 17-21 June 2002.
- Korf, B. et al. 2001. ‘**Conflict – Threat or Opportunity? Land Use and Coping Strategies of War-affected Communities in Trincomalee, Sri Lanka**’. Berlin: Schriftenreihe des Seminars für Ländliche Entwicklung S 195.
- Palmer, C., and Obidzinski, K. 2002. “**The effects of the timber trade on forest governance in East Kalimantan, Indonesia.**” A case study for the International Institute for Environment and Development (IIED) and United Nations Food and Agriculture (FAO) agency program on trade and forest governance (to be published in 2003).
- Palmer, C. 2001. “**The extent and causes of illegal logging: an analysis of a major cause of deforestation in Indonesia.**” Working Paper ISSN 0967-8875 (available at: <http://www.cserge.ucl.ac.uk/publications.html>). The Centre for Social and Economic Research on the Global Environment (CSERGE), University College London, UK.
- Bhuiyan, M. S. H. and Bao Le Quang. 2002. “**Decentralisation and Natural Resource Management: A Colombian Case**”. *Politics Administration and Change* 37: 43-67
- Proceedings of the **Workshop on Community-based Irrigation Management in Northern Ghana**. Bolgatanga, Ghana, May 9, 2002. Mimeo, ZEF, Bonn.

Other papers by research group members

- Kirchoff, S., and Zago, A. 2001. „**A Simple Model of Voluntary vs. Mandatory Labeling of GMOs.**” Paper presented at the Annual Meetings of the American

Agricultural Economics Association in Chicago, August 2001. Accepted for second-round revision at the *European Review of Agricultural Economics* as Engel, S. and A. Zago.

- Kirchhoff, S. , and A.M. Ibañez. 2001. **“Displacement due to Violence in Colombia: Determinants and Effects at the Household Level.”** ZEF-Discussion Papers on Development Policy 41, October 2002.
- Grote, U. and S. Kirchhoff. 2001. **“Environmental and Food Safety Standards in the Context of Trade Liberalization: Issues and Options.”** ZEF-Discussion Papers on Development Policy No. 39, June 2001.
- Kirchhoff, S. 2002. **“Achieving Environmental Goals in a World of Trade and Hidden Action: The Role of Trade Policies and Eco-Labeling”**. University of Maryland Working Paper No. 98-26. Submitted for second-round revision at the *Journal of Environmental Economics and Management*.
- Engel, S., and U. Grote. 2002. **“Trade liberalization and environmental standards: Is there a race to the bottom for environmentalist reasons?”** Submitted to the *German Economic Review*.
- Engel, S. , and A.M. Ibañez. 2001. **“Displacement due to Violence in Colombia: Determinants and Effects at the Household Level.”** Revised version accepted for presentation at the Latin American and Caribbean Economics Association (LACEA) Conference in Madrid, Spain, October 11-13, 2002.
- Bauer, E.; Christine B. and B. Korf. 2002. **„Development Projects in Complex Emergencies – The Case of Trincomalee, Sri Lanka’**. In: Markus Mayer et al. (eds.): Building Local Capacities for Peace: Rethinking Conflict and Development in Sri Lanka, New Delhi: Mac Millan Publishers. (in print)
- Bigdon, C. and B. Korf. 2002. **‘The Role of Development Aid in Conflict Transformation – Facilitating Empowerment Processes and Community Building’** In: Austin, A., Fischer, M. and Ropers, N. (eds.): Berghof-Handbook for Conflict Transformation, Berghof-Foundation for Constructive Conflict Transformation, Berlin. <http://www.berghof-center.org/handbook/articles>.
- Korf, B. and E. Bauer. 2002. **‘Food Security in the Context of Crisis and Conflict: Beyond Continuum Thinking’**. In Gatekeeper Series (forthcoming)
- Korf, . 2002. **‘Ist PRA in der Postmoderne angekommen?’** In: Peripherie, 87 (forthcoming).

