



## Second Biofuels and Invasives Workshop – Summary

# MANAGING BIODIVERSITY RISKS OF BIOFUELS

Nairobi, Kenya, 5-6th October, 2009

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## Introduction

This report summarises the proceedings of the second IUCN Workshop on Biofuels and Invasive Species, held in Nairobi on the 5-6<sup>th</sup> October 2009. The workshop was developed to refine and test the draft IUCN guidelines on biofuels and invasive species as part of the wider *Managing Biodiversity Risks of Biofuels* project.

This second workshop built upon the outcomes of the first workshop in April 2009 which convened experts from regional governments, plant protection organisations, research institutions, NGOs and the private sector to identify risks along the biofuel production and supply chain and developed a set of preliminary guidelines for the prevention and management of biological invasions that might result from biofuel developments. Taking this initial guidance, participants worked to refine and test the guidelines and also refine the Roundtable on Sustainable Biofuels criteria on invasive species, which will underpin a future sustainability standard for biofuels.

### Overall project objective:

To identify lessons and tools to manage the risks of biological invasions resulting from biofuel developments and incorporate them into a set of guidelines to reduce or avoid the identified risks.

## Workshop objectives:

- Consult with different sectors (Government ministries/offices such as plant protection, agriculture and trade, Roundtables, NGOs, Industry) to identify possible weaknesses and objections that could undermine the guidelines
- Identify which groups may use the guidelines and in what ways
- Identify what information will be needed by different users to complement the guidelines and maximise their efficacy
- Test the guidelines, possibly with a set of different scenarios of potential uses
- Follow-up with a refined and set of guidelines. (Not necessarily finalised as this may be most useful as a working document)

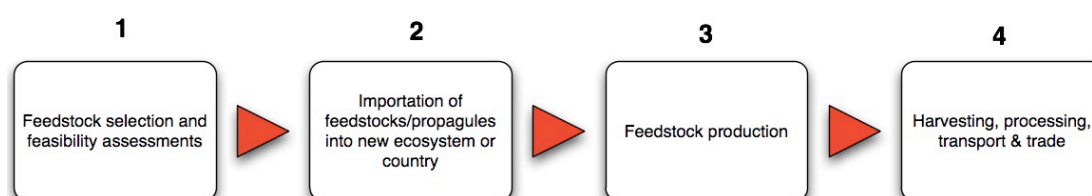
## Day One

The workshop began with introductions, sharing of expectations and agreement on the agenda.

## Overview of the guidelines

In the opening session of the workshop, participants revisited the key aspects of the draft guidelines on biofuels and invasive species. Currently, the guidelines follow a four-stage process, identifying specific risks at four stages along the supply chain and suggest specific actions for different stakeholders to take to avoid or minimize the risks. The stages are:

1. Project planning and feasibility assessments
2. Importation of feedstocks into new country or agroecological zone
3. Feedstock production
4. Harvest, processing, transport and trade



This approach was developed during the first workshop to separate and sort risks and issues into discrete groupings and provide guidance to different stakeholders at each of the four stages. The types of risks are different at each stage – from planning and importation, which focuses on risk assessment and prevention of invasions, to production and transport of biofuel feedstocks which focuses on best management practices on the ground.

For more details please refer to the draft guidelines<sup>1</sup>.

## Current RSB criterion on invasives

Participants reviewed the existing RSB criterion on invasive species and carefully considered how best to support the RSB in adding more effective and robust criteria on invasive species. The RSB is currently working towards version one of their Principles and Criteria and this will form the basis of a future sustainability standard for biofuels.

Participants were introduced to Principle 7 of the RSB that revolves around conservation and proposes that biofuel production shall avoid negative impacts on biodiversity, ecosystems and

<sup>1</sup>[http://cmsdata.iucn.org/downloads/iucn\\_guidelines\\_on\\_biofuels\\_and\\_invasive\\_species\\_\\_draft\\_for\\_comment\\_6\\_july\\_2009.pdf](http://cmsdata.iucn.org/downloads/iucn_guidelines_on_biofuels_and_invasive_species__draft_for_comment_6_july_2009.pdf)

other conservation values. This principle has a clause on invasive species (the criterion 7e). This criterion proposes that biofuel production shall not use crops considered as alien invasive species under local conditions and outlines a set of minimum requirements as follows:

**Criterion 7.e Biofuel production shall not use crops considered as alien invasive species under local conditions.**

*Operators who must comply: Feedstock Producer. Minimum requirements*

*Operators shall not use any species officially recorded as representing a high risk of invasiveness in the country of operation.*

