Bioenergy and Biodiversity: Joint International Workshop on High Nature Value Criteria and Potential for Sustainable Use of Degraded Lands

June 30 to July 1, 2008 at UNEP, 15 rue de Milan 75009 Paris, France

A joint initiative by

Öko-Institut e.V.
Institut für angewandte Ökologie
Institute for Applied Ecology

Roundtable on Sustainable Biofuels

UNEP

in collaboration with

CONSERVATION INTERNATIONAL

FAO

IUCN

WWF

NOTES and OUTCOME of the Joint International Workshop

Notes from Day 1: Biodiversity Criteria/Indicators for Mapping of HNV/HCV Land

State of the Discussion – Brief Presentations

ProForest (Kate Bottriell)

- High Conservation Value (HCV) is not the same as High Nature Value (HNV)
- HVC4: ecosystem services could include carbon fixation
- The process for assessing degraded land could be based on / should be the same as that for HCV process
  - → HCV Resource Network (www.hcvnetwork.org); expert group + secretary; review of HCV applications
- HCV is a concept as a whole. It is possible to refer to single criteria, but then this must be stated clearly and it is not any longer the HCV concept which is applied.

COMPETE (Helen Watson)

- Protected Areas (PA) were set up in part because these lands were not suitable for grazing or agriculture
- even in well-managed PA (e.g Krueger Park), biodiversity is declining over time
- South African PA are fenced + conservation area around them (e.g. for game ranches, ecotourism).
- buffer zones 5 km; corridors for migration (e.g. elephants) needed
- inventories for species – status of update (some quite old)
- many protected areas have a worse status than some biodiversity-rich non-protected areas
- grasslands and woodlands often underrepresented – but: important for rural livelihood and often high biodiversity values
- wildlife assessment versus agro-mapping? Agriculture interest is to map suitability of cultivation

UNEP-WCMC (Valerie Kapos)

- "mapping" global: 12% of land under PA, see 1st chart ("all of Europe is PA") → small-sized PA in low-res maps! Useful but often expensive…
- dynamics: future land demand for food production (which will double until 2050) / future displacement by biofuels?
- changing landscapes → influence on importance of individual locations
- climate change → will change everything
- degradation: not same in agriculture, biodiversity, soil carbon
- restoration may be a better choice?

Discussion, moderated by Kathrin Ammermann (BfN)

Key questions to presenters

- definitions on HNV/HCV → "settled", as HCV is ready
- HCV can be applied for any ecosystem and worldwide
- take out some HCV criteria (e.g. social) → no.
- HCV is connected with a consultation process – if this is not applied, its no HCV assessment…
- natural dynamic vs. human-influenced dynamic of landscape;
- Helen: HCV is a good overarching framework but dynamics are missing → not area only needed!

Brief Presentations of Activities and Ongoing Work

RSB's Criteria and Indicators for Biodiversity (Sébastien Haye)

- Roundtable on Sustainable Biofuels (RSB) endorses HCV, want to contribute and build up on other initiatives
- four WG: Greenhouse gasses(GHG), environment, social, implementation
- 270 participants
- use of HCV, but more: ecosystem services and function, buffer zone, ecological corridors…
- promotion of good practices!

Conservation International's Approach (Christine Dragisic)

- Biodiversity hotspots, and wildness areas (2005)
- Important Bird Areas (IBA) – assessment over 20 yeas in 160 countries; however, IBA assessment is still not completed
- Alliance of Zero Extinction (AZE; almost 600 sites), Key Biodiversity Areas (KBA; red list, endemism, irreplaceability, AZE and IBA integrated) etc. → prioritization?
- Where to start: AZE (urgent), then IBA and KBA. Protection of many other areas also needed, but issue of time
- KBA cover HCV 1.1 – HCV 1.3
- Mapping: Integrated Biodiversity Assessment Tool (IBAT) will be available in October 2008 → Beta-Version already runs
- "targeted" case studies in BR + ID with local partners

IUCN projects and definitions (Nadine McCormick, IUCN)

- Making use of lessons from other sectors (oil, & gas, extractives, etc.) for biofuels, which have considered biodiversity, protected areas and no-go commitments for

natural World Heritage Sites, community engagement, free and prior informed consent, etc.

- PA still need attention - only 21% of PA are managed effectively (this year's survey) ...protect PAs!
- Involvement of local communities is critical
- Opportunities include using native bioenergy crops e.g. corridors?
- define + map HCV areas for soy in Mato Grosso + Mato Grosso do Sul, Brazil, with NGO; setting HCV framework until Sept. 2009: 1st mapping done in 2010 by local partners using the framework
- Who should do the mapping, and who owns the data, and who pays?

