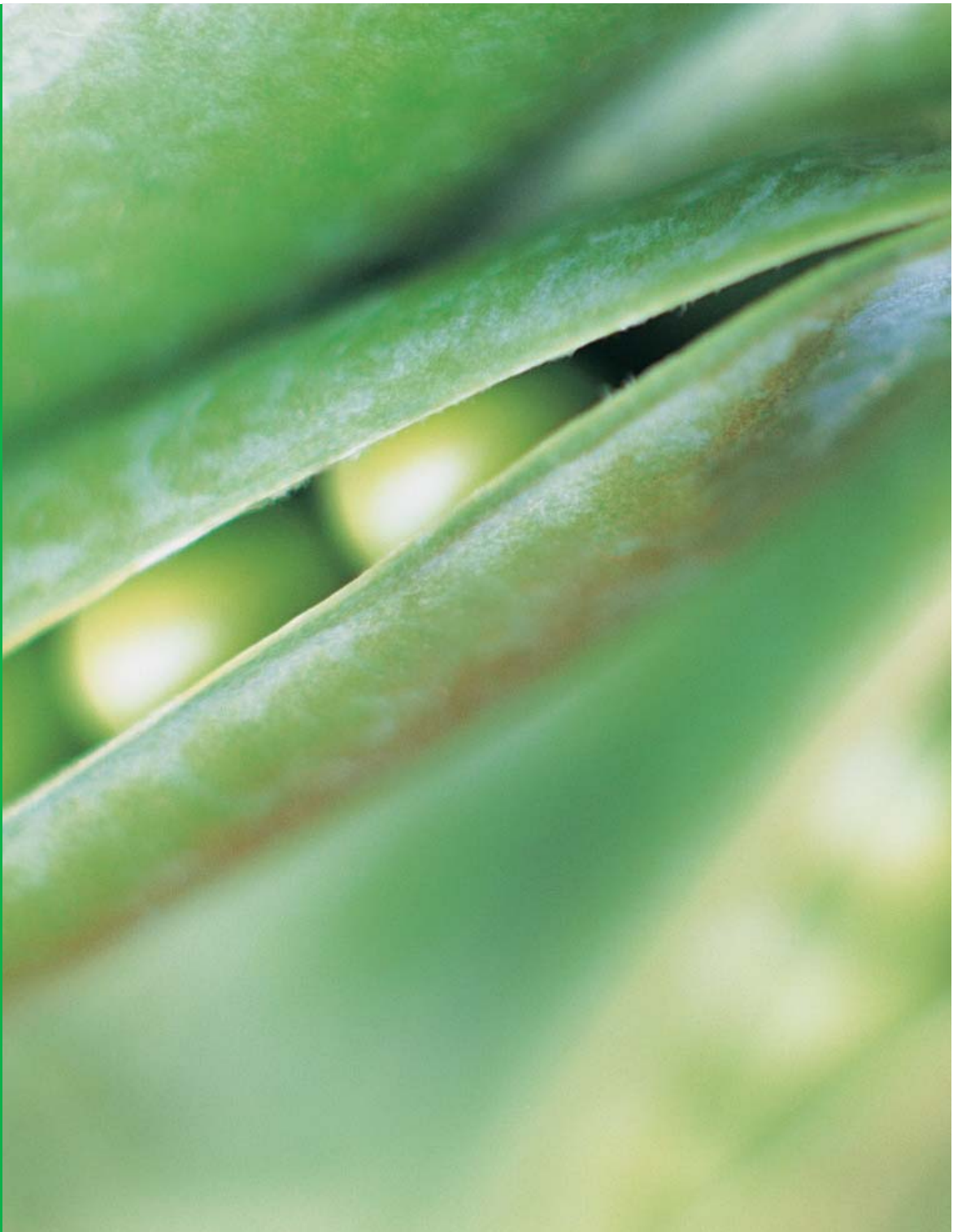


# ENVIRONMENT AND DEVELOPMENT STUDIES: THE WAY AHEAD

A CONFERENCE TO CELEBRATE NORAGRIC'S 20TH ANNIVERSARY  
15 - 16 JUNE 2006  
CONFERENCE REPORT

BY RUTH HAUG, N.SHANMUGARATNAM, JENS AUNE, PÅL VEDELD,  
TRYGVE BERG AND JOANNA BODDENS-HOSANG

NORAGRIC REPORT NO. 35  
DEPARTMENT OF INTERNATIONAL ENVIRONMENT AND DEVELOPMENT STUDIES  
NORAGRIC



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Noragric Report No. 35  
August 2006

**Noragric**  
**Norwegian University of Life Sciences**

Noragric is the Department of International Environment and Development Studies at the Norwegian University of Life Sciences (UMB). Noragric's activities include research, education and assignments, focusing particularly, but not exclusively, on developing countries and countries with economies in transition.

Noragric Reports present findings from various studies and assignments, including programme appraisals and evaluations, among others.

The findings, interpretations and conclusions expressed in this publication are entirely those of the authors and cannot be attributed directly to the Department of International Environment and Development Studies (UMB/Noragric).

Noragric would like to thank NORAD and UMB-Miljøforsk for their financial contributions to the conference.



Haug, Ruth, Shanmugaratnam, N., Aune, J., Vedeld, P., Berg, T. and Boddens-Hosang, J. Environment and Development Studies: The Way Ahead. A Conference Report. Noragric Report No. 35 (August, 2006)

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ISSN: 1502-8127

Photo credits: Digital Vision

Cover design: Åslaug Borgan/UMB

Printed at: Rotator, Ås

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## PROGRAMME

### **Environment and Development Studies – The Way Ahead A conference to celebrate Noragric's 20<sup>th</sup> anniversary 15-16 June 2006**

**Venue:**        **UMB Campus: Clock Building** (Conference Programme)  
                  **Museum and Economy Building** (Meals and Refreshments)

#### **June 15**

- 12:30 – 13:00: Participants arrive: Registration. Coffee & Tea  
13:00 **Opening Address** by Rector at UMB: Knut Hove  
13:15 **Welcome and Introduction to the Conference** by Head of Noragric: Ruth Haug  
13:30 **Peacebuilding-Development Relations in a Globalising World**  
Erik Solheim, Norwegian Minister of International Development  
14:30 Coffee/tea and refreshments break  
15:00 – 17:00 Panel I  
Topic: **Peacebuilding - Development Relations: The role of livelihood security and natural resources**  
Organised by Noragric research group: *Rights, Conflicts and Resources*  
*Panel participants:* Georg Frerks (Wageningen University), Uttam Kumar Sinha (IDSA), Gunnar Sørbø (CMI), Ruth Haug (Noragric)  
Moderator: N. Shanmugaratnam  
17:00 Refreshments at the Museum  
18:30 Conference and 20-years Celebration Dinner: Economy Building  
Toastmaster: Halvor Kolshus

#### **June 16**

- 09:30 11.30 Panel II  
Topic: **Agriculture, land use and climate change – what will the future bring?**  
Organised by Noragric research group: *Agricultural Development and Livelihood Security*  
*Panel Participants:* Dennis Garrity (World Agroforestry Center), Karen O'Brian (UiO), R.C. Ichengoma (Sokoine University of Agriculture, Tanzania), Solveig Glomsrød (SSB), Jens Aune (Noragric)  
Moderator: Pål Vedeld  
11:30 – 12:30 Lunch Buffet (Museum)  
12:30 – 14:30 Panel III  
Topic: **Biodiversity and Poverty – How are they related?**  
Organised by Noragric research group: *Biodiversity and Natural Resource Management*  
*Panel participants:* Admasu Tsegaye (Debu University, Ethiopia), Gufu Oba (Noragric), Mitiku Haile (Mekelle University, Ethiopia), Regine Andersen (FNI), Ian Bryceson (Noragric)  
Moderator: Trygve Berg  
14:30 – 14:45: Closure of Conference

## **OPENING ADDRESS BY UMB RECTOR PROFESSOR KNUT HOVE**

*By Joanna Boddens-Hosang, UMB/Noragric*

Your Excellency, distinguished guests, colleagues and friends,

It is with great pleasure that I welcome you to this festive occasion marking the 20<sup>th</sup> anniversary of our youngest department, Noragric, more formally known as the Department of International Environment and Development Studies. 20 years for a human being would mean that life is only just beginning – but Noragric at the age of 20 can already look back at an impressive list of achievements. One can only wonder what the next 20 years will bring.

