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ICDD

Opening Session

International Conference of Urban, Peri-urban Agriculture, Employment and Value Chain Management (18-22 October 2011)

Andreas Buerkert, Christoph Scherrer, and Iqrar A. Khan

International Center for Development & Decent Work (ICDD)






A global think tank network to address

MDG 1: "Eradicate Extreme Poverty & Hunger"

Target 2: "Achieve Full and Productive Employment and Decent Work for All"

A special focus on the world's 1.5 billion food insecure people – in line with the joint FAO–ILO initiative

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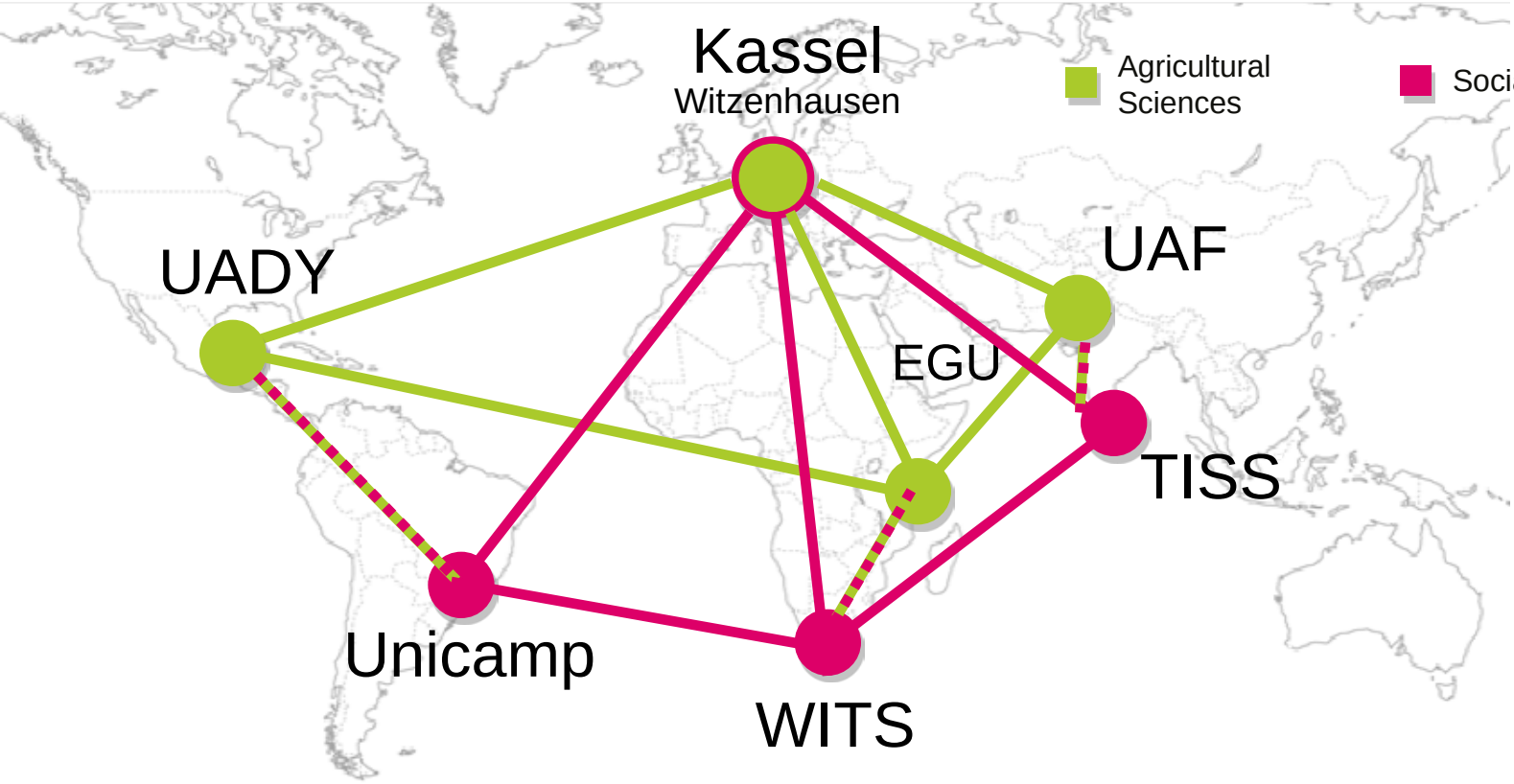
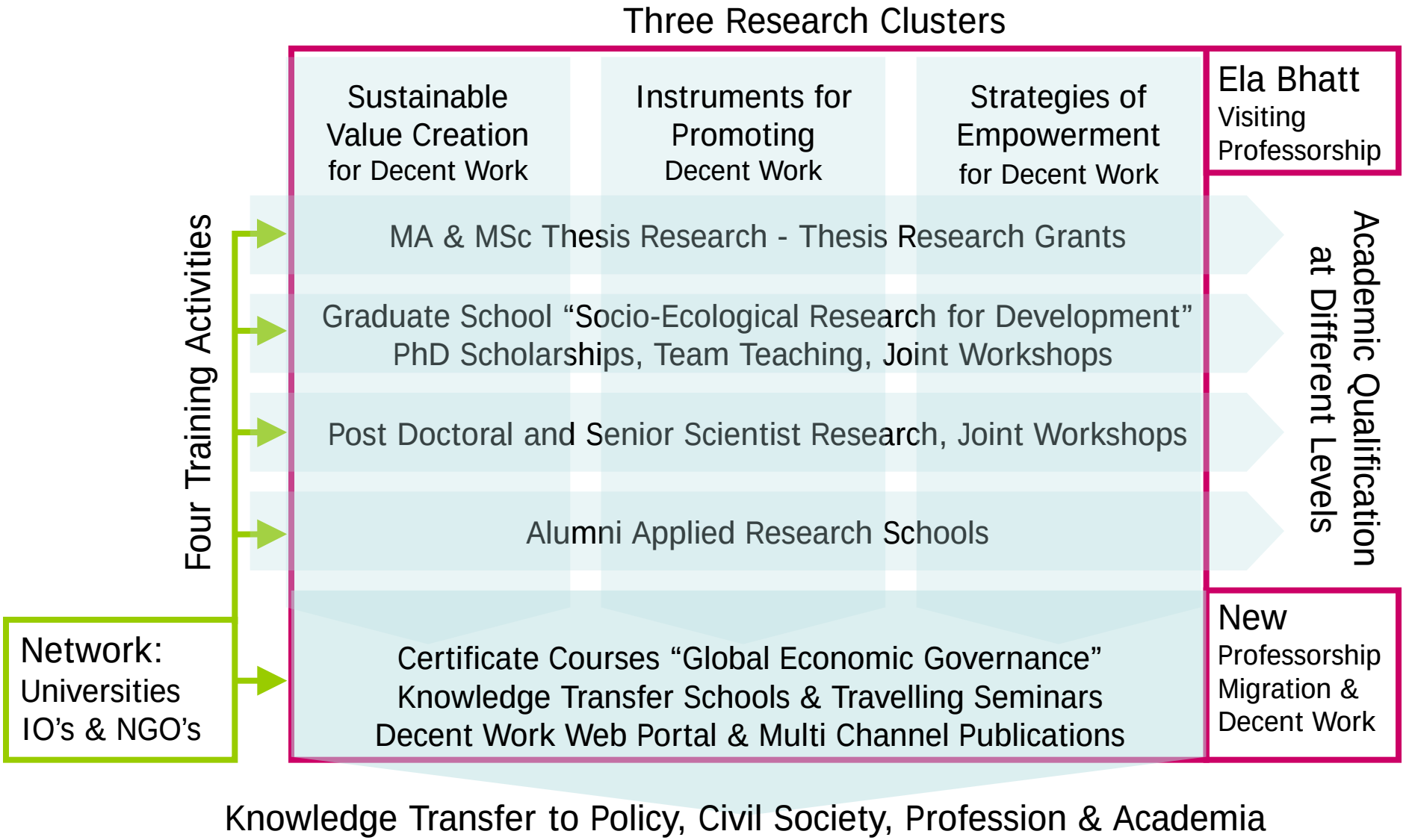


Civil society partners: FES, HBS, DGB, COSATU, CUT, SEWA, ITUC, WIEGO, RESPECT et al.