Questions and 1st Discussion (moderated by Kilian Delbrück (BMU)

Delbrück: four main points: (1) process is important, (2) HCV – the best tool? (3) Who could do assessment? (4) Participation?

HCV:

- IBAT uses World Database on Protected Areas (WDPA) and others, regular up-date, scale: site level
- HCV is applicable at all levels, it is wider than KBA and Gap Analysis; HCV is a tool… But open for harmonisation… Results from site specific HCV assessment can differ from global one…
- It is dangerous if non-HCV areas are automatically considered as "go" areas…

Process:

- Consultation is important → strict implementation process needed
- Two processes: areas with and areas without data → if data missing, responsibility for those how want to act…
- Who should do HCV analysis – how long does it take, how much does it cost?
- Global framework needed that has credibility
- Climate impact, harmonization urgently needed – how to contribute?
- Data must be very site specific!
- Start with countries and below… but how between countries? CBD-regional consultations? → as global vehicle?

How to implement?

- Criteria → HCV or more? Harmonize HCV processes?
- Which process – who, at what level, participation?

Parallel Working Groups

- Group A: Harmonizing Criteria and Approaches
  moderated by Klaus Hennenberg

- Group B: Operational Requirements for Mapping/Screening
  moderated by Freddy Nachtergaele
- Group C: Social Context and Stakeholder Involvement
  moderated by Annie Sugrue

Plenary: Summary of WG Results, moderated by Nadine McCormick (IUCN)

→ see summaries from rapporteurs Annex

Conclusions and Future Activities Martina Otto (UNEP), Uwe R. Fritsche (OEKO)

- need to discuss further HCV as a "generic" tool for biofuel standards/guidance
- need to clarify data needs - much is still open – to be continued & refined
- role of UN and private sector: data provision (FAO/IIASA), filling gaps and updating
- process should continue, ownership important…

→ UN-system needed to deliver as one on biofuels!!

- "go" areas → need to be handled very carefully!

Notes from Day 2: Sustainable Bioenergy from Degraded Lands?

Brief Presentation of Case Study Partners

Brazil (Antonio Ramalho-Filho, Embrapa; Giulio Volpi, FES)

- There are 180 to 200 million ha of pasture land, and it is estimated that 30% of those pasture are degraded. However, some of this land falls more in the category idle than degraded. Among the 60 million ha of arable land used cropping, it is estimated that nearly 25% are degraded.
- It is worthy saying that, at present, around 80% of the grain annual production (140 Mill tons) in the country is cultivated under no-tillage cultivation systems.
- Preliminary results from an agro-ecological zoning regarding the creation of oil palm plantations on deforested land in the Legal Amazon (includes the Amazon biome and part of the cerrado biome) revealed that there are around 18 million ha of land suitable for oil palm (land now used as pasture, crops, thickets, idle land), considering two management levels (intermediate and high technology). From this area, legally protected areas (conservation units and indigenous reserves, as well as high priority areas for biodiversity) are already subtracted. The Ministry of Environment has done an interesting study on high priority areas for biodiversity in Amazon published as report and maps.
- Only 2.5% of Cerrado is PA; need of land data for HNV in that area. Ministry for Environment has done some of that under Probio. In Amazon degraded areas, some low quality pasture is taking place or thickets are growing up.
- Need to consider current use of degraded land (in Amazon). Oil palm plantations are seen as a sound use for degraded areas in Amazon, including degraded pasture, not only to protect land against further degradation but also, to offer a sustainable economic alternative for farmers within both, large and small-scale agriculture.

China (Heinz-Peter Mang, Beijing Univ. of Science and Technology)

- woody oil plants; no HNV screening yet
- availability of water is not yet known, province-level studies ongoing on water supply, known already for Sichuan + another south-west province from jatropha studies
- waste edible oil becomes a product (250 $/t), but European buyers offer 400!
- “degraded land” might be also agriculture “reserve” land (different definitions of ministries)

South Africa (Helen Watson, University of KwaZulu-Natal)

- investors are often not really interested in the results for semi-arid areas

Tanzania (Jensen Shuma, TaTEDO)

- degradation of land from overcollecting firewood

→ "rural" biofuel could relieve some stress

West Kalimantan (Laszlo Mathe, WWF)

- US-WWF will work on economic impacts
- Idea to map "idle land" → process based approach, not listing of habitats