Articles/Working papers in progress

- Mitra, S., Engel, S., and U. Grote. **„On the relationship between decentralization, corruption and economic growth“**.
- Engel, S., López, R., and P. Sawhney. **“The effect of attitudes, perceptions and alternative income provision on natural resource extraction: The case of Bandhavgarh National Park in India”**.

- Berger, T., and S. Engel. „**Heterogeneity and policy response in multiple-player games: A model applied to common-pool resource management in Ghana**“.

Conferences/Workshops

- **Second Workshop on Water**, German Institute for Development (DIE), Bonn, October 25-26, 2001. Presentation on “Ghana’s water institutions in the process of reforms: From the international to the local level” by A. van Edig, S. Engel and W. Laube.
- Conference on **Institutionalism in Economics and Sociology: Variety, Dialogue and Future Challenges**, Rungstedgaard, Denmark, 23-25 May 2002. Presentation by B. Korf on “Insights from the Extremes? An Essay on Institutional Logic in Civil Wars.”
- **9th Biennial IASCP Conference on The Commons in an Age of Globalization**, Victoria Falls, Zimbabwe, 17-21 June 2002. Presentation by B. Korf on “Ethnicised Entitlements in Land Tenure of Protracted Conflicts: The Case of Sri Lanka”.
- **Second World Congress of Environmental and Resource Economics**, Monterey, California, June 23-27, 2002. Paper by Berger, T., and S. Engel accepted for presentation on „Heterogeneity and policy response in multiple-player games: A model applied to common-pool resource management in Ghana“.
- **Third Annual Symposium on Poverty Research in Sri Lanka**, Colombo, August 16-17, 2002. Presentation by B. Korf on “Livelihoods, Food Security and Conflict in Trincomalee”, co-authored by R. Singarayer.
- **Ronald Coase Institute’s Workshop on Institutional Analysis**, Cambridge, Massachusetts, September 22-27, 2002. Participation and presentation by B. Korf on ‘The Drama of the Commons: How Institutionalised Violence and the Logic of Ethnicity Affect Communal Resource Conflicts in Sri Lanka’.
- **STORMA (Stability of Rain Forest Margins) Conference**, Bogor, Indonesia, September 29 – October 3, 2002. Presentation by P. Sawhney on “Forest resource use by people in Protected Areas and its implications for biodiversity conservation: The case of Bandhavgarh National Park in India”, co-authored by S. Engel.
- **Deutscher Tropentag**, Kassel, October 2002. 1) Poster presentation by P. Sawhney on “Forest resource use by people in Protected Areas and its implications for biodiversity conservation”. 2) Paper presentation by B. Korf on ‘Livelihoods at Risk: Land Use and Coping Strategies of War-affected Communities in Trincomalee, Sri Lanka’.

Project workshop

Workshop on “Community-based irrigation management in Northern Ghana” organized by S. Engel and K. O. Gyasi in Bolgatanga, Ghana, in May 2002.

Public relations

- Establishment of a project website
- Two articles in ZEF external newsletter (see attachment)

- Article in Bonner Generalanzeiger (see attachment)

Collaborations

The most significant collaborative agreements made by the research group are listed below:

- The South Africa and Ghana offices of the International Water Management Institute (IWMI) are strongly supporting our application for IWMI co-funding of Mr. Gyasi's field work in Ghana. Expected additional funding for the research group through IWMI in 2003: 17.095 EUR.
- The Center for International Forestry Research (CIFOR) is cooperating with us in our Indonesia study. The support takes the form of providing office space for Mr. Palmer and Dr. Engel during visits at CIFOR in Bogor, which will serve as a base for Mr. Palmer's field work. We will also cooperate closely with a CIFOR team led by Dr. Eva Wollenberg which is analysing community-company negotiations in East Kalimantan from an anthropological perspective. They will also provide basic infrastructure in East Kalimantan. A teleconference between CIFOR and ZEF on the research topic is planned for February 2003. The possibility of co-organizing a workshop in Indonesia in 2003 is currently being discussed.
- A memorandum of understanding and letter of agreement have been signed between the Institute of Statistical, Social and Economic Research (ISSER), University of Legon, Ghana, and ZEF. ISSER will provide office space in Accra for doctoral students from the Bosch and the GLOWA project, and research results will be exchanged.
- A letter of intent has been exchanged between the University of Development Studies in Nyankpala/Navrongo and ZEF with the intention to exchange and mutually support research activities in various areas, including natural resource management. UDS hosts several experts on irrigation management and common property issues in Northern Ghana.
- In our work in Ghana, we are cooperating closely with the GLOWA project at ZEF. Specifically, this includes: a) a joint paper and continuing discussions with colleagues analysing community-based irrigation management in Northern Ghana from an anthropological perspective; b) a joint paper and continuing discussions with the economics team within GLOWA on institutional reforms in Ghana's water sector and common property management of safe drinking water sources; c) planned coordination and collaboration in survey data collection with the economics team with the intention to save resources and eventually integrate results in an MAS-simulation model of irrigation