To put things in perspective, let me tell you a bit about the background leading to what Noragric is today. Our university's involvement in agriculture and international development goes back to the 1960s. That was the time when the first students from Africa and Asia started arriving at our university, and one of our professors was invited to become advisor to the government of Pakistan. The demand for expertise in the university's competence areas relevant to Norwegian development cooperation increased over the years.

In 1977, the long-standing collaboration between the Agricultural University of Norway-NLH and NORAD was formalised and the NORAD-NLH office was set up on campus. By the early 1980's, as the world's attention was focused on the growing food shortage in developing countries and Norway had committed itself through international agreements to join in combating this food shortage, the need for an independent competence centre to advise NORAD and the Ministry of Agriculture on agricultural aspects of development cooperation became evident. This centre was established in 1986 at NLH, and was called the Norwegian Centre for International Agricultural Development, Noragric.

Noragric was already very ambitious from the start: under the leadership of its first director, Gunnar Øygard, the successful MNRSA Master's programme was launched in the first year and became one of Noragric's flagships. More than 600 students have graduated from this programme since those early days. These students have come from many countries all over the world. Most former students from the South have returned to institutions in their home countries and have become important members of Noragric's international network and formidable ambassadors for our university.

One example of such a network is the one established in Nepal by former UMB students. They have set up a professional resource network, organising workshops and submitting funding proposals to the Norwegian embassy. These former students work in NGOs, universities and government agencies and put their experience to good use in many contexts. They have, for example, started a village outreach programme with local communities in which they are actively engaged, both on a voluntary basis and in the context of their jobs. The network is also extremely supportive to Norwegian students arriving at Pokhara (Tribuvan University) for field studies. And should you be in Kathmandu on the 17<sup>th</sup> of May, the Norwegian National Day, you can be sure the students will be celebrating it!

Noragric's role as the international gateway for our university has been at the core of its activities since the very start. The many partnerships we have with countries like Tanzania, Uganda and

Ethiopia are long-standing and some even started before Noragric's "birth": the collaboration with Makerere University in Uganda stems from 1969; Sokoine University of Agriculture in Tanzania from 1974 and Debub University in Ethiopia in 1989.

When I travel to countries in Africa, Asia and South East Europe and visit universities with institutional collaboration agreements with our university, it strikes me to hear that Noragric has such a high standing among these institutions, a fact that is recognised when I talk with university leaders. Indeed, I have heard that Noragric has made itself quite a name abroad, but that the name of our university sometimes is unfamiliar!

Society has always looked to education as the key to progress, and to higher education in particular as the means to prepare future generations for the challenges ahead. The importance of the rural sector and agriculture to economies of most developing countries means that higher education in agriculture, natural resource management and access to resources must play a particularly significant role.

Indeed, Noragric acknowledges this and has taken an interdisciplinary approach with its education programmes that now include one Bachelor's programme, two Master's programmes and the PhD programme in Development Studies. Collaboration with partner universities in the South makes it possible to offer students to take part of their studies in these countries – thereby broadening their outlook and widening their experience. We are proud to say that Norwegian graduates from the Master's programme in Development Studies have found trainee positions in the UN system and the World Bank, as well as jobs with larger NGOs, where they are able to influence and contribute to the international discourse on development.

As an academic institution, Noragric's track-record in research has been a long one. Researchers publish in international scientific journals and interdisciplinary research is carried out with partner institutions, both in the North and South. Noragric has been and still is the host for researchers from various institutions who have found their way here and use the department as an inspirational haven during their sabbatical.

The world has changed in 20 years. Yet conflicts remain, natural resources continue to be depleted and the developing world is still confronted with a myriad of troubles. Many new factors have appeared during these 20 years: the alarming spread of HIV/AIDS, the marked effects of climate change, the increase in natural disasters, and so on. Noragric has been compelled to address these issues, coordinating an Emergency Response Group following the earthquake in Pakistan last year; taking the lead in the university's new Health and Development programme; and paying increased attention to issues as democracy, human rights, forced migration, post-conflict management and also carbon-sequestration.

As I told about earlier, "development" has been on our university agenda for more than 40 years. It has been part of research, education and assignments throughout the years. As we have become more and more aware, "development" with all its intricate relations to peace, conflict, democracy, health, and natural resources, will be a subject increasingly inter-linked to such topics. A recent Norwegian student from the Master's programme in Development Studies, who had received her Bachelor's degree in Animal Science, wasn't quite convinced at the onset of her studies in Development Studies how these could be relevant to her earlier science-based background. Until she went to Ethiopia for field research in animal genetic resources and did her research at Debub



University, whose professors assisted in the design and implementation of her study. The study – linking science with development – turned out to be extremely relevant to both her and to her Ethiopian counterparts. At her graduation, the student spoke highly about the relevance of Development Studies and how her perspectives had broadened through the study programme. Similar stories exist for students from the South.

The title of this anniversary seminar is “Environment and Development Studies – The Way Ahead”. Many distinguished guests from far and near have come to Ås to participate and exchange views during the seminar. “The Way Ahead” is an unwritten road-map. We can predict the future to a certain extent based on what we know. Yet undoubtedly new challenges will arise along the way forcing us to stop and perhaps adjust the direction we have chosen to take. What will the world be like in another 20 years? Will an affordable medication have been found to treat AIDS? Will global poverty and hunger indeed be reduced by half as the UN Millennium Development Goals have targeted for the year 2015 – only 9 years from now?

Together with our partners in the North and South, Noragric and UMB will continue to contribute to finding solutions through sound research and interdisciplinary education. Development Studies is firmly anchored as an academic field at UMB. We will continue to graduate young people with the knowledge needed to address development-related problems in an international and local context. We will continue to strengthen academic partnerships and networks, and attract highly qualified individuals through exchanges, as guest lecturers or on sabbaticals. We will continue to follow closely Norway’s commitments to international agreements – but also to government policies related to environment and development - and offer our expertise where needed.

With this, I wish Noragric a very Happy Birthday and much wisdom for the years to come. May this seminar set the first steps on the road towards finding a solid direction on the Way Ahead for Environment and Development Studies.