Unicamp:	Universidade Estaduale de Campinas (BRA)
WITS:	University of Witwatersrand (RSA)
TISS:	Tata Institute of Social Science (IN)

UADY:	Universidad Autónoma de Yucatán (MEX)
EGU:	Egerton University (KE)
UAF:	University of Agriculture Faisalabad (PAK)


Three Research Clusters
Sustainable Value Creation for Decent Work
Instruments for Promoting Decent Work
Strategies of Empowerment for Decent Work
Ela Bhatt Visiting Professorship
Four Training Activities
MA & MSc Thesis Research - Thesis Research Grants
Graduate School "Socio-Ecological Research for Development"
PhD Scholarships, Team Teaching, Joint Workshops
Post Doctoral and Senior Scientist Research, Joint Workshops
Alumni Applied Research Schools
Academic Qualification at Different Levels
Network: Universities IO's & NGO's
Certificate Courses "Global Economic Governance"
Knowledge Transfer Schools & Travelling Seminars
Decent Work Web Portal & Multi Channel Publications
New Professorship Migration & Decent Work
Knowledge Transfer to Policy, Civil Society, Profession & Academia

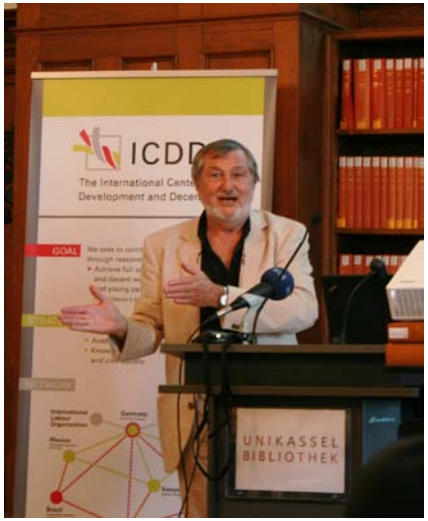
Ela-Bhatt Visiting Professorship for Development and Decent Work

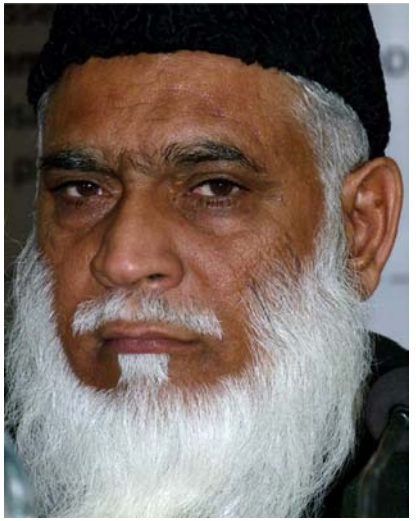
Professor **Edward C. Webster**,
University of the Witwatersrand,

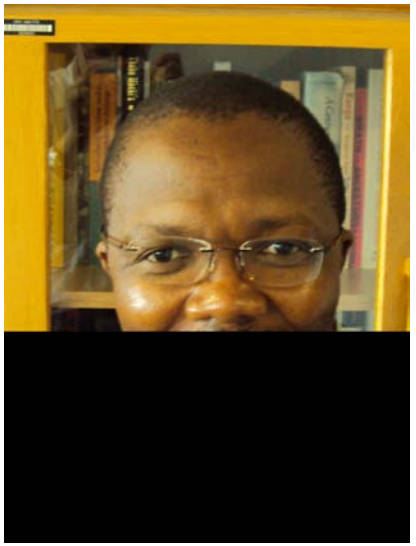
Professor **Muhammad Younas**,
University of
Agriculture, Faisalabad

Professor **Juan Jimenez-Orsonio**,
Universidad Autonoma de Yucatan

Professor **Sakhela Buhlungu**
University of Pretoria







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Graduate School of Socio-Ecological Research for Development

27 PhD candidates at 7 campuses

Workshops on methods and theory

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Research Cluster 1:

Sustainable Value Creation for Decent Work

Coupling Plant and Animal Production Systems
Younas & Khan (UAF) & Bürkert / Schlecht / Wachendorf

Solar Energy: Adding Value to Agricultural Products
Munir (UAF) & Hensel

Supply Chain Management at the Base of the Pyramid
Owuor (Egerton) & Seuring

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Cluster 2: Instruments for Promoting Decent Work

Fragmented Labour Markets in Latin America
Salas (Unicamp) & Burchardt

Public Banks
Deos (Unicamp) & Scherrer

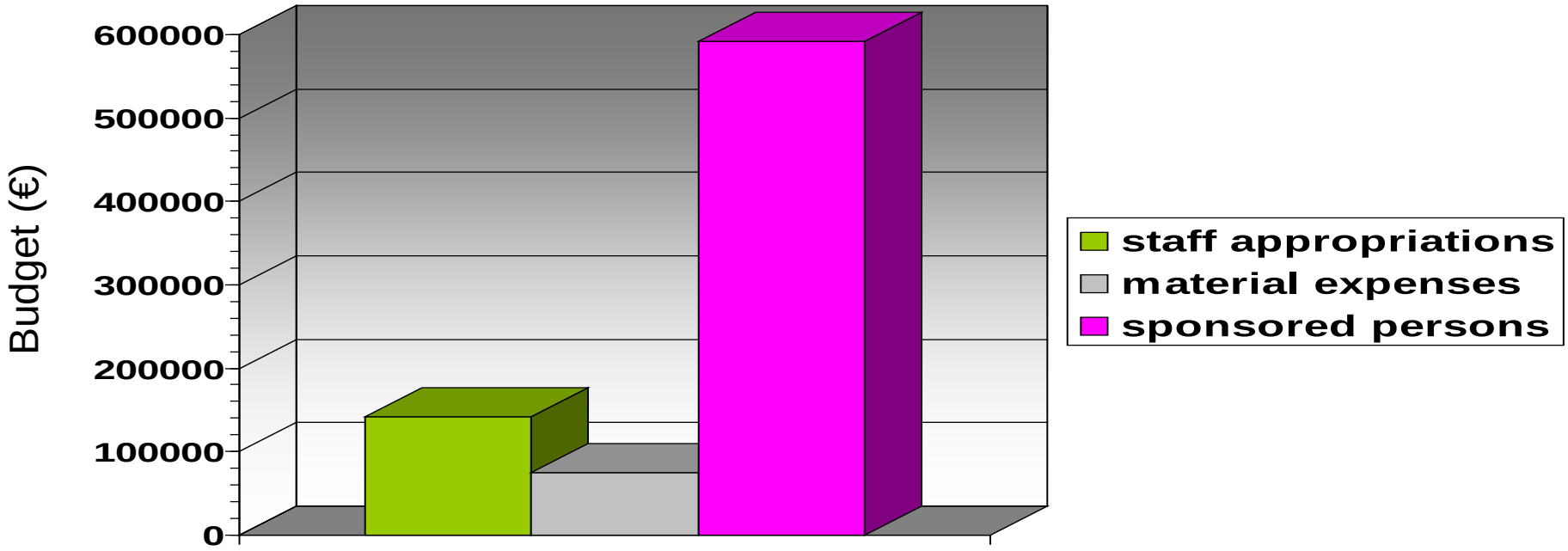
Return Migrants and Rural Development in Pakistan
Alim (UAF) & Knerr