Questions and Discussion, moderated by Uwe R. Fritsche (OEKO)

discussion on:

- "process" (HCV) is not needed, as Chinese gov has set criteria and priorities.
- irrigation of semi-arid areas might "hinder" investors, but in heavy rainfall areas this might be different

  ➔ need for common/joint methodologies on biodiversity screening
- methodology needed for the identification process regarding degraded land

Lessons from the "Roundtable on Bioenergy Enterprise – Jatropha and alike"
Martina Otto (UNEP)

- even small yields are good – maybe not for international trade, but local benefits
- RSB is considering a jatropha sub-group
- business models (from cotton): consider long-term (for perennial > 20 years); co-benefits need to be considered in cost-benefit calculation → good effects on a small scale…
- clear definitions on degraded/marginal/waste land (e.g. India)
- in general: possible smaller "patches", not large areas → no interest from large investors

How to Structure Participation, and Key Social Issues Annie Sugrue (RSB)

- comprehensive consultation is the "local mapping", lowest level of map?
- gender issue (man own land, women work it!)
- local people are interested in the new bioenergy market, and need electricity…
- Risks: food, water …need to be handled carefully, e.g. leave parts of land to food

→ criteria, standards, indicators but also: examples that people can see what it is!!

- Public consultation → help local people to find a sound decision, if they want to go towards biofuels…
- Measurements → see Issue Paper on the social context…

Definitions for Land Categories: Abandoned, Degraded…
Brief Input based in Issue Paper, Klaus Hennenberg (OEKO)

Questions and Discussion on Definitions Jan-Erik Petersen (EEA)

- Waste land – ok; "idle" land vs. "abandoned" vs. unused? –check "conservation reserve" in the US, but carbon? consensus: abandoned + degraded
- Instead of definition: What function and for whom? → go to positive points/areas…
- Verifiable definition for legal use (EU) needed
- Human-induced factors (overgrazing…) as part of the "decision"-tree
- Use data from LADA/GLADA[1] as a starting point, then check with further criteria such as "humanly induced"…differentiate between grassland/arable land
- HNV farmland (EEA) → work since 3 years, is not finished; list of relevant parameters (e.g. species, habitats…)

[1] Land Degradation Assessment in Dry Land (LADA); Global Assessment of Land Degradation and Improvement (GLADA)

- Question of decision tree to work through reasons why land is currently not reaching its full production potential (see **input from IUCN**, last page of the notes)
- Bioenergy being a positive concept (promoting positive effects) is needed…
- GLADA in ZA: Verification currently under way (FAO)

Summary:

- short-term need for definition to certify…aim for "go" areas, and/or "no-go" areas?
- consider "other meanings" of definitions via footnotes to "include" other communities
- decision-tree: biodiversity, carbon, food competition…needs local knowledge.
- potential for improvement via bioenergy…include that?
- crops vs. type of degraded land, and large vs. small
- bottom-up HCV process…social inclusion – how to bring it in?
- In EU regulation, it may be possible to put more "burden of proof" to get incentive for degraded land - need to do better - more data
- Stepwise approach – use what you have, check where you need more
- Bring in private parties
- Process and local knowledge – not only mapping, but "on the ground" (ground-truthing)
- **"Division of Labor":** minimum requirements for legal standards using + financial institutions/private sector forerunners

Perspectives for Joint Work, discussion moderated by Horst Fehrenbach (IFEU)

- RSB Pilot testing (via private firms) could make use of the "tool" to be developed
- Overlaying land potentials with crops/yields, water, biodiversity – open for cooperation
- CI has data which will be made available for mapping
- GTZ: MZ + TH HCV concept testing, especially for small-scale users
- Joint meeting at IUCN in Oct. (Barcelona), then joint workshop in e.g. Southern Africa, with COMPETE/SADC
- EEA - joint database development, "protocol"…accessible quality-assured data tool for that?
- Guidance on global, national, and local procedure; update info in database
- Statistical data is needed, must not be perfect → identify "risky" regions, top-down + bottom-up, some quick guidelines…
- National datasets are available through GEONET (UNEP has access)
- Focus on areas where bioenergy can come from needed

- Next meeting in Africa is a good idea, focus on small-scale farmers…
- Mapping is not enough – how to use it in a good manner? → Guidance…
- FAO will develop profiles for “non-food crops”
- agro-biodiversity is a next step
- next Joint Worskhop early 2009 → status of mapping, social issues