## **WELCOME AND INTRODUCTION TO THE CONFERENCE**

*By Head of Noragric, Professor Ruth Haug*

It is with great proud and honour I stand here in front of you to welcome you to the celebration of Noragric's 20 years anniversary seminar: *Environment and Development Studies - the way ahead*. We are indeed happy that so many people accepted to join us in our anniversary celebration and to attend this academic seminar with different panels discussions. We hope you will enjoy. We have been very fortunate to get the Norwegian Minister of Development Erik Solheim to be our first 20 years anniversary keynote speaker. He will address *Peace building and Development Relations in a Globalising World*. Which is a theme that Noragric is very interested in. Peace and Development have to a large degree followed different paths of thinking and now when we have a minister of development who is interested in peacemaking, we wanted to challenge him on how he sees the link between peace and development.

The main part of the seminar will be three panels organised by Noragric's three research groups. The themes for the panels are core focus areas of the three academic groups:

- Peace building – Development Relations: The role of livelihood security and natural resources
- Agriculture, land use and climate change – what will the future bring?
- Biodiversity and Poverty – how are they related?

We believe we have been able to attract excellent people to be in these panels both external people and internal Noragricers.

But before we start the programme, I would like to spend a little bit of time on reviewing some of the many changes that has taken place at the university and Noragric during the last 20 years. Darwin once said that *it is not the strongest of species that survive – nor the most intelligent, but the ones most responsive to change*. Development oriented activities at the Agricultural University of Norway, now the Norwegian University of Life Sciences, did not start with Noragric. 41 years ago, the first development country committee was established at the university, 40 years ago the first African student came to Ås from Madagascar and 37 years ago the first institutional collaboration agreement was signed with Makerere University in Uganda. NLH/UMB has for good reasons been called the development-country university of Norway. We have had very many international students at Ås during the last 40 years since the first Madagascar arrived. The international students definitely make our campus more attractive and interesting.

Noragric came about when the Ministry of Agriculture and Norad formed the Vogt committee in 1983 to assess international agricultural development and organisational issues. As a result of this committee, the Centre for International Agricultural Development, Noragric, was established in January 1986 with Gunnar Øygaard as first director. The university has had several visionary and committed rectors with experience from developing countries who wanted to contribute towards a better world. Professor Arnor Njøs was the rector in 1984-89, which was very fortunate for Noragric. He later became the chair of Noragric's board. From day one, Noragric has received strong support from the university leadership and the university has contributed large amounts of core funding to Noragric during its 20 years of existence.

The title of our anniversary seminar is *Environment and development studies - the way ahead*. Environment and Development Studies is an evolving interdisciplinary field of study, characterised by being normative in nature (taking a stand) being concerned with policy, and which examines

processes of change in relation to human well being and the environment. When studying the processes of change at Noragric – I would like to underline some major changes which have taken place during the last 20 years:

- From Centre for International Agricultural Development in 1986 to Department of International Environment and Development Studies in 2005
- From agricultural production to access to food and livelihood security
- From crops, animals, trees and wildlife to people and human-wellbeing
- From management of natural resources to poverty relevance of environmental interventions
- From consultancies to research, applied, hands-on, policy relevant research
- From natural science dominance to an equal mix between natural and social scientists
- From agriculture and the environment to poverty, rights, conflicts and peace-building (but maintaining a rural focus, and a focus on NR)
- From Development studies not being recognized as an academic field at the university to full academic recognition, BSc, 2 MSc, 20 PhD students in Development Studies, associate professors and professors
- From the majority of students being from the South to the majority of students being Norwegian
- From students from Africa and Asia coming to Noragric to do their Master at Noragric to Norwegian students going South to study at Southern universities
- From focusing mainly at household and community level to widen the scope to national and global policy levels and addressing local global linkages and power relations
- From defining development studies according to geographic boundaries (the South) to look more at the interconnectedness between North and South and comparative research between Northern and Southern countries
- From being dominated by men directors and men professor to slowly moving towards a better gender balance

What has not changed over the last 20 years is that

- The African farmer has not become less poor during the time of Noragric's existence (although global income has doubled during the last 20 years)
- Noragric is kept as our brand (the only agricultural related name left at UMB)
- Noragric is still struggling with operationalising interdisciplinarity
- Noragric's strong focus on institutional collaboration has not changed. Institutions are important – and even more important are the people who constitute the institutions. Noragric has been very fortunate having wonderful visionary, dedicated and hardworking partners such as
  - Makerere 1969 (Uganda)
  - Sokoine 1974 (Tanzania)
  - Hawassa 1989 (Ethiopia)
  - Mekelle 1994 (Ethiopia)
  - Bunda 1997 (Malawi)
  - Aga Khan/AKRSP 1997 (Pakistan)
  - Ruhuna (Sri Lanka) and Upper Nile University (Malakal, Sudan) newest

Noragric also has excellent partners in Norway and other Northern countries such as NVH, CMI, SUM, HiO, SIU, IDS.

Noragric mission will continue to be to produce and disseminate knowledge that can contribute towards development processes that are just, inclusive, equitable, peace-friendly and environmentally sound. Our hope is that the next decades of development research will be more successful in contributing to the world becoming a better place to live in for everybody. We promise to do our best together with our partners.

## **PEACE BUILDING - DEVELOPMENT RELATIONS IN A GLOBALISING WORLD**

*Erik Solheim, Norwegian Minister of International Development*

*Summary by Professor N. Shanmugaratnam, Head of Research, Noragric*

Erik Solheim began his address by drawing attention to ‘two stories’, which he called ‘the story of Beijing and the story of Baghdad’. The story of Beijing was a story of growth and development of East and South-east Asia, while that of Baghdad was one of armed conflict and terrorism in post-cold war times, the Minister said. He noted that the South Asian economies of India, Pakistan and Bangladesh were performing well too, while those of Nepal and Sri Lanka were lagging behind in growth due to armed conflict. In a wide-ranging speech, Solheim addressed several issues related to his theme. The main points are summarised below.

- Global trends confirm the view that economic growth is essential for development. All social indicators of development are moving in the right direction at the global level. Development will assist peace as it creates a middle class, which as it expands would serve as a bulwark against war. On the other hand, marginalisation and exclusion may contribute to violence and armed conflict. It’s the unemployed poor who join armies. The more inclusive globalisation becomes the greater the chances of peace in the world. International solidarity is an important value.
- Peace cannot be bought. The Sri Lankan experience has shown this. Sri Lanka’s donors pledged increased aid as a carrot for the protagonists to make peace but this did not succeed. Political leaders have their own interests which may take precedence over the larger interest of the people they govern. Leaders of guerrilla organisations have their personal interests and agendas too. Interventions of the international community can also lead to unintended harmful consequences. In the aftermath of the Indian Ocean tsunami, some fifty heads of state and foreign ministers visited Sri Lanka with their national TV teams and pledged assistance for post-tsunami recovery. A part of the external aid did serve useful purposes but a lot of it was useless and harmful. NGOs have their self-interest too. It is important to stress that aid has to be conflict-sensitive.
- The motives and the role of individuals with power have a lot to do with war making. There are conflict entrepreneurs who profit by keeping armed conflicts going. When such persons gain power, it is difficult to find peace. Control over natural resources is an important factor in some conflicts. The conflict in Angola had to do with oil and diamonds. The MPLA had access to oil and Savimbi to diamonds. The war in Angola came to an end the day Savimbi was killed. It was fuelled by easy access to oil and diamonds. It is important to understand the peculiarities of each conflict and the type of leaders involved in order to find ways of resolving the conflict and building peace.
- The international community is expected to play an important role in conflict resolution. But what is international community? In reality it comprises the regional powers and the USA, which is always the constant in this composition. International interventions in Afghanistan have converted that country into a playground for foreign powers. However, a third party is invariably needed to mediate a peace process.