Cluster 3: Strategies of Empowerment for Decent Work

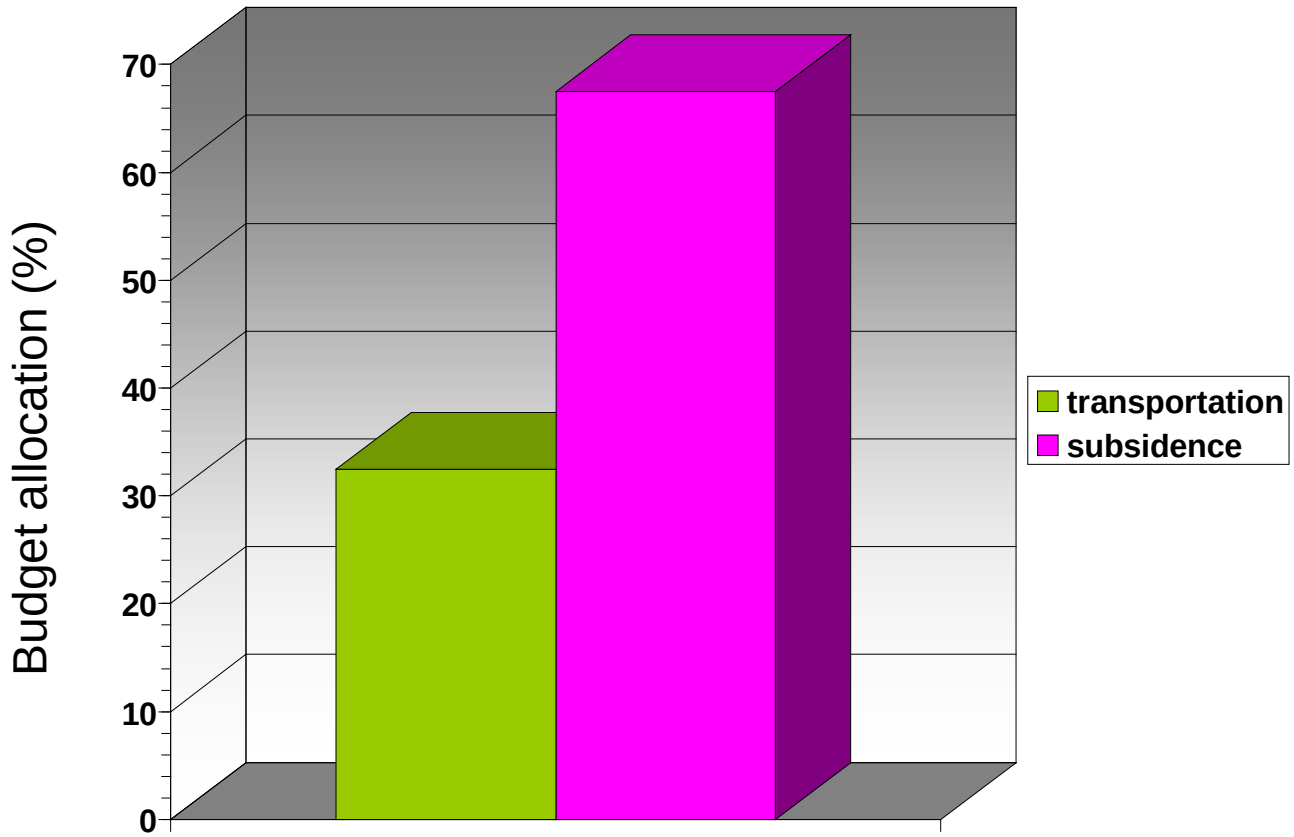
Empowerment of (Migrant) Domestic Workers
Ally (Wits) & Schwenken

Overcoming Social Insecurity in the Global South
Webster (Wits) & Bhowmik (TISS) & UNICAMP
& Jiminez-Orsonio (UADY)

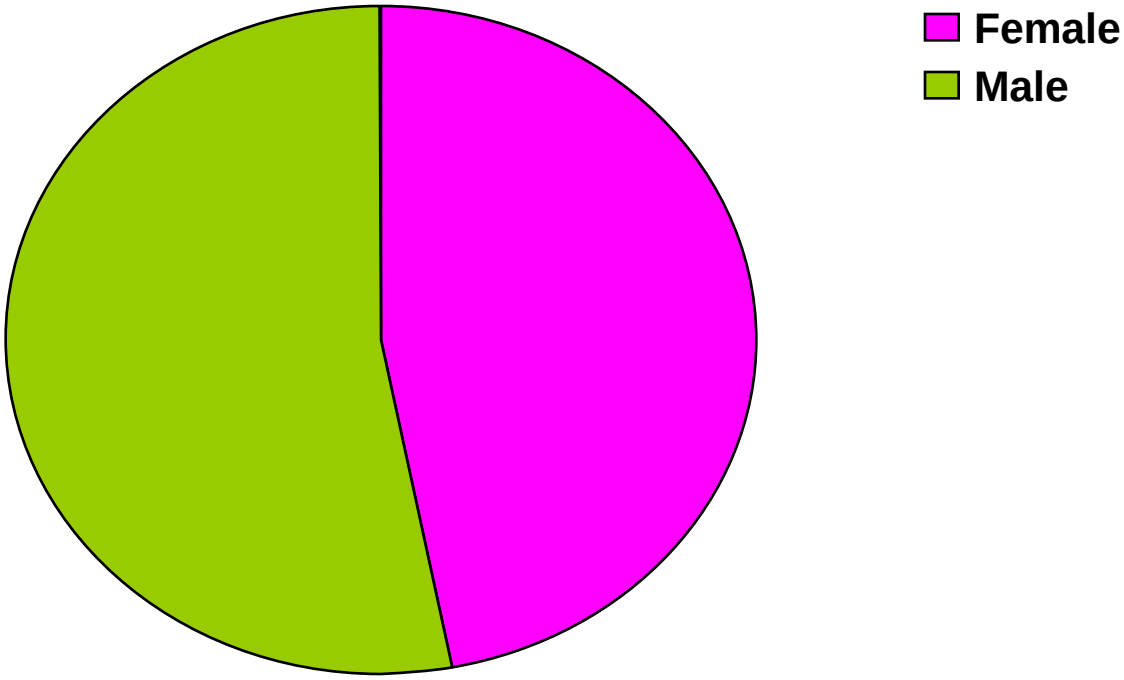
Financial report 2010 – Budget allocation



Sponsored persons budget allocation



Sponsored persons: Gender



Natur | Nature
Technik | High Tech
Kultur | Culture
Gesellschaft | Society

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Campus Witzenhausen

Faculty of Organic Agricultural Sciences

1898 Foundation as a Colonial School

Greenhouse of Tropical Crops

English Language MSc Programme
Sustainable International Agriculture

Concept & Goals

Faculty of Organic Agricultural Sciences
University of Kassel

Faculty of Agriculture
Georg-August University Göttingen

Why a joint MSc degree between two universities?