List of Participants

Name1	Name2	Organization	Type	Country/Region
Ramalho-Filho	Antonio	EMPRAPA	GOV	BR
Volpi	Giulio	FES	SCI	BR
Mang	Heinz-Peter	CIM/Beijing Uni Sc&T	SCI	CN
Pieprzyk	Bjoern	BEE	SCI	CR
Ammermann	Kathrin	BfN	GOV	DE
Delbrück	Kilian	BMU	GOV	DE
Schukat	Philipp	GTZ	GOV	global
Fehrenbach	Horst	IFEU	SCI	DE
Fritsche	Uwe	Oeko-Institut	SCI	DE
Hennenberg	Klaus	Oeko-Institut	SCI	DE
Bringezu	Stefan	Wuppertal-Institut	SCI	DE
de Dominicis	Ariane	EU DG ENV	GOV	EU
Petersen	Jan-Erik	EEA	GOV	EU
Máthé	László	WWF-UK	NGO	global
Haye	Sebastian	RSB	NGO	global
McCormick	Nadine	IUCN	NGO	global
Kapos	Valerie	UNEP-WCMC	SCI	global
Bottriell	Kate	ProForest	NGO	global
Nachtergaele	Freddy	FAO	GOV	global
Quatrini	Simone	Global Mechanism	GOV	global
Berenguer	Paloma	Shell	IND	global
Lewandowski	Iris	Shell	IND	global
Rennie	Cameron	BP	IND	global
Otto	Martina	UNEP	GOV	global
Hall	Janet	UNF		global
Stewart	Christopher	ProForest	NGO	global
Reeves	Jonathan	DEFRA	GOV	UK
de Nie	Danielle	IUCN	NGO	NL
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Grady	Stephen	JNCC	SCI	UK
Bramble	Barbara	NWF	NGO	US
Dean	Jamie	Packard Found.		US
Dragisic	Christine	CI	NGO	global
Sugue	Annie	CURES	NGO	ZA
Watson	Helen	Univ. Nataal	SCI	ZA

Working Group A: Harmonizing Criteria and Approaches

Moderated by Klaus Hennenberg (OEKO); Rapporteur: Horst Fehrenbach (IFEU)

The group discussed following major issues:

1. do we need a meta-standard?
2. should HCV be the basic framework for the definition and assessment of areas of high nature value?
3. what are the major gaps?

1.1 Meta-Standard

The predominantly supported statement was: There is no need for a new certification system. 15 years experience in certification shall be considered and engaged.

The meta-standard approach, as it is pursues by the RSB, is agreed to be the most promising activity in that field. Particularly the international stake holder involvement valorises this process apart from other initiatives.

The meta-standard shall be understood as something like a virtual super-structure: an equivalence matrix that enables equivalency when sustainability is certified in fundamentally different regions.

It was stated that there is need of feedstock specific standards to provide benchmarks. At the beginning the more general standards (principles) shall refer for all, but thereafter there is need for refined feedstock-specific indicators.

1.2 HCV the basic framework?

The working group tended strongly to favour HCV to be the general framework. Arguments in favour were:

- there is an institutional framework
- there are clear definitions
- HCV is yet implemented by divers governmental actions
- e.g. HCV 1-4 in principle agreed by e.g. German regulation

It was issued crucially that:

- HCV should be only implemented as a whole (HCV1-6) but
- HCV 5-6 (socially involved) might cause complications in general implementation (probably challenged by WTO and other implications);
- further cross-linking is strictly needed with CBD;
- cross-linking with CDM impact assessment practises is needed.

General remarks were:

- It has to be decided whether the assessment should only be a matter of values (high values to protect) or even a matter of volumes (high volumes of more “moderate values”)?

- The application of theses standards has to be expanded to all agro-industrial products
- but it was also agreed that this should be the ideal final target; it shall be reached step for step, priority is plainly on biomass for bioenergy

1.3 Identification of Gaps

The identification of indirect land use change effects was named to be a major gap.

But it was also discussed that leakage effects might not be manageable within a certification system.

More work has to be done to understand the mechanisms and drivers that lead to replacement of food (or other) crops by biomass for energy use.

Some optimism was expressed that the REDD process ("Reducing Emissions from Deforestation and Forest Degradation") might succeed to install an internationally controllable report system to enable monitoring what actually happens in terms of land use change.

That might be a decisive step forward to reach the needed consent of governments to realize transparent land use planning. In that case, "leakage" would not be an issue any more.