- Identity is a key issue in current conflicts. However, historical claims going back to thousands of years cannot be considered valid in dealing with conflicts involving group identities. At the same time, there is need to recognise that individuals have multiple identities – for example a citizen of India may be a Tamil, Hindu, Christian or Muslim and an Indian at the same time.

## **PANEL I: PEACE BUILDING - DEVELOPMENT RELATIONS: THE ROLE OF LIVELIHOOD SECURITY AND NATURAL RESOURCES**

Organised by Noragric research group: *Rights, Conflicts and Resources*

*Introduction by Professor N. Shanmugaratnam*

I welcome you all to this panel on Peace building-development relations: The role of livelihood security and natural resources. I extend a special welcome to the panel members.

Before I present the distinguished members of the panel, let me say a few words about the topic and the procedure.

Earlier this afternoon we listened to a highly stimulating keynote address by Minister Erik Solheim on Peace building - Development relations in a globalising world. The Minister dealt with several issues and highlighted the complexity of the relations between peace building and development in a global context. In his wide-ranging speech, Mr. Solheim touched upon the links between natural resources and armed conflicts in some countries.

In this first Panel we focus in greater depth on the role of livelihood security and natural resources in peace building and development. This is an important theme indeed. Firstly, peace building-development relations in war-torn countries in the global South have a lot to do with livelihood revival and human development. In these countries the vast majority of the war-affected people are directly dependent on land, water, marine and other natural resources for their livelihoods. Among the basic elements of the freedoms and human security sought by people in war-torn societies are livelihood security and opportunities for human development. So it makes a lot of sense to discuss and debate peace building-development relations with reference to livelihood security and natural resources. This theme takes us to the relations between peacemaking from above and peace building from below. Livelihood revival is a fundamental link between peace building and development at the local level. But as to how this link can be fostered and sustained cannot be understood without locating it in the larger contexts of political economic and social structures, power relations and ecological variations.

Secondly, this afternoon's theme represents one of the major areas of engagement for Noragric in its educational, research and consultancy activities. The scientists at Noragric are grouped around three overlapping areas: Agricultural development and livelihood security; Biodiversity and Natural resource management and; Rights, Conflicts and Resources. The Rights, conflicts & resources group has taken the responsibility for organising this session. However, it is obvious that the theme we have is crosscutting and is of deep interest to the Department's staff and students and other colleagues here.

Now a word about the procedure. After I introduce the panel members, each of them will make a short presentation not exceeding 10 minutes. After the four presentations, I shall open the floor for discussion and debate. We will close the session around 1700.

Without further ado, let me present the members of the panel. And as I do that you will agree with me that we are so fortunate to have such a highly competent panel to address the theme.

**Dr Gunnar Sørbo**

Dr. Gunnar Sørbo is the director of CMI and an anthropologist by profession with extensive international experience as a development researcher, research manager, consultant and team leader. Gunnar has held positions as trustee or member of several boards of Norwegian and international institutions dealing with development and the environment. He has worked mainly in the Sudan and Sri Lanka and currently co-directs a Sudanese-Norwegian research program on peace building efforts in Sudan. Much of his academic production has been on issues of livelihoods and resource management.

**Prof. Georg Frerks**

Georg Frerks is a rural sociologist with a PhD from Wageningen University, The Netherlands. He worked for nearly 20 years at the Dutch Ministry of Foreign Affairs in different capacities both at Headquarters and in the field. Currently he holds a Chair on Conflict Prevention and Conflict Management at Utrecht University as well as a Chair on Disaster studies at Wageningen University. Georg's research interests and publications relate to vulnerability, policy aspects of conflict and disaster management and the interface between intervening organisations and local populations. In his work he pays attention to issues of local coping and resilience.

**Dr Uttam Kumar Sinha**

Dr Uttam Sinha is a research Fellow at Institute for Defence Studies and Analyses (IDSA) New Delhi, India. He has a PhD in international politics from JNU. Before joining the research faculty at IDSA he was on the editorial board of the daily Pioneer. He specialises in non-traditional aspects of security particularly water security. He is an editorial member of the quarterly journal Strategic Analysis, and Assistant Editor of Strategic Digest both published by IDSA. He has co-authored a book and co-edited a book on UN.

**Prof Ruth Haug**

Prof Ruth Haug is Professor in development studies and Head of Department, Noragric. She is a product of this university and the university of Maryland, from where she obtained her PhD. Ruth has been playing a dynamic lead role in Noragric's expansion and development while also being actively engaged in academic work in rural development studies with focus on agriculture, food, poverty and livelihood security; violent conflict and peace, forced migration, gender issues in development and NRM. Ruth is member of several national and international committees and boards of institutions dealing with agricultural research, development aid and development policy.

*Summaries of presentations by panel members*

**Gunnar M. Sørbo**

Most conflicts on the African continent are driven by a complex set of changing factors and actors. At the root of them, and closely linked to one another, are often historical grievances, identity issues, inequalities in the sharing of power and resources, disputes over access to and control of natural resources, and a number of governance issues including the absence of a democratic process.

While such complexities always exist, I would argue that the extent to which recent African civil wars have also been agrarian crises has often been underestimated. Through failing to understand



the rural roots of African conflicts, donors have risked rebuilding the causes of war. Attention to rural justice is essential in order to build sustainable peace and livelihoods.

Sudan is a good example. The wars and conflicts that have ravaged the country have almost exclusively taken place in pastoral and agro-pastoral areas. The Joint Assessment Mission reports that were produced along with the Comprehensive Peace Agreement (CPA) between the Sudan Government and the SPLM do not ignore this. However, local-level conflicts are presented as an almost inevitable bursting forth of local tensions arising from pressure on a diminishing resource base. It implies that the poor – the pastoralists and farmers who could not get along – were somehow responsible for the war (e.g. in Darfur) and now need to be taught how to cooperate.

An alternative perspective is that the multiple conflicts in different parts of Sudan emerged in the context of a massive economic reorientation and dislocation which began in the 1970s. It set in motion major economic and social disruptions in large parts of the country and particularly in the so-called “transition zone” between North and South, resulting in the dispossession of small-holding farmers from their customary rights of land, the erosion of land-use rights by pastoralists, and the creation of a large force of agricultural wage-laborers, whose numbers were increased through displacement by drought and war in the 1980s and 1990s. The transfer of assets, which began before the war, has accelerated during the last decade or so. While this is mainly due to confrontational policies of the regime that came to power in 1989, the development strategy has essentially been the same for several decades.

An important challenge to research is to integrate different levels of analysis. While the land issue is critical in almost all rural areas of Sudan, it follows from the above that the role of the state has been important in bringing about the current situation in Sudan. Since colonial times, the state has been the determining factor in the production and distribution of material and social resources. The state’s control of the economy culminated under President Nimeyri (1969-85) who expanded irrigated and mechanized schemes and removed local resource management regimes. It now became impossible to redress disparity without recourse to the power of the state, a state which displayed “ethnocratic” features, meaning the monopolization of state power by certain ethnic groups and the consequent exclusion of the rest.

In Sudan, the “stories” differ, between the East and Darfur, between parts of the South and the Blue Nile State. Different constellations of factors dominate and converge in different regions. The land issue, however, is critical to livelihood security and development everywhere and the role of the Sudanese state a common factor in almost all conflicts that still prevail in so many parts of the country.