*Whenever the species of interest is not recorded as significantly invasive and/or prohibited in the country of operation, the following procedure shall apply:*

*For new projects or when switching crops in an existing project: Whenever the Operator intends to use a species recorded in the Global Invasive Species Database (GISD)<sup>4</sup>, a risk assessment of the invasiveness of this species in the local context shall be completed prior to any planting or spreading (e.g. by transporting seeds) of the crop of concern.*

*For existing projects, such assessment shall be completed as part of the Scoping Exercise or the ESIA required under Principle 2.*

*Following the risk assessment, the operator shall not use the species a) if the risk assessment provides evidence of the species' invasiveness in the local context; b) if the risk assessment fails to provide evidence of the species' non-invasiveness in the local context, following the precautionary approach (i.e. in absence of clear results). Whenever the invasive crop of concern is already being used, the operator shall set a substitution plan to replace it by another non-invasive crop within two years of certification. Whenever the invasive crop of concern is already being used, the operator shall set a substitution plan to replace it by another non-invasive crop within three years of certification.*

## **Feedback**

Some concerns were raised during the workshop regarding the current RSB criterion and requirements on invasive species:

Firstly, the cost of access to southern suppliers acts as a barrier for certification and so the roundtable will need to address this. Weed risk assessments are complex and require a certain level of knowledge that may exclude small producers.

Participants also raised the point that the Global Invasive Species Database is currently not complete enough to act as an effective filter for approval or rejection of feedstock species being considered.

Possible ways to address concerns:

1. Focus on legality as an initial filter
2. In cases where species under consideration shows past evidence of invasiveness in similar ecosystems it shall not be used (without thorough risk assessment?)
3. If a risk assessment system exists for the country of operation then suggest stakeholders use it.

## **Carousel exercise**

In order to test how different stakeholders may use the guidelines and to identify possible weaknesses and objections that would affect their use, the workshop used a carousel exercise that asked participants to work through a range of issues from the perspective of governments, industry and the NGO community. Participants were split into four different groups and each spent time addressing different perspectives on the guidelines at each of the four stages of the guidelines.

Groups rotated at even time intervals and built upon the work of previous groups at each stage. Questions included:

- Whether the guidelines are considered to be a useful tool,
- whether users have the capacity and interest to follow them,
- where obligations currently come from for compliance to standards,
- whether the guidelines can realistically alter production methods and
- who is responsible in government for this kind of issue, among others.

### **Key outcomes from carousel exercise**

#### 1. Scale issues affect the implementation of the guidelines

Participants mentioned a number of issues related to scale which may affect the use of the guidelines. Small scale producers are likely to be less able to follow the guidelines, complex outgrower production arrangements will also hinder the effective development of uniform and coherent management practices on multiple and dispersed small plots. During the planning and importation stages of the guidelines, scale also comes into play since producers need to assess the spatial changes in agro-ecological conditions to ascertain whether a given species presents a risk when being transported and produced outside of its native range. During transport, scale is also a key factor in assessing risk. Locally produced and converted feedstocks that are not transported over large distances present a lower risk than large scale production of feedstocks that must then be transported over relatively greater distances. What also became apparent from the guidelines was that different stakeholders wield varying levels of power and influence at each of the four stages of the guidelines. Planning and importation is controlled by governments whereas production, transport and processing are predominantly by the private sector. Thus, different actors have varying capacity to follow the guidelines at each stage.

- The guidelines need to reflect this reality by providing more targeted guidance to different users at each stage.

#### 2. Capacity building and awareness raising

Participants repeatedly brought up the issue of capacity. Governments lack the capacity to regulate and enforce measures such as those in the guidelines. The private sector may have capacity but lacks awareness or willingness on some cases to add complexity and cost to their operations by following procedures such as those in the guidelines.

- The opportunity for the guidelines to raise awareness on the issue should be maximized and a strong communication drive should be developed as a follow up to the guidelines.

#### 3. Linking guidelines to policy and legal frameworks is a key step

- Several participants noted that the main way that the guidelines can be supported and strengthened will be through adoption into government policies and legal frameworks.