management in Ghana. GLOWA also funded a first exploratory visit by Dr. Engel to Ghana in February 2001.

Changes compared to original plans

- With approval of the Robert Bosch Foundation, the starting date of the project was changed to April 1, 2001.
- As notified in our letter dated January 30, 2002, the starting date for the doctoral students funded by the project was intended to be delayed to October 1, 2001, because the selection of appropriate candidates had to be country- and resource-specific and thus required a completion of the preparatory phase of network-building, definition of cooperating partners and selection of the specific research focus in coordination with the network and cooperating partners. By September 2001, two candidates had been selected. However, both candidates asked for a delay in their starting date in order to finish up previous projects. Mr. Gyasi started on November 2001. The other candidate kept asking for further delays until early 2002. Due to her unusually strong qualifications, the request was granted and the permission obtained from ZEF that she did not have to participate in all course modules to make up for the delayed starting date. However, the candidate finally resigned from our offer and decided to take a different position. As a consequence the recruitment process for the second doctoral position had to be restarted and hiring was further delayed. Mr. Palmer was identified as an excellent candidate in March, but due to other commitments could not start until May 2002. However, the project benefited from the fact that he had done considerable previous work on deforestation in Indonesia and that one of his commitments was a consultancy for CIFOR in Indonesia during which he was able to collect project-related information and meet cooperating partners. The delayed start of doctoral students was also offset by the integration of three externally-funded students into the project who officially started their work before April 2001.
- In the course of the first half of the project phase it has become clear that the budget needs to be revised. A revised budget is attached. The main changes are the following.
 - Funds could be saved on the following items:
 - Field work expenses in Ghana due to expected co-funding by IWMI
 - Purchase of notebook computers at reduced prices
 - Visits by Professor López due to funding from ZEF and von-Humboldt award
 - Workshops due to teleconferencing and general cost-savings

- Administrative costs due to higher ZEF contributions
- Additional funds will be needed for:
 - Contracts with cooperating partners in developing countries (for research visits at ZEF and commissioning of background papers)
 - Conduction of a follow-up study in India (see below)
 - Purchase of one more notebook computer for India study
 - Purchase of a computer monitor

Difficulties

The concept of the Junior Research Group Leader implies that the group leader independently supervises the research team. However, as the state of North-Rhein Westfalia currently does not accept the position of a Junior Professor, students still have to be officially supervised by a professor. As a consequence, the role of the Research Group Leader as the main supervisor is not acknowledged in the system. Dr. Engel is, however, the official tutor of the students and thereby also their main contact point. Participation in university committees is also difficult for the reasons mentioned above.

Aims and expectations for remainder of the project phase

Main activities planned for the remainder of the first project phase include:

- A follow-up study in India. The study will collect data in the peripheral villages of Bandhavgarh National Park, where eco-development projects have aimed at providing local communities with alternatives to resource extraction and will further analyse the role of alternative income provision and attitudes and perceptions in reducing the pressure on natural resources. The field work of Ms. Sawhney up to now had focused only on communities living inside park boundaries and did not include all the desirable information.
- If necessary, collection of additional data for the Chile study.
- A preparatory workshop for the Indonesia study will be conducted. This will take the form of a teleconference with CIFOR in February 2003 and potentially an additional workshop in Indonesia in 2003.
- Conduction of field work in Ghana, Indonesia, and Vietnam.
- Empirical analysis of the data collected.
- As results become more concrete, more public relations work (press releases, conferences, presentations in Göttingen, Berlin, Hohenheim) will be done.