### **Georg Frerks**

“The Nexus Conflict, Development and Peace building”

In response to current conflicts a more comprehensive and interdisciplinary approach has replaced the earlier emphasis on military aspects, superpower rivalry and interstate wars. Contemporary conflicts have other causes, motives, actors and strategies than earlier ones and therefore have been labeled as ‘New Wars’. The author Holsti states that not the relations between states, but the characteristics of the state itself are underlying current conflicts. Obviously, there is a large diversity in the types, scales and cultures of contemporary conflicts, underlining the need for time- and place-specific analysis. No single theory can properly explain contemporary conflict necessitating a trans-disciplinary approach and eclectic theoretical framework including such issues

as nation-building and state formation, poverty, resource scarcity and population pressure, as well as 'identity politics' and the role of 'discourses of violence'. Hence, intrastate conflicts are historical, dynamic and multi-dimensional phenomena with multiple causes and consequences, requiring a broader developmentalist approach to solve the problems at stake.

Johan Galtung has introduced the distinction between 'negative peace' and 'positive peace'. Whereas the former only denotes the absence of violence (weaponry), the latter implies an egalitarian and just society, where the root causes of conflict are being addressed. For this to happen, development programmes need to be set to attain comprehensive changes in society. The concept of 'human security' coined in the UNDP's Human Development Report 1994 was a further significant step in this direction. Human security was linked to job security, income security, health security, environmental security, and security from crime and implied a shift from security through armament and territorial control to security through sustainable human development. Human security was seen as a universal and people-centred concept that needed development, relief and peace-building agencies to become a reality.

In policy circles, at present integrated, multi-actor responses are formulated to address the comprehensive security challenges faced, combining the efforts of the Departments of Foreign Affairs, Defense, Development Cooperation, Environment and Trade. Hence, development cooperation is now looked upon as an important contributor to peace. However, some care is warranted, as development can also help promote conflict or be seen as an unwanted, imposed aggression from outside, as exemplified by the 'Do No harm' debate. For economic and development aid policies to effectively contribute to conflict resolution and peace building, they need become 'conflict-sensitised' and must work '*on* conflict' instead of continuing 'business as usual' or working '*around* conflict'. Development co-operation should explicitly refocus its programs to address the root causes of conflict, e.g. governance, poverty alleviation and social exclusion. In addition, it should work on incentives for peace and disincentives for violence, and promote conflict prevention and mediation. Progress has been made on those lines by the development of specific peace and conflict impact assessments and by learning from ongoing practice in the field.

However, the current 'war on terror', adopts a more coercive approach and creates counterproductive side-effects, especially in the developing world and in conflict-affected countries, thus counterbalancing the advances made so far. 'Liberal' approaches that guarantee human security and human development need to be upheld against 'realist' ones such as the 'war on terror' using force and power and imposing 'solutions' imported from the west without much eye for the societal and cultural context and the required preconditions. I would like to suggest that the latter approaches cannot lead to long-term sustainable peace, let alone to Galtung's positive peace: a society that is just and equitable.

### **Uttam Kumar Sinha**

The countries in South Asia in spite of the vitiated atmosphere and adversarial relationship have remarkably shown sensible co-riparian understanding. While disputes and conflicting interest have arisen over the distributive issues of river waters, it has been settled under bilateral arrangements. River water treaties remain and have not been abrogated even in the most hostile times. It will be fair to state that the 'water war' hypothesis has not found a place in the subcontinent. But then conflict and cooperation are continuums, not absolutes. There is no guarantee that the future will look like the past. While the scarcity of water is of great concern, the nature of conflict is also

undergoing changes – driven increasingly by internal or local factors as well as resource pressure, poverty and instability. Whatever be the nature and pattern of conflict one does not need war to prove that water is crucial to survival. It is, therefore, essential to continue viewing river waters as a source of cooperation because it can very easily get transformed into a zero-sum game with high emotional and political value. The cooperative framework would require assigning an economic value to water – a tradable source. River waters cannot be possessed, it has to be shared and managed. The rationality of water has to prevail.

South Asia faces a looming water crisis. 240 million people lack access to safe water and a child dies every 15 seconds because of it. This is one part of the story. The other part is that South Asia will have the highest growth rate of energy consumption by 2010. The first part of the story agonizingly depicts the inconsistency of state-centric approach with the interest of the people and raises the very fundamentals of the security/insecurity discourse: security from whom or what, when, where and how. The second part addresses the acute shortage of energy and the need for exploiting the complementarities of available resources in the region, for example the harnessing and management of river waters. Together both the stories are ‘interlinked’ and ‘interconnected’ signifying that a holistic approach towards the collective good of the region is a necessity and that ideas of regional cooperation need to be further energized.

In order to meet the massive increase in energy demand, a ‘common energy grid’ with integrated electricity system has been suggested. This makes sense and immediately places high-value and utility to river waters that crisscross the subcontinent in terms of being harnessed for hydroelectricity. There have been some success stories on the bilateral front, for example the India-Bangladesh arrangement for sharing surplus power; the power transaction between India and Nepal and the integrated development of the Mahakali river but much more needs to be done. South Asia is abundant in hydel-power but only 11 per cent of its potential has been exploited. Water cooperation in South Asia or hydro-diplomacy will not only help the region to diversify its energy sources (clean and more sustainable) but more crucially bind the countries together. There are other potential benefits of river water cooperation in terms of providing safe drinking water, irrigation and waterways.

Water security in its true understanding needs to be viewed through the lens of ‘rationality’ which entails prudent national water management and good neighbourly relations so as to secure freshwater supply in the long-term. There is, therefore, a need to desecuritize water-related problems enabling a shift from the ‘enemy’ construct in order to reduce perception of threat and facilitate negotiations.

### **Ruth Haug**

- *What are the links between poverty, conflict and peace:* Poverty does not necessarily cause conflict, but conflicts usually cause more poverty. When a conflict is there, poverty is interlinked with both conflict and peace. In order to contribute towards durable peace – improvements in people’s livelihoods are of crucial importance.
- *What is and what should be the role of the international community:* Lack of mechanism to link the local with the national and international level, local people in Sri Lanka and Sudan were ready when the cease fire agreements came in 2002 to return to their home places to revive their livelihoods, but the international community failed in supporting local initiatives.

- *Peacemaking from above – peace building from below:* Building peace from below by improving people's livelihoods in order to contribute towards durable peace should start when the conflict is still on. There is usually a problem of a time lag when a peace agreement is signed and before any action takes place, donor coordination is slowing down the process.
- *How is conflict and post-conflict development linked to agriculture and natural resources:* Fight over the control of natural resources might be a contributing factor to violent conflicts and peace-making. If people feel left out of getting access to resources in a post-conflict situation, a new war might start. During a conflict people usually depend more on the land as other opportunities become scarce. The land is also very important after a conflict for income and food security. Hence agriculture and natural resources might be a cause for a conflict, a coping strategy during a conflict and a solution in a peace agreement/post conflict development.
- *How to go about post conflict development:* The dilemma is fast action without jeopardising state-building, policy processes, institutional development and democratisation. According to Paul Richards, employment of young people and soldiers is the most important factor in building peace; people should be allowed to use the land in the beginning without worrying about rights. It is important on the one hand to find some kind of a right balance between employment and putting the land in to use and on the other hand political and institutional development.
- *What should be the role of international NGOs in conflict and post-conflict situations:* Strong international NGOs and weak national states is a challenge for nation building in post-conflict situations. In order to get the best out of international NGOs strong states are needed.