- Possibility of a wide subject area
(>50 faculties from sociology to molecularbiology)
- Deepening and gaining new expert knowledge
- Studies within a joint network
(Talca/Chile, Heredia/Costa Rica, Bogor/Indonesia, UAF/Pakistan)
- Field research in foreign countries through co-operations
- Education of ‘Specialists‘ and ‘Generalists‘

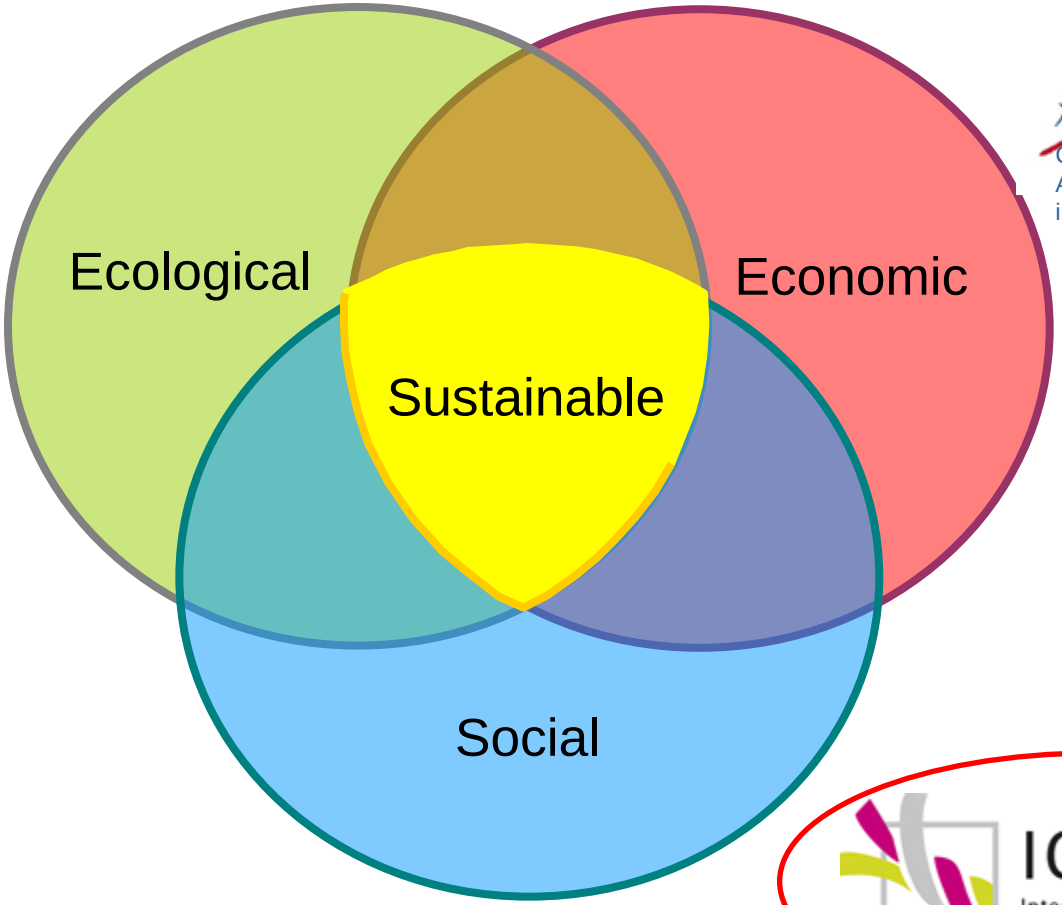
Concept

1. Sustainablility
2. Disciplinary and Interdisciplinary
3. Internationality

1st Concept: Sustainability

Steuerung von Humus- und Nährstoffhaushalt in der Ökologischen Landwirtschaft

Courant Forschungszentrum Armut, Ungleichheit und Wachstum in Entwicklungsländern



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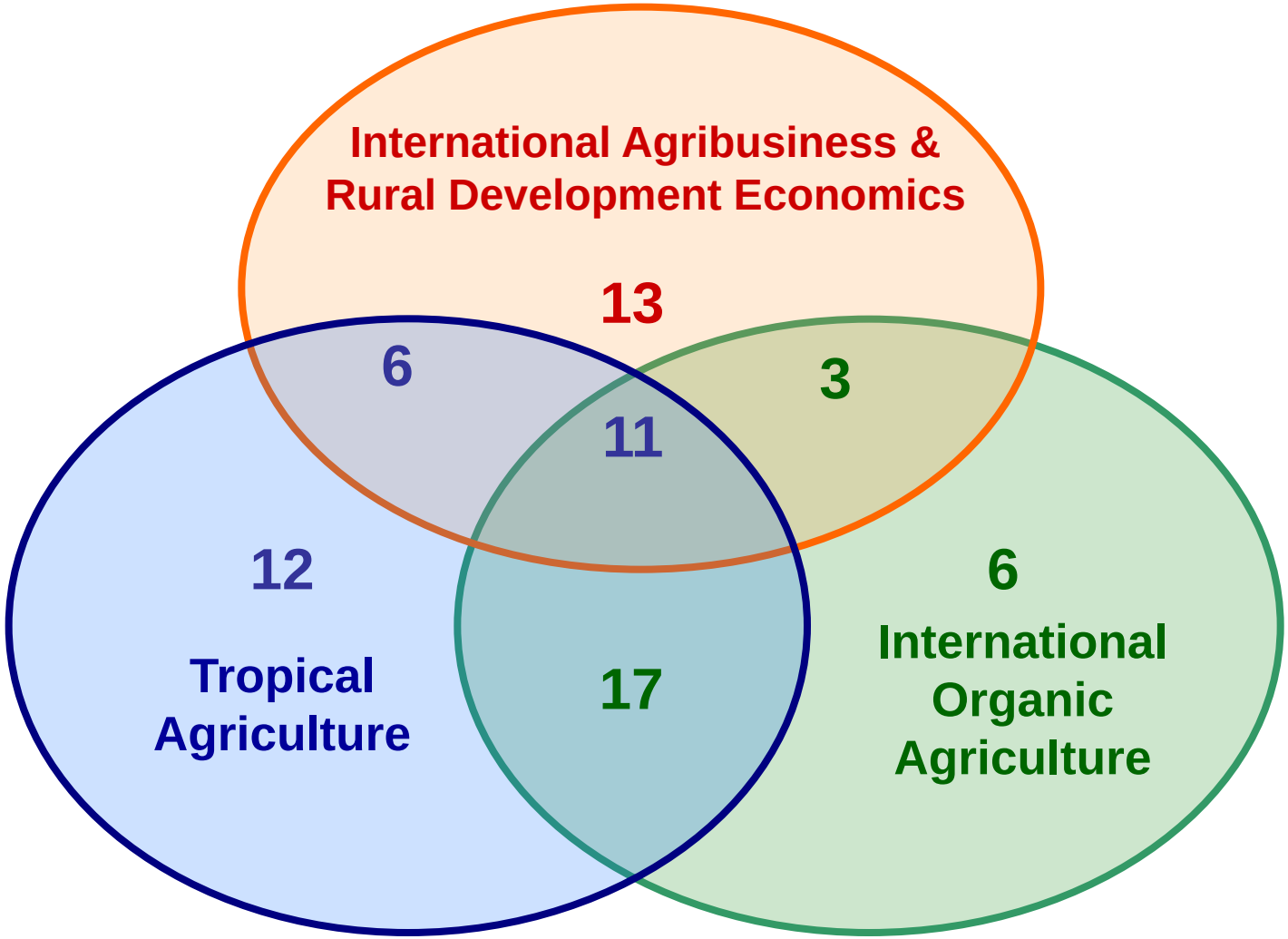
Sustainable agriculture is