- Paper with Mr. Le Quang and Dr. Grote (ZEF) on decentralization and deforestation in Vietnam.
- It is likely that an additional DAAD-funded student from India – who started the ZEF doctoral studies program in July 2002 – will join the research group for a study on community-company negotiations over forestry resources in India.

Appendices

- Table 1: Members of the Research Group
- Table 2: Main research network established
- Revisions to budget
- Corrections to ‘Verwendungsnachweis’
- Verwendungsnachweis
- Universitätsbuchungsjournal
- Copies of newspaper/newsletter articles

Table 1: Members of the Research Group

Name	Position	Field	Country of Origin	Thematic focus
Dr. Stefanie Engel	Research Group Leader	Agricultural and Resource Economics	Germany	Conceptual development and close supervision of all subtopics, Methodology, Simulation model of irrigation management in Chile
Professor Ramón López	External Advisor	Agricultural and Resource Economics	United States/Chile	Advice on all subtopics (methodology, fieldwork)
Mr. Kadir Osman Gyasi	Doctoral Student	Agricultural Economics	Ghana	Community-based irrigation management in Northern Ghana
Mr. Charles Palmer	Doctoral Student	Agricultural and Resource Economics	Great Britain	Community-company negotiations over forestry resources in Indonesia
Ms. Puja Sawhney	Doctoral Student	Geography	India	The role of local communities in a protected forest area in India
Mr. Benedikt Korf	Doctoral Student	Institutional Economics	Germany	Conflicts over irrigation and land resources in Sri Lanka
Mr. Le Quang Bao	Doctoral Student	Ecology and Resource Management	Vietnam	Tenure policies and forest use in Vietnam
Mr. Jörn Kollmann	Student Assistant and Master's Student (since June 1, 2002)	Economics	Germany	Conceptual models for understanding community-based irrigation management in Northern Ghana
Ms. Weselina Angelow	Student Assistant (until April 30, 2002)	Economics	Germany	Establishment of literature database, summary of definitions, establishment of website, assistance in administrative issues

Table 2: Main research network established

Subproject/Country	Organisation	Area(s) of expertise
Irrigation management in Ghana	GLOWA project, ZEF Institute of Statistical, Social and Economic Research, University of Legon, Ghana University of Development Studies, Tamale and Navrongo campuses, Ghana Ministry of Agriculture, LACOSREP Project, Bolgatanga	Water use in the Volta basin (Anthropology, Economics, Hydrology, MAS modelling) Economic studies in Ghana
	International Water Management Institute (IWMI), South Africa and Ghana	Irrigation and common property management in Northern Ghana
	Berghof-Foundation for Conflict Studies, Colombo (Dr. Norbert Ropers)	Small-scale irrigation in Ghana's Upper East Region
Irrigation and land conflicts in Sri Lanka	Peradeniya University, Department of Sociology (Prof. K.T. Silva, M. Sidharthan) Eastern University of Batticaloa (Dr. Y. Thangarajah)	General water-related research
	Development Studies Institute of the University of Colombo (Dr. Markus Mayer, IMCAP)	Conflict transformation and peace building in Sri Lanka
	ZEF (Dr. Thomas Berger)	Ethnicity and conflict in Sri Lanka
Irrigation management in Chile	Center for International Forestry Research (CIFOR), Bogor, Indonesia	Land use conflicts in the eastern province of Sri Lanka.
Community-company negotiations over forestry resources in Indonesia	Institute für Rurale Entwicklung, Universität Göttingen (Prof. M. Zeller, Dr. R. Birner)	Poverty and conflict in Sri Lanka; strengthening of research capacities in Sri Lanka on development research.
	Hue University of Agriculture and Forestry, Vietnam	MAS modelling
		General forest-related research; Anthropological research on negotiation outcomes in Kalimantan
Tenure policies and forest use in Vietnam		Economic and institutional analysis of land use at forest margins
		Co-management of upland watersheds, forest management policies and decision support tools