## **PANEL II: AGRICULTURE, LAND USE AND CLIMATE CHANGE – WHAT WILL THE FUTURE BRING?**

Organised by Noragric research group: *Agricultural Development and Livelihood Security*

*Panel participants:*

- Dennis Garrity (World Agroforestry Center)
- Karen O'Brian (University of Oslo)
- R.C. Ichengoma (Sokoine University of Agriculture, Tanzania)
- Solveig Glomsrød (SSB)
- Jens Aune (Noragric)

*Introduction by Professor Pål Vedeld and Associate Professor Jens Aune, Noragric*

*Climate change* and increasing *climate variability* is of the most challenging global environmental problems of today. Globally average surface temperatures are projected to increase by 1,5 to 4.5°C between 1990 and 2100. Sea level is projected to increase by about 15 to 90 cm between 1990 and 2100. More extreme weather is also expected.

**Causes** behind climate change are several, interacting in complex relationships. The causes are typically geographically diverse, and the sets of causes systematically different between the North and the South, also in terms of origin and seriousness/scale not least. Important causal factors relate to fossil and other emissions to the atmosphere through industrial production, transport and through various consumption types leading to emissions. In third world countries, the overall scale of emissions are much lower, and the major sources of emissions relate more to land clearing and degradation, to fuel wood and charcoal use, to manure and crop waste burning etc. There is also little doubt that also natural given factors solar activity etc. impact on both *climate variation (CV)* and also on more long-term *climate change (CC)*. The observed and anticipated **effects** of CC and CV are also complex and much debated; they will most likely also vary between North and South and also regionally and even locally have very varied effects on agriculture, forestry, wildlife and accordingly on how people, as individuals or as community respond to the challenges, both in relation to **altered adaptation** and also in relation to **mitigating** or reducing causes behind CC/increased CV.

Climate change and increasing variability will often be most pronounced in agro-ecologically marginal areas, with often higher shares of poor people. We can also expect (more in general) that it will be more difficult for poor people to adapt to such substantial changes than for the rich. The same argument also goes for countries; In an Earthscan publication from the 80's. *Natural Disasters; Acts of God or Acts of Man* where a main conclusion is that almost 90% of what we call natural disasters take place in developing countries, not because they are given by God, but mainly because of the state, society and local communities capacity and competence to handle natural vagaries are much lower (Wijkman and Timberlake, 1995).

**From a policy perspective:** It is well known from policy research that the physical characteristics of a particular resource or a resource use issue has important bearings for how we can solve the problem. One experience in policy research tells us that diffuse pollution (compared to point source pollution) and problems that are global in causes and global in effects are the worst challenges we face. We are thus dealing with a challenge where policy can be expected to be difficult.

### **Some important research challenges**

However, and even if trends and fads put issues on the agenda or not; often irrespective of how serious they may be, the general perception or consensus of climate change is now such that the global community has agreed to confront the challenges (with a few notable exceptions, as mentioned). We thus have a consensus about the seriousness of the problem, but

- We lack knowledge on types and scales of **causes**, both in time /space
- We need research on how to prepare for the coming climate change; individual and institutional **adaptation** both trying to assess likely scenarios and how to in practice prepare for the change
- We need more information on **mitigation** measures
- We need more research on **policy** for all three areas of research mentioned above; on identifying important measures (what to do physically) and the accompanying instruments (how to get the appropriate measures carried out) on these global challenge of *reducing* emissions and *mitigating* effects; and on appropriate macro and microlevel policies to improve *adaptation* to climate change. As stated by a Norwegian climate researcher; “instruments against CO2 emissions is a complex mix with substantial internal conflicting or contradicting elements, often leading to a kind of zero-sum game”.
- Apart from this, identifying both cost-efficient and legitimate or politically acceptable instruments- and solutions is crucial. This also involves an eye for policy formulation and implementation issues.
- From a moral perspective we can furthermore with Ostrom’s (1990) statement, talk about a lack of congruence between appropriation and provision, an asymmetric relationship between costs and benefits of climate change; Developing countries are not the main creators of climate change, but are likely to be the most affected by climate change. Drylands and coastal areas are in particular very vulnerable. Many people thus claim that we need research on the **moral, political, economic and distributional dimensions** of climate change and increased climate variability

As always with complex and conflict ridden issues; research possibilities are plentiful. And from Noragric’s point of departure, where we stress interdisciplinary research between natural and social sciences, climate changes offers a broad array of entry points: It is a challenge well suited for interdisciplinary research, linking climate change, land use and agriculture with political issues of environment, development and poverty alleviation. It seems of interest to investigate the links between climate change and development in the sense that sustainable land use practices relate both to mitigating or reducing climate change, while at the same time offering options for adapting to climate change. Noragric thus holds a strong interest in climate change and climate variability research; on causes, reducing emissions and adapting to change, and this theme will also be an important component of the new M.Sc programme in "International Environmental Studies" to be initiated in 2007.

### *Highlights of the presentations by the panel*

#### **Dennis Garrity**

Contrary to what many people believe there has been a silent increase in food production in Africa. Both in Kenya and Nigeria there has substantial increase in food production. However, in many

countries, food production is still low. As compared to Asian countries, the use of mineral fertilizer is still very low, but the development of the ratio between price of farmers produce and fertilizer prices has not been favourable. Agroforestry can be an alternative or a supplement to the use of mineral fertilizers. There is a need to focus much more on agro-ecological approaches and on the needs of small-scale farmers in less favoured areas. Furthermore it is important to link modern science with local knowledge. ICRAF has introduced the concept of fertilising trees. Use of Gliricidia in maize is an example of a tree that can supply significant amounts of nitrogen. In Southern Africa, about 400 000 farmers benefit from agroforestry.

### **Karen O'Brien**

“Climate Change and Agriculture: Is Adaptation the Solution?”

Adaptation may be a good solution for some farmers, traders, investors, and corporations, others will find it impossible to adapt. Adaptation has been defined as adjustments in practices, processes, or structures to take into account changing climate conditions, to moderate potential damages, or to benefit from opportunities associated with climate change. Agricultural adaptations include changing crops, seed types, planting dates, irrigation regimes, fertilizer and pesticide applications, etc. The capacity to respond to climate change is highly uneven. Not everyone is equally able to adapt, and not everyone that can adapt, will adapt (e.g., cognitive limits, financial limits, cultural limits, physical /ecological limits, technological limits, institutional limits). Failure to adapt leads to losses, which represent a limit to adaptation. Adaptation is not the answer for everyone and every place: there are limits to adaptation as an effective response to climate change.

### **Solveig Glomrød**

“The market for carbon- what is actually traded?”

Leakage is changes in carbon stock outside the project area. The leakage can be positive or negative. A positive leakage implies that there is a net emission of carbon outside the project area as a result of the project. In India in energy project it has been shown that there is a leakage of 60 %. In China it was found that improved energy efficiency in coal use through coal cleaning contributed to about 110 percent leakage. The opposite effect has been observed in plantation in Tanzania. In this case, it has been shown that leakage is about twice the plantation carbon accumulation if carbon premium is invested domestically. In the future there will be no room for “paper quotas” if we want to cope with the challenges related to recent serious messages from climate research. In the future there will be competing demand for land resources. Will the land be used for agricultural production or energy production?