- environmentally non-degrading
- technically appropriate
- economically viable
- socially acceptable (FAO, 2004)

2nd Concept: Disciplinary and Interdisciplinary Modules



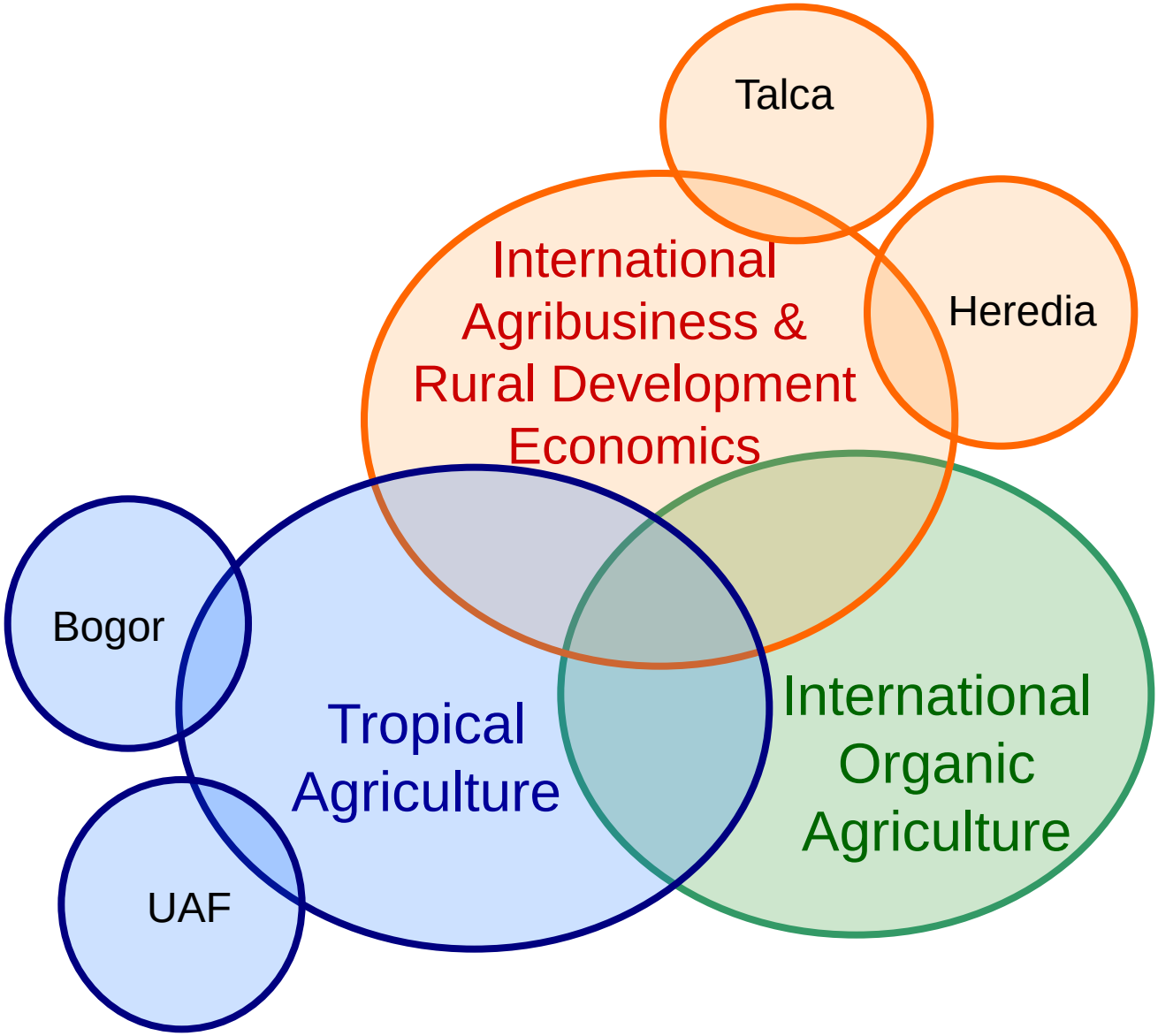
Key data

Admission BSc Degree in agronomy or related fields, Grade B, TOEFL 61

Specialization International Organic Agriculture
Tropical Agriculture
Int. Agribusiness and Rural Development Economics

4 Obligatory modules (depending on specialization)	24 Credits
5 Mandatory modules (depending on specialization)	30 Credits
6 Elective modules (free choice, also from other programs)	36 Credits
20 Weeks Master thesis and colloquium	30 Credits
In total: 4 semesters	120 Credits

3rd Concept: Internationalisation



The SIA programme will allow **goal-oriented students** to obtain:

- Well founded knowledge of bio-physical and socio-economic factors determining agricultural livelihood systems
- Understanding of global ecosystems and their relationship with agriculture
- Social, professional and methodological expertise

In order to...

...contribute to a more resource efficient and sustainable development of agriculture worldwide

There are other exciting international study possibilities in the Social Sciences:

- GPE: **Global Political Economy**
  (2 year MA program)
- LPG: **Labour Politics and Globalisation**
  (1 year intensive MA program in the GLU network)
- **ENGAGE**: Knowledge for Labour
  (6 months certificate program)

Global Labour University (GLU)

The Global Labour University (GLU):

- 'Labour Policies and Globalisation' (Germany),
- 'Labour and Development, Economic Policy, Globalisation and Labour' (South Africa),
- 'Social Economy and Labour' (Brazil) and
- 'Globalisation and Labour' (India)

→ Sustainable development, social justice, international labour standards and trade unions, economic policies and global institutions.

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ENGAGE* – Knowledge for Labour

- Six month programme from 01 April - 30.Sep. in Germany
- A short term Diploma Course on Labour Policies and Globalisation.
- Designed to help labour activists and trade unionists to:

  acquire additional knowledge and tools that enable them to take an active part in public debate and in the process of policy formulation and implementation.