Another issue was the matter of scale: Is it a adequate to limit "biodiversity" to the "hot spot" sites or must it be addressed at landscape scale including structures like "corridors" etc.? It was agreed that the landscape scale is the adequate one.

Workshop Biodiversity and Bioenergy, Degraded Land - UNEP Paris, 30.6./1.7.08

Working Group B: Operational Requirements for Mapping/Screening

moderated by Freddy Nachtergaele (FAO); Rapporteur: Cameron Rennie (BP)

The group summarized its discussion in two slides shown below.

GIS Database *What are we talking about? What was discussed?*

International → National → Project

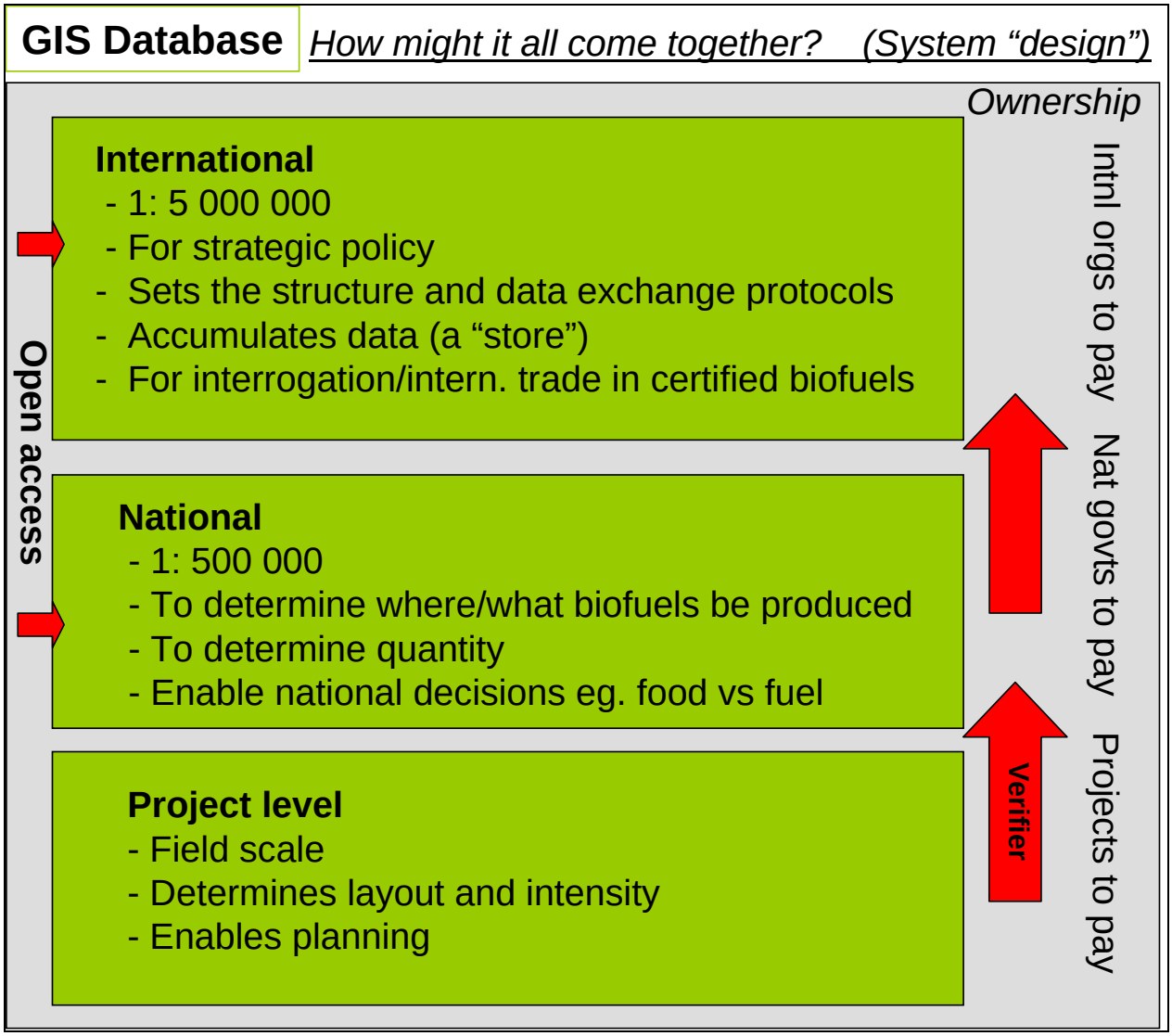
Ownership
- Purpose
- Stake in end use

Current situation
- WCMC/IUCN/IASA/LADA (National level participatory process at 1:500 000)
- Can't define until we know necessary parameters from discussion Group 1