Participants from Kenya and Tanzania expressed interest in such a process and invited the group to support governments in the region that are currently in the early stages of drafting policy and laws to address a range of issues related to biofuels. Participants also argued that in some cases current plant protection frameworks are somewhat biased towards the control of pests and lack adequate controls for the invasiveness of production crops themselves since they were developed for food crops that are better understood from decades of field trials. There are also existing loopholes in legal frameworks such as the different quarantine requirements for grains vs. seeds which for some species are the same thing.

4. Financial, productivity and reputational incentives need to be understood to support different stakeholders effectively

Participants mentioned a number of different instances where different groups would respond to incentives in specific ways that could improve compliance with the guidelines.

Compliance with sustainability standards such as the future RSB standard may add reputational value to some producers – especially those selling to northern commercial scale markets where biofuels are being marketed as sustainable fuels and where there is some level of scrutiny and accountability.

Governments could set up tax exemptions or bonuses for compliance to a set of best practices. Governments could also use growing carbon markets or a tax to support best practices, albeit whilst adding considerable complexity to auditing processes in the case of carbon measurement.

- The initial guidelines recommend conducting a cost benefit analysis to assess the potential costs of an invasion. However, participants noted that this approach may not mean a species will be avoided or removed even when potential costs are shown to be high unless that cost is born by the producer themselves, rather than spread among local communities through loss of productivity and services from ecosystems.

5. Is a decision matrix possible to identify suitable crops and locations that are low risk?

During the course of the workshop, a number of participants asked whether it might be feasible to develop a rapid assessment tool such as a decision matrix that could be used to quickly identify possible “safe” crop-land combinations that would not present a risk of biological invasion. Whilst this may be possible in principle, it is likely to require significant investment in field trials and agronomic research. Also, such a tool would likely need to come with a long list of strongly worded caveats such as the need to account for ecosystem change, climate change, genetic drift, unpredictably long lag times between introduction and invasion, and the unresolved issue of hitchhiking pests, among others.

6. Further emphasis on the ecosystem approach is needed to clarify the guidelines

The group noted that, because of the complexities inherent in invasion ecology, an ecosystem approach should be used to look at whole ecosystems, interactions between species and changes to local conditions such as water and climate, rather than just looking at individual species as risk factors.

- The guidelines should focus clearly on how an ecosystem approach is needed when developing and following management plans.

### **Private sector perspectives on DEG Jatropha project.**

The final session of the day presented the ongoing developments of the DEG Jatropha Support Programme in the region and was followed by a discussion on the steps the private sector can take to engage on the issue of invasive risks.

## Day Two

### Presentations to the group

The second day of the workshop began with presentations from participants on scientific and governmental perspectives on invasive species and biofuels. The first presentation covered certain technical issues relating to invasiveness, methods for predicting invasive risks and measuring the impact of invasions. There was also some feedback to report from CSIR staff, which can be summarised as follows:

The four-step approach makes sense, although the guidelines are currently somewhat aspirational. They could benefit from a simple executive summary, perhaps along the lines of "5 key rules/messages for decision makers" Lastly, concerns were raised about the feasibility of demarcation of production sites, given that different feedstock species will require very different approaches to demarcation and management depending on factors such as their dispersal mechanism.

### Current governmental perspective on biofuels in Tanzania

Biofuel development is supported by the national environmental policy, electricity act of 2002, Agriculture act, Tanzania Investment Centre and the private sector which came into play much later. The crops used for biofuels in Tanzania are sugarcane, *Jatropha*, and croton. Farms have been operating without guidelines and interim measures are in place to manage the operations of such farms. However, guidelines have been drafted and presented to the cabinet for approval. The guidelines cover EIA, land and environmental issues, conservation and biodiversity issues, food security (food crops are not to be used for biofuel production). Invasive species are not mentioned in the guidelines. The plant protection act being reviewed does not include invasive species either.

### Scenarios exercise

The main part of the second day was spent developing and working through a set of possible use scenarios for the guidelines as envisaged by three different groups of stakeholders (Governments, Private Sector, and Civil Society/NGOs) .

The three groups were asked to work through the process of developing a biofuel project from inception, planning, trials, production and commercial exploitation. Each group was asked:

1. What are you going to do at each stage?
2. Why are you working on this?
3. What information do you have?
4. What information do you not have?
5. Where do you seek information for each stage?
6. Where will you seek resources?
7. In what order would you conduct this process?

The scenario exercise was used to identify deficits in the guidelines, gaps in existing processes that the guidelines can target, and identify what addition information needs to be provided with the guidelines and to whom for them to be effective at each of the four stages.