### **R. C. Ischengoma**

“Adaptation to climate change in Tanzania”

It was pointed out that there has not yet been much climate research in Tanzania. However, there are some signs of climate change already observed in Tanzania. One of the most visible observations is that the snow of the Mount Kilimanjaro is melting. This will in the future have negative impacts on the tourist industry in the region.

### **Jens B. Aune**

“The Clean Development Mechanisms of the Kyoto protocol and its potential in developing countries”

The CDM market is growing quickly. There were 2351 registered CDM projects in developing countries in March 2006. Most of these projects are still in the energy sector. Nordpool is the “stock market” for sale of carbon allowances in Norway. 51 energy-producing companies have emission

quotas (rights to emit a certain quantity of CO<sub>2</sub>). The quotas are given for free. Current carbon price is 15 Euro per ton CO<sub>2</sub>, but has varied significantly since the beginning of 2005. There is an increasing interest for biofuel and the value of one-ton grain in Germany used, as bioethanol is twice the value as compared to if one ton of grain is used as food. This is good news for the world farmers because it is likely that there will be increased demand for farm biomass. The value of forest carbon is low since it is paid at the end of the project. In forest projects, the value of the timber far exceeds the carbon value because of the low price of carbon. The carbon market for forest projects is not yet mature and procedures are complicated.



### **PANEL III: BIODIVERSITY AND POVERTY – HOW ARE THEY RELATED?**

Organised by Noragric research group: *Biodiversity and Natural Resource Management*

*Panel participants:*

- Admasu Tsegaye (Debu University, Ethiopia)
- Gufu Oba (Noragric)
- Mitiku Haile (Mekelle University, Ethiopia)
- Regine Andersen (Fridtjof Nansen Institute)
- Ian Bryceson (Noragric)

*Moderator's introduction, Associate Professor Trygve Berg*

We may approach biodiversity endowed with the power of science. Development studies, however, require a primary attention to people. And for us this means poor people. We all know the statistics of poverty. We know where the poor people are. The great majority of them live in rural areas. There they live with and off biodiversity. This biodiversity upholds the life support systems that we all depend on; it yields harvestable products from the wild, from herded animals, from cultivated fields and gardens. When studying biodiversity from this point of view, we learn about the critical role of biodiversity for the mere survival of the poor. For most of them, their biodiversity is what stands between them and starvation. However, we also learn about potentials for change. We discover treasures hidden in the genetic makeup of plants and animals. The poor people have dreams of a different life. When their children go to school they start dreaming of getting away – to America. A prosperous life on the land of the ancestors, achieved through more productive management and use of biodiversity, is another dream.

We have gathered a panel of researchers who have expertise, and the personal experience of biodiversity-research in a context of poverty. Before I introduce them and the particular contribution each of them can make, I would like to say to the audience that what they are going to tell us is important. Those who work with development issues with other backgrounds may get new ideas by listening to them. We may discover points of connection and see how we could find ways ahead that may promise more than what is possible within narrow disciplinary or sectorial approaches. In his way I hope the session would be not only interesting, but also productive and useful.

The panel consists of a mix of our own Noragric staff and invited resource persons. Let me start with the only non-biologist, Regine Andersen. She is a political scientist, member of a little, but very progressive group at Fridtjof Nansens institute working on laws and policies on genetic resources. I will let her speak last. When the biologists have told their stories, we shall challenge Regine to tell us how new international treaties try to secure the rights and interests of the poor farmers when their biodiversity is being turned into a source of profit in the globalised marketplace.

My colleague, professor Ian Bryceson is from Tanzania, did his PhD in marine biology at Dar es Salaam University. Through his own research, and through the research done by his many students, he is able to tell us stories of how coastal people depend on marine biodiversity, and how

management of those resources could be a threat to poor people's livelihood, and alternatively a source of a better life.

Gufu Oba is from Kenya and he has been a professor at UMB/Noragric for many years. His doctorate is from University of Oslo, but in all his research he has remained committed to pastoral people, in his own home areas of Northern Kenya and in Ethiopia, but through his many students also other nomadic people. A world famous range ecologist, he has never reduced his research to just the ecology of the rangeland vegetation. He has always seen it as the basis for livelihood of pastoral communities. And he has studied this from the perspective of nomadic people who are increasingly marginalized and squeezed by interference of the state, by encroaching farmers, and by changing climates and worsening cycles of drought.

When we move to farming areas, we would like to have separate coverage of arid and humid areas.

Here Dr. Mitiku Haile, President of Mekelle University, will represent the drylands. He is a soil scientist, and the audience may question why we have invited him on a panel on biodiversity. The crops that feed us have one thing in common. They all grow on soils. But soils may be difficult. Some soils are so problematic that they are next to impossible to cultivate. Changing such soils may be possible, but requires investments beyond the means of poor farmers. The other option is to change the plants. That does not require financial resources, but it requires intelligence. We shall challenge Dr. Mitiku to tell us the story of how farmers manage to adapt crops to problem soils through on-farm seed selection.

As you have seen in the programme, we wanted to have a representative from southern Sudan in the panel, Director of Agricultural Research in the new regional government, Mr. Cirino Oketayot. We challenged him to tell us how people survived the many years of war and isolation depending on biodiversity, - their local crop genetic resources as well as biodiversity in the wild. Unfortunately he did not manage to come, but he sent us his manuscript. We gave it to Dr. Mitiku who has knowledge of the issue through similar experiences in recent history of northern Ethiopia, and Dr. Mitiku will briefly review the issue.

Moving to humid areas, we find farmers whose food security is not provided by cereals, but by starchy staples, mostly root and tuber crops. In some areas we find a diversity of species, including endemic species unknown to the rest of the world, but still with an amazing productive potential. Dr. Admassu Tsegaye, Assistant President of Debub University represents a group of scientists who have pioneered research on such endemic crops in the humid areas of southern Ethiopia. He shall tell us how the diversity of such crops sustains the livelihood of an extremely dense population and also about the potentials for the further development based on the potentials of such crops.

#### *Some comments on the presentations and the discussion*

Four of the panel participants who addressed the issue from a biological point of view, convincingly demonstrated the link between biodiversity and poverty. This was reviewed both from negative aspects – unsustainable use of biodiversity and marginalisation of rural poor – and from positive aspects – potentials for poverty reduction through more productive management and use of biodiversity. While realising the vulnerability of the rural poor, the researchers also discover the capacity of local people, the relevance of their local knowledge, and the importance of their

empowerment. Through all of them they see how social resilience depends on ecological resilience forcing them to bridge the gaps between the social and ecological sciences.

Impacts of market liberalisation and globalisation are felt at community level in rural areas, sometimes in ways that may not be foreseen or understood by policy-makers. This is an issue of research on community level management and use of biodiversity, but also an issue of policy research related to international processes of making and implementing international law. Regine Andersen covered the current debates and struggles within the global regimes that govern the transfer and utilization of agrobiodiversity across state boundaries. With her presentation, biodiversity-related challenges were lifted from community management and use to the level of international politics.

The presentations by professors Oba and Bryceson made reference to a number of theses by their students. Noragric has an extensive and productive involvement of students in this field of research as demonstrated in those presentations. Drs. Mitiku and Admassu represent examples of partner institutions. Their contributions were based heavily on research that has been done in collaboration with Noragric/UMB thus reflecting a strong international Noragric-involvement in this field of research.