Subproject/Country	Organisation	Area(s) of expertise
Protected forest in India	Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad, India (Prof. A. Gupta) M. S. Swaminathan Foundation M S Swaminathan Research Foundation, Chennai, India	Agricultural management, grass roots innovation, equity issues, local knowledge Research on community-based development
General	Indian Statistical Institute, New Delhi (Dr. S. Mitra) International Food Policy Research Institute (IFPRI), Washington, DC CGIAR System-wide program on Collective Action and Property Rights (CAPRI), Washington, DC The World Bank, Washington, DC University of Maryland, Department of Agricultural and Resource Economics, College Park, USA German Institute for Development (DIE), Bonn German Society for Technical Cooperation (GTZ), Eschborn Institute for Agricultural Economics and Social Sciences in the Tropics and Subtropics, University of Hohenheim (Prof. F. Heidhues) Department of Resource Economics, Humboldt University of Berlin (Prof. K. Hagedorn) Center for the Study of Institutions, Population, and Environmental Change, Indiana University, Bloomington, Indiana, USA (Prof. E. Ostrom) East-West Center, Honolulu, USA (Dr. J. Fox)	General economic research General methodology Research on common property resources General methodology Agricultural economics Institutional economics Anthropology/Political Science, Common property resources GIS/remote sensing for land use modelling in Asia Environmental economics
	CSERGE, University College London (Prof. David Pearce)	

Revisions to budget

The following revisions to the project budget are necessary:

- 1) Use funds saved on position “Geräte” to purchase one more notebook computer for the India study (approx. 2000 Euros) and one computer monitor (approx. 400 Euros). Funds were also used to purchase a MD-recorder and microphone for recording workshops and interviews.
- 2) Use 12.000 Euros from position “Workshop” as a post-doc stipend for Ms. Sawhney (January-June 2003) for a follow-up study in India.
- 3) Use the funds saved in position “Geländearbeiten und Reisekosten” due to IWMI funding for field work costs in India.
- 4) Use 4000 Euros from position “Personalkosten/Studentische Hilfskräfte” as well as 4000 Euros from position “Sonstige Sachmittel”, which could be saved due to higher ZEF contributions, to fund short-term stipend contracts for cooperating partners from developing countries.
- 5) Use 6000 Euros from position “Workshop” as travel costs (Position “Geländearbeiten und Reisekosten”), because in University accounting travel to workshops is automatically counted as travel costs.

Danach ergeben sich die folgenden geänderten Gesamtbeträge (in Euro):

Kostenart	Vorher	Jetzt
Geländearbeiten und Reisekosten	98.372,56	104.372,56
Geräte	9.203,25	9.203,25
Workshops	30.677,51	12.677,51
Sonstige Sachmittel	6.135,50	2.135,50
Sachkosten gesamt	144.388,82	128.388,82

Kostenart	Vorher	Jetzt
Gehalt Dr. Engel	190.200,58	190.200,58
Stipendium für 2 Doktoranden	66.263,43	66.263,43
Vertrag für Prof. Lopez	10.225,84	10.225,84
1 Studentische Hilfskraft	23.008,13	19.008,13
Post-Doc Stipendium Sawhney	-	12.000,00
Stipendienverträge Gastforscher	-	8.000,00
Personalkosten gesamt	289.697,98	305.697,98
Projektkosten gesamt	434.086,80	434.086,80

Corrections to „Verwendungsnachweis“

The following corrections to the „Verwendungsnachweis“ have to be made, but are not yet reflected in the University accounts:

- The ticket to Jakarta (08.01.02, EUR 1.140,36) should be listed under position 846 instead of position 843.
- Repayment of advance payment for Ghana trip and Monterey conference in access of actual expenses in the amount of EUR 2.234,37 (Pos. 846) and EUR 409,99 (Pos. 875), respectively.