### Private Sector

1. The group noted that at the planning stage, the private sector normally begins by developing business plans and feasibility studies before approaching countries or government bodies within countries to identify suitable investment opportunities. The goal is to produce biofuels, the reason is to make profits. Thus, most decisions are likely to be framed in terms of their effect on finances.

Information is generally sought from the internet on basic aspects of the investment area such as GDP, tax, politics and infrastructure that will inform the siting of a project. A number of countries in the region have investment agencies that are a first port of call for companies seeking to invest – and participants noted that the IUCN guidelines should be targeted at

such agencies for effective dissemination. Consultants often help companies develop business plans and so they too should be made aware of invasive guidelines, however, participants noted that the requirement for an EIA is currently the most binding and robust way that sustainability is mainstreamed into project planning and so the incorporation of invasiveness into EIA's offers the best way of involving the private sector at this stage.

2. Participants suggested that during importation, the role of the private sector is merely to abide by laws and regulations. However, the guidance may benefit from providing separate advice to those importing species not present in an area or country versus those who are merely scaling up production of species already present.

3. During production, the private sector controls potential implementation of most of the key aspects of the guidelines and so it is at this stage that the guideline can support management practices and awareness raising among producers. Participants identified agricultural extension agencies, research stations and environmental agencies as the best targets for the guidelines as it is these bodies that support the private sector in developing management practices. One particular point raised by the group was that the guidelines should be referred to or incorporated into extension manuals that are currently developed for many crops to support producers.

4. Lastly, during processing, transport and trade, the group noted that the private sector is currently lacking information on the risks of invasive species in many areas. Regulations currently focus on risk from pests rather than invasiveness of feedstocks and there is little awareness of off-site risks to ecosystems and livelihoods from potential invasions. The participants suggested the guidelines should focus on awareness raising of the risks that extend beyond the field by supporting the development of Environmental Management Plans that go beyond the site of production.

## **Government**

The group developing a government scenario for the guidelines began by noting that the main driver for governments to support biofuels in the region was to reduce the import bill for fossil fuels and support economic development. Other drivers such as meeting local needs for energy, reducing GHG emissions and reducing health impacts of indoor smoke inhalation were also mentioned as co-benefits – depending on the scale being pursued. The group worked through the questions in order rather than addressing each stage – a more logical approach given that the role of governments in developing biofuels does not follow a life-cycle step by step approach in the same way a private develop would.

The main role of government is to provide an enabling environment thorough any or all the following:

- Clear and robust laws and regulations
- Capacity building in relevant sectors
- Awareness raising among stakeholders
- Incentives where appropriate
- Development of supporting infrastructure
- Formulation of stakeholder associations

Governments need information on the following:

- Current activated in the industry
- Environmental, Social and Economic viability
- Knowledge of key stakeholders
- Government interest and knowledge of existing relevant policy frameworks
- Information on feedstocks
- Understanding of existing awareness
- Understand markets, demand and supply
- Knowledge of existing relevant infrastructure and end use

Governments are likely to seek information from the following sources:

- Existing projects
- NGOs with capacity and expertise
- Communities
- Research organisations
- Relevant ministries (Energy, Agriculture, Environment etc..)
- Experience of other countries
- Development agencies
- Conservation organisations
- National statistical bureaus

Governments seeking to develop biofuels may look for resources from:

- Within government
- Development partners
- Private investors
- Communities

In conclusion, governments seeking to pursue biofuel development have considerable control in principle to steer the course of developments, through developing regulations and laws that support good practices and appropriate developments. Beyond this, governments require information on feasible national targets, international energy markets, standards, and capacity to implement policies and enforce regulations. The IUCN guidelines should be targeted at certain government stakeholders who control aspects of the biofuel value chain and are responsible for sustainability. This role varies from country to country but the group at the workshop possesses considerable knowledge of who should be supported in understanding and adopting the guidelines within governments in the region.

## **NGOs**

The group developing and NGO scenario took a slightly different approach by developing an imaginary project by a fictional NGO called “Green Plant”.

At the planning level, the group settled on an aim to introduce biofuels at a community level to support household energy development and provide associated benefits such as lower respiratory illness, GHG emissions, local environmental degradation and poverty alleviation.

NGOs may have suitable knowledge and experience of feedstocks, appropriate processing techniques and responsible approaches to community engagement but the group suggested that small NGOs are often unaware of regulatory frameworks, complex feedstock requirements, SEIAs, and guidelines such as those being developed by IUCN. Thus, targeting the guidelines at common information sources for NGOs will make them much more widely available and support awareness raising.