ICDD Annual Thematic Conference
Faisalabad, Oct 18 – 22, 2011

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Resource use efficiency, produce quality, plant biodiversity and externalities in UPA systems of Africa and Asia: From a *status quo* analysis to effective policy recommendations

Andreas Buerkert[1], Martina Predotova[1], Abdu Nafiu[2], and Zikrullah Safi[3]

[1] Organic Plant Production & Agroecosystems of the Tropics and Subtropics, University of Kassel, Germany;
[2] Department of Soil Science, Faculty of Agriculture, Ahmadu Bello University, PMB 1044, Zaria, Nigeria; and
[3] Department of Agronomy, College of Agriculture, Kabul University, Kabul, Afghanistan

The irrigation water issue

UPA – Quality of irrigation water

UPA – Quality of irrigation water

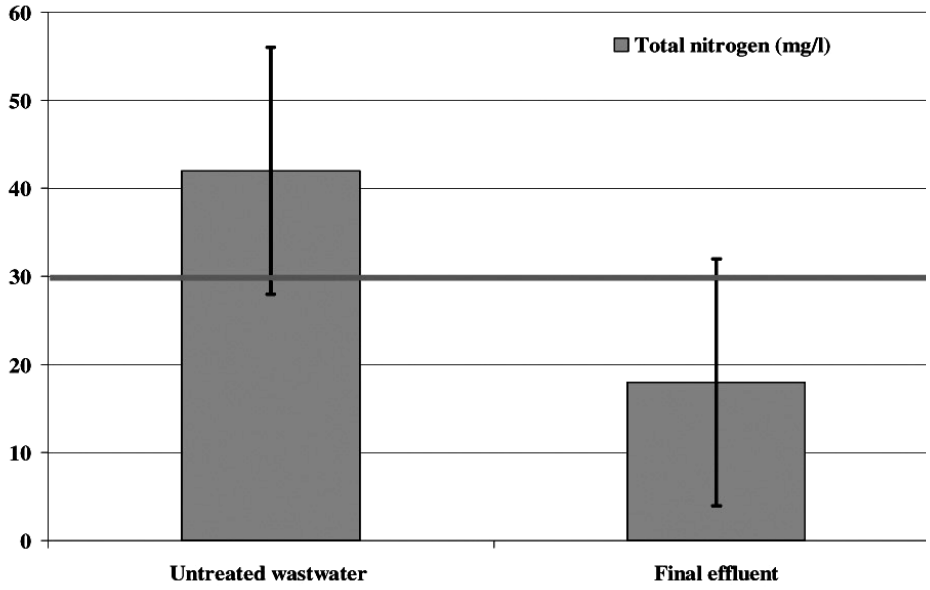


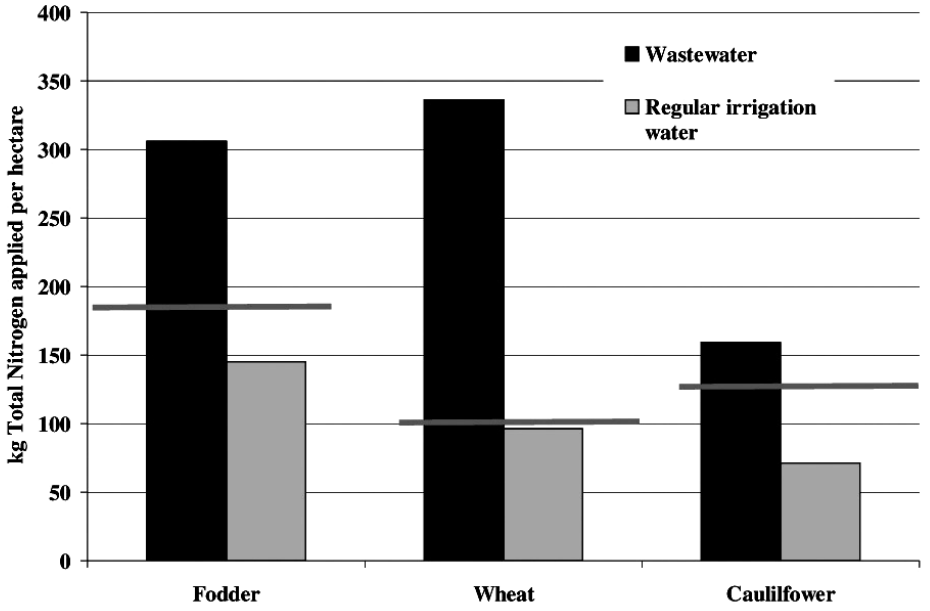


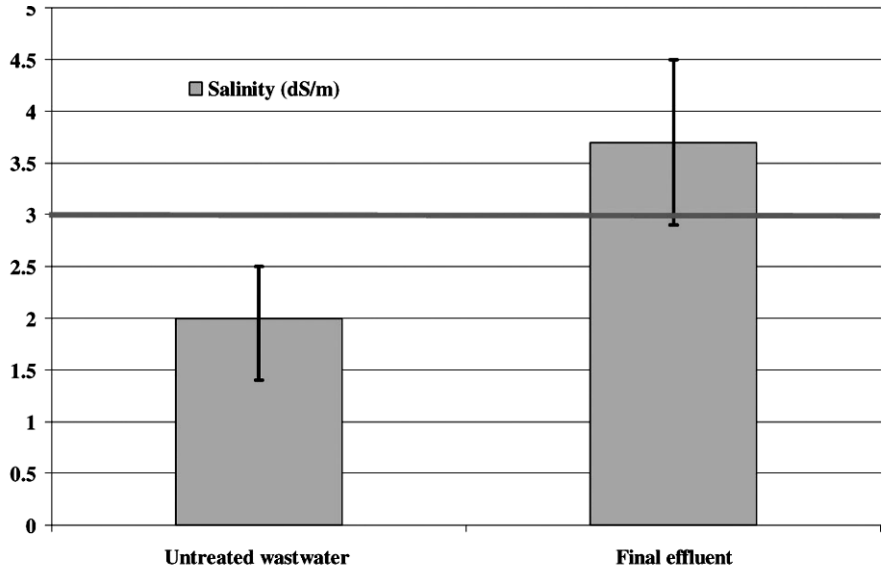

Weckenbrock, Drescher, Amerasinghe and Simmons, 2008.