Regine Andersen represents a core institution in Noragric's network. Her presentation shows the importance of informing the policy-processes and debates by research-based knowledge on problems and needs in the communities. The whole panel-debate showed that this interaction is already established and working in Noragric's research network. A lively debate reflected interest and excitement particularly about policies and community rights.

Highlights from Ian Bryceson's presentation: The themes of natural resource management, biodiversity, and for that matter of rights and conflicts, and of livelihood security and agricultural/aquacultural development also apply for peoples and environments in the coastal and marine realms as much as they do on dry land. Our research focuses on the Indian Ocean -- the coasts and islands of eastern and southern Africa, southern Asia and southeastern Asia. We often use the concept of "linking social and ecological resilience" as a transdisciplinary analytical approach; we also use concepts of adaptive capacity, vulnerability and livelihood analysis. We are interested in studying processes of ecological and social change, and the struggles of coastal peoples for their rights in the face of market-liberalism and globalisation. We focus on traditional knowledge systems and how they can interface with other forms of knowledge. We find that there are interesting examples of sustainable and non-sustainable uses of marine and coastal resources, there are often conflicts of interest, and we see that a lot of strange theories are postulated in the guise of "development" and "conservation". Who are the winners and losers in the face of different management interventions? A few specific examples of recent research in the Indian Ocean region: Coral reefs: "pristine rain-forests of the sea" ... parks and marine protected areas -- e.g. Anne Grete Rostad: Chumbe and Bawe: coral recruitment and survival. Ecotourism (e.g. Kjersti Thorkildsen) - benefits for whom? Refuting some preconceived mainstream notions and theories. Mangroves: deforestation, participation, co-management, conservation ... Wahira Othman: Marahubi and Pete - refutes neo-Malthusian dogmas. Followed up by Yusuph Katundu in three villages north of Dar es Salaam. Seaweed aquaculture: Sware Semesi, Elisabeth Lundsør: Zanzibar women grow red seaweeds for high value carrageenan, initial positive income for women ... but monopoly transnational corporation (FMC-Biopolymers USA) dropping prices to producers, while reaping super-profits for themselves. Threatened with court action ... now giving seminars, Women's Front.

Shrimp (Prawn) farming: Tran Van Nhung, Tuong Phi Lai, Fatuma Kaniz: sustainable small-scale traditional polyculture systems in comparison to destructive and industrial-scale reductionistic monoculture systems. Social and ecological winners and losers. Huge controversial project in Tanzania proposed by biggest weapons dealer in sub-Saharan Africa blocked by our joint research and advocacy efforts (IMS, SUA, UDSM sociologists, economists, lawyers, local NGOs, journalists - but not by WWF or IUCN). The struggle continues, Mafia - researchers and activists. Comparison Tanzania-Malaysia-Norway coastal aquaculture systems: social and ecological resilience of these examples from Africa, Asia and Europe in a global perspective. Salmon farming consumes 4 kg wild fish to produce 1 kg salmon, plus many other externalities. Tsunami impacts on coastal areas: Camilla Risvoll, Mathiventhan, Kalpana, (Sri Lanka) and Maria Meinita (Indonesia). Current research on impact of change in fisheries legislation in Tanzania: interests of exported-oriented and industrial fisheries versus small-scale fisheries and food security. Collaboration with ecologists (AK - FAST), fisheries management (NJ - IMS), economics (KK - ERB), sociology (RM - soc), TAFIRI and Fisheries Dep. We try to link our transdisciplinary studies to the struggles of peoples in the Indian Ocean region for their rights, for sustainable use of resources and biodiversity. We do this in collaboration with our students (Norwegian and international), and with research partners in eastern Africa and southern Asia as well as other international research groups.

## CLOSURE

Professor N. Shanmugaratnam

Dear friends,

I think we have commemorated the twentieth anniversary of Noragric in a creative and forward-looking spirit. The proceedings of the past two days have been rich and rewarding. In his opening address, Rector Knut Hove praised Noragric's role as the international gateway for the University and acknowledged the many and varied contributions of Noragric to environment and development studies at the Norwegian University of Life Sciences. 'Noragric at the age of 20', he said, 'can already look back at an impressive list of achievements. One can only wonder what the next 20 years will bring.' The Rector drew attention to the challenges of development in a changing world and concluded on a thoughtful and positive note that together with our partners in the South and North Noragric and UMB would continue to be engaged in research and education with a view to contribute to the search for solutions to development problems. In her welcome address, Ruth Haug took us through the evolutionary history of Noragric from its humble beginnings as a Centre to a fully-fledged department of the University. Recounting the different phases of Noragric's expansion, organisational change and development, Haug recalled the Darwin's dictum: '*it is not the strongest of species that survive – nor the most intelligent, but the ones most responsive to change.*' She paid tribute to our partners and assured that Noragric would continue to produce and disseminate knowledge that can promote development processes that are just, inclusive, equitable, peace-friendly and environmentally sound.

In a wide ranging keynote address on peace building and development in a Globalising world, Minister Erik Solheim made many thought provoking points. He began his speech with a stylised presentation of development and conflict as two contrasting scenarios, the former represented by the 'story of Beijing' and the latter by the 'story of Baghdad'. He discussed several intra-state conflicts and highlighted the complexities of conflict resolution and post-conflict development. The Minister articulated a critical view of the role of the international community in peacemaking and also reflected on Norway's and his own experience as a facilitator or mediator in intra-state conflicts. He expressed serious concern about marginalisation and exclusion and spoke in favour of more inclusive globalisation. In my view, Solheim tended to be rather sweeping in his generalisation of the Chinese and Indian experiences and in projecting development as a conflict-free, peace-friendly process. However, by raising so many issues and arguing his points in a provocative style, he set the tone for the panel debates that followed.

Indeed the deliberations of the three panels were extremely rich and the topics were well chosen to deal with the overarching theme of the Anniversary Commemoration – 'Environment & Development Studies: the Way Ahead'. The areas of 'Peace building – Development Relations: The role of livelihood security and natural resources', 'Agriculture, land use and climate change – what will the future bring?' and 'Biodiversity and Poverty – how are they related?' together represent the overlapping fields in which we Noragricers are actively engaged. The debates enlightened us on the complexity of the challenges of peace building and development at different interrelated levels from the global to the local and vice versa. They exposed the uneven and nature of the development process and the diverse geopolitical, national, sub-national and ecological conditions in which conflict, peace building and livelihood processes operate. Access to and control over resources, poverty and the distributional problem figured prominently in all three sessions. A powerful message that emerged from these sessions may be summed up in the following key words: 'pro-

poor peace’, ‘pro-poor agricultural science and technology’ and ‘pro-poor biodiversity management’. The views expressed and the evidence provided by several speakers and participants raised grave doubts about the claims made by the proponents of the neo-liberal paradigm of development that has been imposed on developing countries.

The proceedings of the conference as a whole have made us Noragricers more acutely aware of the challenges ahead for environment and development studies. And in the light of the proceedings, we can be happy that the focal areas of our educational, research and consultancy activities have been well chosen. We are on the right track. However, the challenge of operationalising interdisciplinarity continues to loom large. The message from the conference is ‘continue grappling with it, get more interdisciplinary, practice interdisciplinarity better in order to meet the challenges ahead in environment and development studies.’

Finally, I want to thank our Rector, Minister Erik Solheim and the other invited speakers, our partners, colleagues, students and friends for making this event a great and memorable success.

## LIST OF PARTICIPANTS

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