NGOs normally seek expertise and funding from governments, funding from donor bodies, in-kind contributions from communities, and information from research organisations. To be effective, the guidelines should be available at suitable entry points during the planning and information gathering stages of projects developed by NGOs. This will likely be achieved by targeting donor organisations, research organisations and government ministries that act as sources of information and expertise for NGOs.



## Conclusions

Throughout the workshop, discussions often referred back to the text of the draft guidelines and suggestions were discussed for possible changes and improvements to the guidelines. Examples include the suggestion to add details about the RSB criteria on invasives to the guidance, add a “5 key Rules” section to the guidelines, clarify scale issues, strengthen the text on maintaining an ecosystem approach, and many others. This approach of referring discussions that arose during the workshop back to the guidelines enabled the group to continually suggest refinements throughout the workshop and test assumptions on their future use and value.

## Next Steps

The guidelines will now be revised based on the output from the workshop and sent out for a final comment and review from participants and external experts. The guidelines will be published in January 2010. The feedback will also be used by the Roundtable on Sustainable Biofuels to refine their criteria on invasive species for Version One of their principles and criteria.

## ANNEXE

### Agenda

Monday 5<sup>th</sup> October

#### Day one – Update on the issues

- 9.00 1. Welcome (Geoffrey Howard, IUCN)
- 9.10 2. Introductions and sharing of interests and expectations, (Esther Abonyo, IUCN and facilitator for workshop)
- 9.30 3. Introduction to the project – (Geoffrey Howard, IUCN)
- Questions and Answers
- Agreement on the Agenda
- 10.00 4. Setting out the vision for the guidelines, scope and target audience, (Sam Keam, independent consultant IUCN)
- Questions and answers
- 11.00 *Tea Break*
- 11.30 5a. Presentation and exchange on the Roundtable for Sustainable Biofuels text on invasive species – Sebastien Haye, RSB
- 12.30 5b. Brainstorm/agreement on different stakeholder groups who should use the guidelines and introduction to the carousel exercise.
- 13.00 *Lunch*
- 14.00 5c. How can the guidelines be used by different groups – “carousel” exercise to identify where and how the existing guidelines could be used by different stakeholder groups (biofuel developers, government ministries, roundtables).
- 15.00 5d. Presentation of 3 main points from each carousel discussion
- 15.30 *Tea Break*
- 16.00 Speaker – Private sector perspectives. Potential objections and requirements from the guidelines.
- 16.30 6a. Introduction to next session - Identifying weaknesses and possible objections and potential solutions for different stakeholders
- 17.30 Plenary discussions
- 18.00 *Evening event*

## Tuesday 6<sup>th</sup> October

### Day two – Refining the guidelines

9.00 7. Recap from day one

9.30 Speaker – Scientific perspectives – identifying strengths and weaknesses in the guidelines.

10.00 Speaker - Government perspectives on invasive species and biofuels – potential objections and requirements from the guidelines.

*10.30 Tea Break*

11.00 8. Scenario development - Agree on potential scenarios where the guidelines may be used then split into groups to address each scenario. How can the guidelines complement the tools and information already available to each sector and what additional information should be provided to each group of stakeholders to make the guidelines as useful as possible.

- Group discussions

*13.00 Lunch*

14.00 9. Refining the guidelines and RSB criteria

- 9a brief reminder of the guidelines.

- 9b Plenary discussion on issues and suggestions for improvements

*15.30 Tea Break*

16.00 10. Coordinating next steps

*17.00 End*

## Participants List

Mr. Seynou Oumarou  
Project Officer (Forest Management)  
IUCN Central and Western Regional Office  
Avenue Kwame N'krumah  
01 B.P 1618, Ouagadougou 01  
Bukina Faso  
Tel: +226 50328512/70235640  
Fax: +226 5031354  
Email: Oumarou.seynou@iucn.org

Mr. Alex Nabiswa  
Agronomist  
DEG Jatropha Support Programme  
Nairobi, Kenya  
Tel: +254 020 3742552  
Fax: +254 020 3740687  
Email: agronomist@pipal.com

Mrs. Faith Odongo,  
Chief Renewable Energy Officer  
Ministry of Energy  
P.O. box 30582, 00100  
Nairobi, Kenya  
Tel: +254 020 310112  
Fax: +254 020 240910  
Email: fahamala@yahoo.com