Sustainability

Wasterwater use in Faisalabad, Pakistan



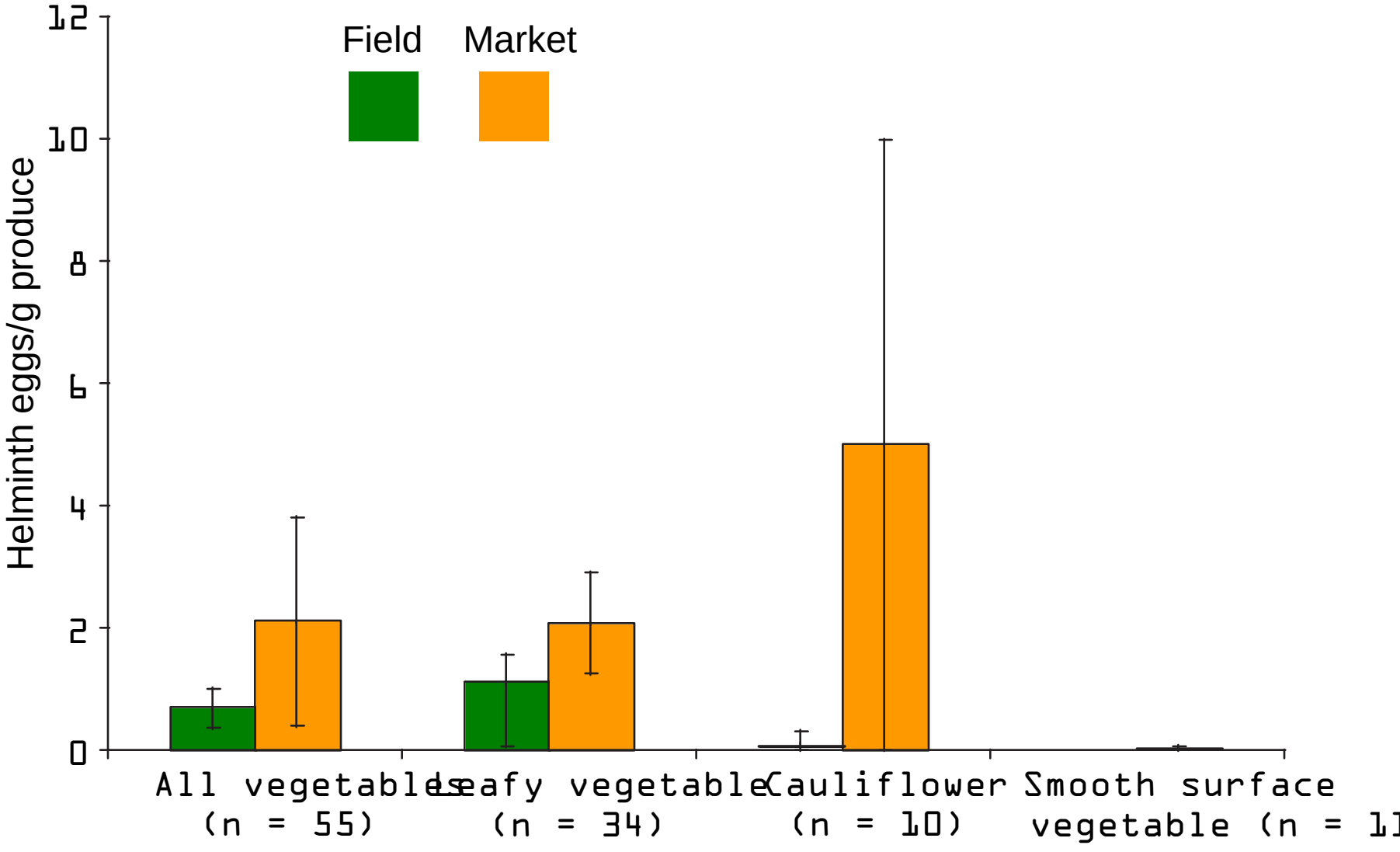




Clemett, A.E.V. and Ensink, J.H.J. 2006. Farmer driven wastewater treatment: A case study from Faisalabad, Pakistan. 32nd WEDC International Conference, Colombo, Sri Lanka, 99-104.

Mean helminth egg concentrations on different types of vegetables in the fields and on a market in Faisalabad during the period April 2004–March 2005 (Vertical bars represent 95% CI).

Ensink et al., 2007. Trop. Med. Intern. Health 12(2), 1-6.



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Conclusions & Recommendations

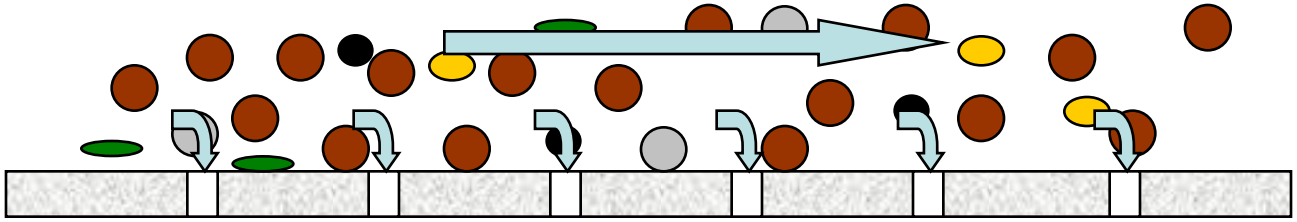
Urban and peri-urban agriculture (UPA) can make an important contribution to supplying food and income opportunities to the rapidly growing urban populations of developing countries, but its role strongly varies between locations.

- Negative externalities of UPA need careful analysis and consistent action to derive effective recommendations (policies) fostering the sustainability of the systems and securing product safety and finally consumer health.
- Carbon and nutrient balances strongly vary between and within locations. While N balances are often excessively positive leading to N losses via volatilisation, C-balances heavily depend on the use of manure.
- A thorough unterstanding of the biophysical, economic and social sustainability of UPA systems may also allow us to derive important conclusions for the farm-level adoption of improved soil fertility management options in the vast rainfed systems across semi-arid Africa and parts of Asia.

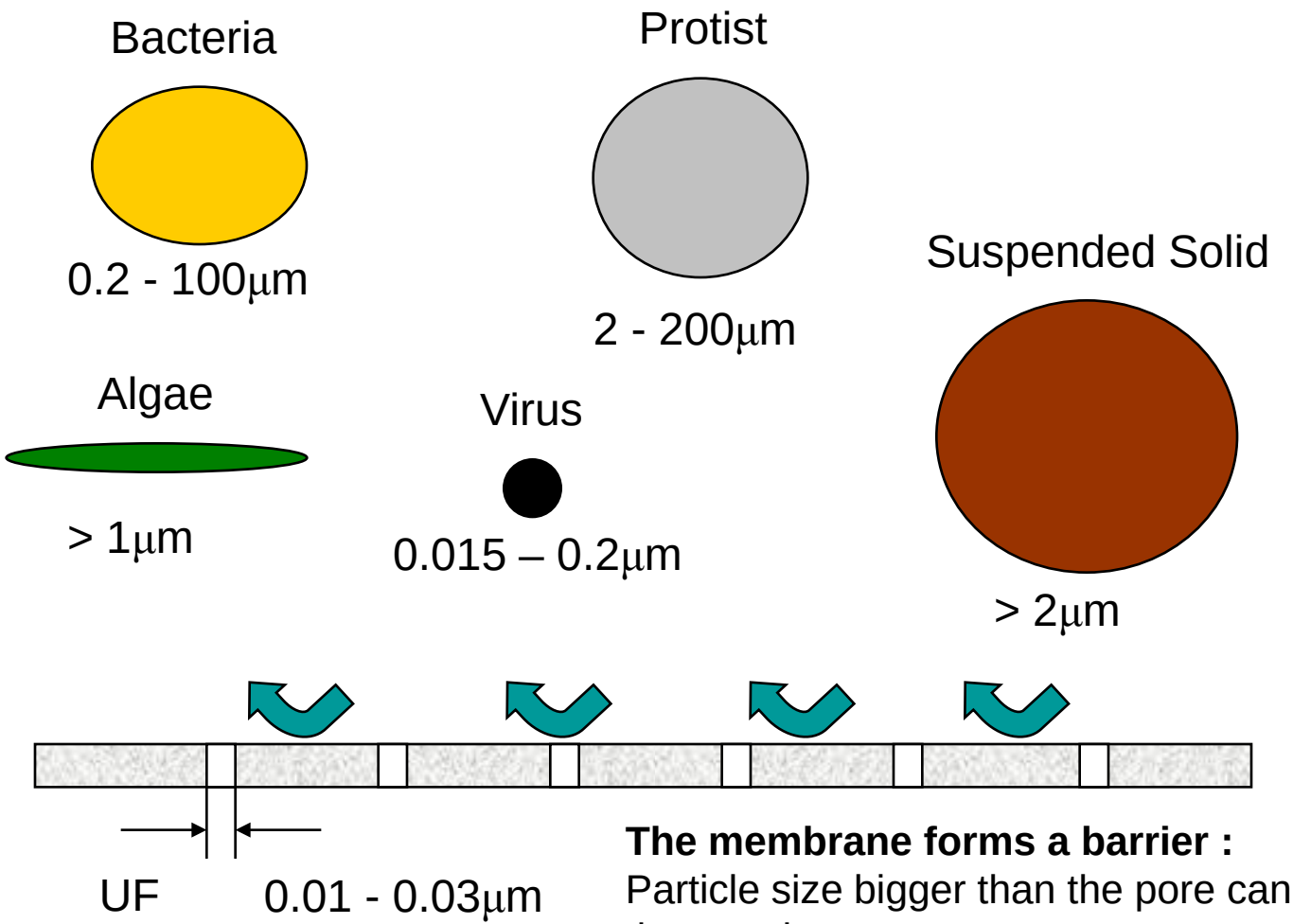
Use of membrane filtration: Cross-flow filtration for cleaning up wastewater