Fritjof Boerstler  
UNDP/GEF project  
Mombasa, Kenya  
Email: fritjof.boerstler@undp.org

Mkoma Masanyiwa,  
Ministry of Energy and Minerals,  
P.O Box 2000,  
Dar es Salaam, Tanzania  
Tel: +255 783 111550  
Email: masanyiwam@gmail.com

Mr. Emmanuel Sulle  
Research Associate  
Tanzania Natural Resource Forum (TNRF)  
P.O. Box 15605  
ARUSHA, Tanzania  
Tel: +255 784 738629  
e.sulle@tnrf.org

Mr. Ayoub Francis Nchimbi  
Senior Agriculture Research Officer- Plant  
Health  
Ministry of Agriculture, Food Security and  
Cooperatives  
P.O. Box 9071  
DAR ES SALAAM  
Tanzania  
Tel: +255 222 865642  
Email: anchimbi@yahoo.com

Dr. Gadi Gumisiriza  
National Coordinator  
UNEP/GEF-IAS Project  
National Agricultural Research Organization  
P.O. Box 295, Entebbe

Uganda  
Tel: +256 714 484 314, +256 414 320472  
Mobile: +256 714 484  
Fax : +256 42 321070  
Email: ggumisiriza@naro.go.ug

Mr. Dick Lufafa,  
Senior Environment Audits and Monitoring  
Officer,  
National Environmental Management Authority  
P. O. Box 22255  
Kampala, Uganda  
Email: dlufafa@nemaug.org  
Tel: +256 414 251064  
Fax: +256 414 257521/ 232680

Mr. Brian Nkandu  
National Project Coordinator RBMIPA  
Environmental Council of Zambia  
P.O. Box 35131  
Lusaka 101101  
Cnr. Suez & Church Road  
Lusaka, Zambia  
Tel: +260 1 257597  
Fax: +260 1 254164  
Email: bnkandu@necz.org.zm

Mr. Lovemore Simwanda  
Technical Advisor/Development Investment  
Consultant  
Zambia National Farmers Union/Environmental  
Conservation Association of Zambia  
P.O. Box 30395  
Lusaka, Zambia  
Tel: +260 211 252649  
Fax: +260 011 252648  
Email: l.simwanda@yahoo.co.uk

Mr Ryan Blanchard  
Student/Researcher  
Natural Resources and the Environment  
CSIR, Pretoria  
52 Conquest Road  
Crawford, 7764  
Cape Town, South Africa  
Tel: +27 21 8882626  
Email: RBlanchard@csir.co.za

Mr. Sam Keam  
IUCN Consultant  
22b Lena Gardens  
London, W6 7PZ,  
U.K.  
+44 (0) 20 73716620  
Email: samkeam@gmail.com

Mr. Sébastien HAYE  
Environmental Coordinator  
Roundtable on Sustainable Biofuels

Ecole Polytechnique Fédérale de Lausanne -  
Energy Center  
BAC 004 (Château de Bassenges);  
Station 5  
CH-1015 Lausanne | Switzerland  
Tel: +41 21 693 00 79  
Mob: +41 76 258 15 31  
Fax: +41 21 693 00 00  
Email: sebastien.haye@epfl.ch

Geoffrey Howard  
IUCN Coordinator of Invasive Species  
IUCN – Eastern and Southern Africa Regional  
Office (ESARO)  
P.O. Box 68200, 00200  
Nairobi, Kenya  
Tel: 254-20-890605/6/7/8  
Fax: 254-20-890615  
Email: Geoffrey.howard@iucn.org

Arne Witt  
Coordinator - Invasive Species  
CABI Africa  
ICRAF Complex

United Nations Avenue, Nairobi, Kenya  
Tel: +254 20 7224450 /62  
Email: a.witt@cabi.org

Norah Ng'eny  
Intern (World Initiative for Sustainable  
Pastoralism)  
IUCN - Eastern and Southern Africa Regional  
Office (ESARO)  
P.O. Box 68200, 00200  
Nairobi, Kenya  
Tel: 254-20-890605/6/7/8  
Fax: 254-20-890615  
norah.ngeny@iucn.org

Esther Abonyo  
Junior Programme Officer  
IUCN – Eastern and Southern Africa Regional  
Office (ESARO)  
P.O. Box 68200, 00200  
Nairobi, Kenya  
Tel: 254-20-890605/6/7/8  
Fax: 254-20-890615  
Email: esther.abonyo@iucn.org