=> From ISO norms to sustainable cloth production: a call for solid legislative action!

Tangential water flow across membrane surface keeps particles in suspension, prevents settling and blocking of the membrane



Membrane capabilities



The membrane forms a barrier :
Particle size bigger than the pore cannot pass through the membrane.

Disadvantages of conv. membrane designs – Hollow Fibre

Membrane fouling at top

Fibers cannot move at the top flange (air scour), limited water flow velocity at top flange

Membrane fouling at bottom

Fibers cannot move at the bottom flange (air scour), limited water flow velocity at bottom flange

Membrane fouling at top

Manual cleaning necessary

High risk of breaking fibres

Reference: Desalination and Water Purification Research and Development Report No.103

Disadvantages of conv. membrane designs – Flat Sheet

Permeate Outlet

Modules

Permeate Outlet of Single Plates

Membrane

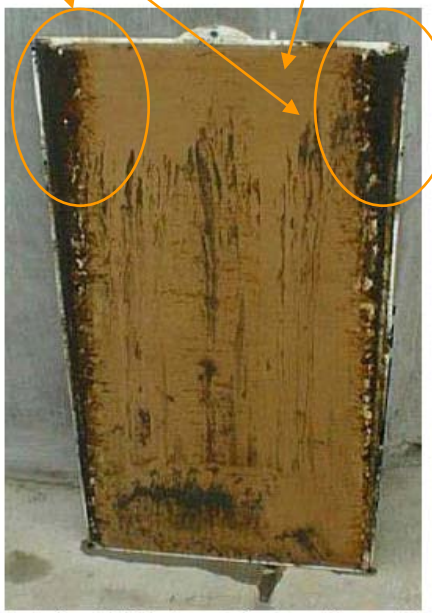
Areas in the Corners of the Membrane Plate are difficult to clean due to low Water Flow Velocity

Membrane Fouling

Plate / Frame UF Assembly

Kubota Type 510 Membrane (single sheet)

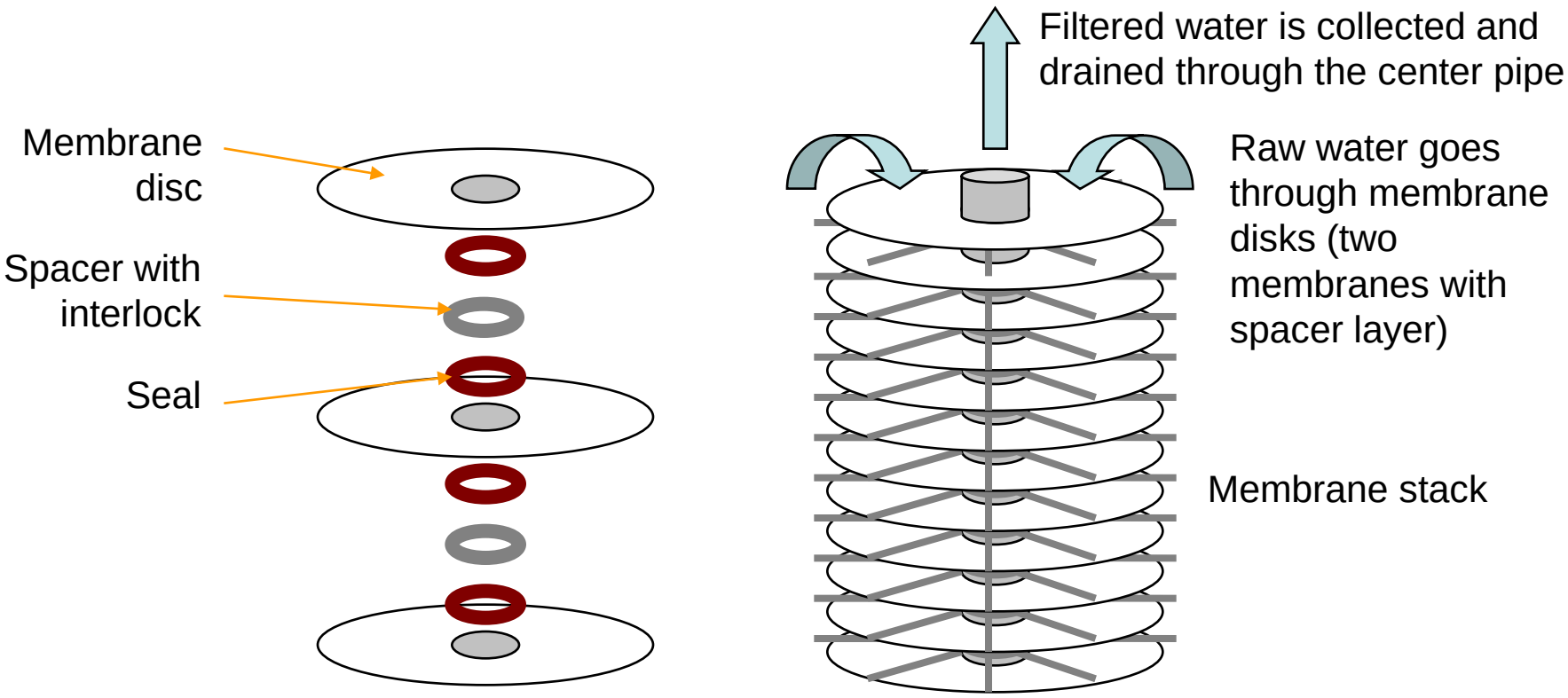
Single Plate



Kubota Type 510 Membrane (after 2 months operation)

Membrane Fouling

A new alternative: The filter (membrane) stack



→ **The spacer avoids dead space on the membrane surface and membrane stack !**

→ **The disc-shaped design allows for an even flow velocity across the membrane surface!**

The filter (membrane) stack **before** and **after** cleaning

Fouling

Easy cleaning

Recover complete

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung

exceed EXCELLENCE CENTERS FOR EXCHANGE AND DEVELOPMENT

DAAD Deutscher Akademischer Austausch Dienst German Academic Exchange Service

Thank you / Shugria!

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