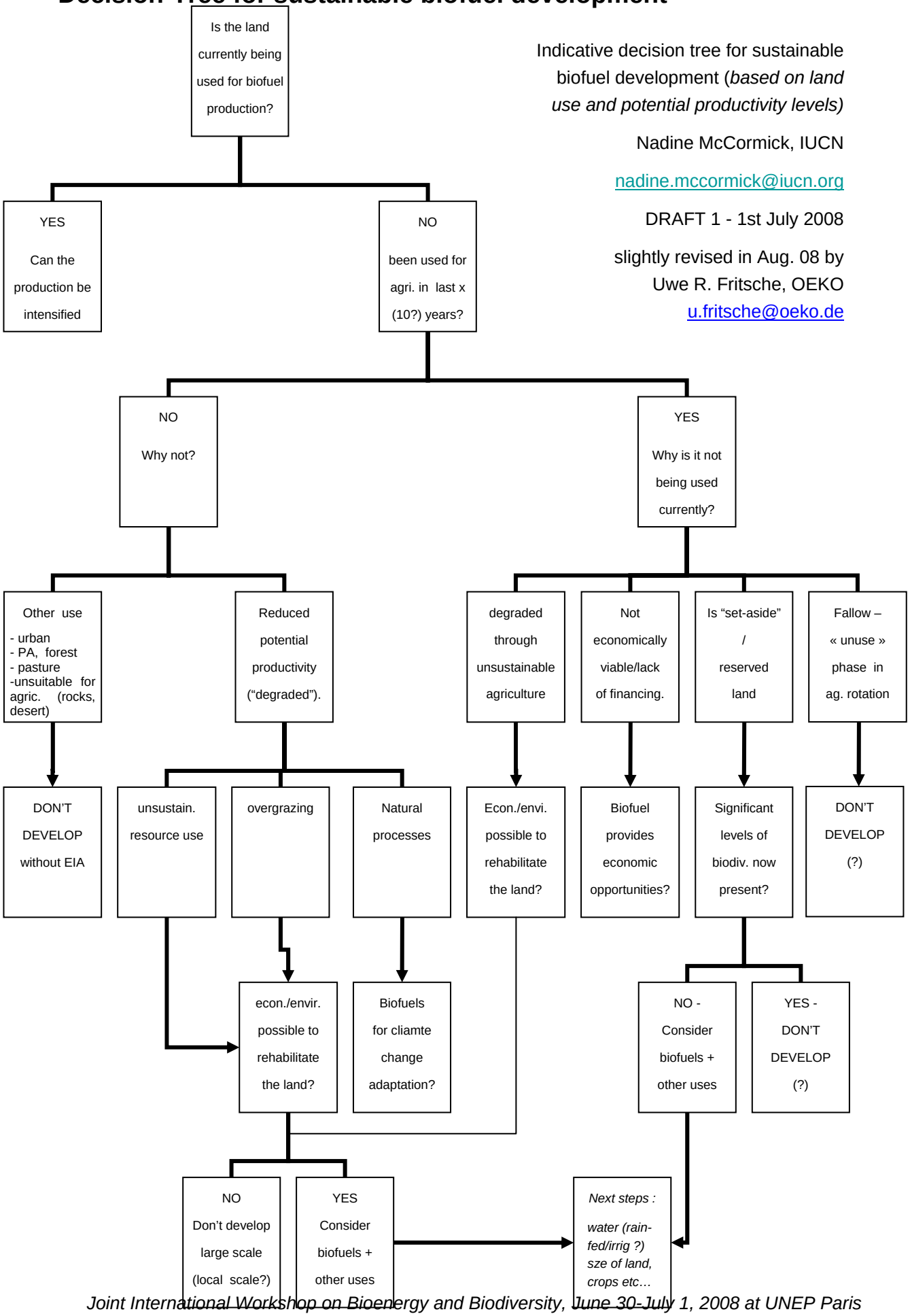
Maintenance of database
Costs
- depend on resolution

Priorities
- Places with no data
- Places suitable to biofuel production

DATASET or *PROTOCOL* or *CERTIFICATION TOOL*??


GIS Database
How might it all come together? (System "design")
Ownership
International
- 1: 5 000 000
- For strategic policy
- Sets the structure and data exchange protocols
- Accumulates data (a "store")
- For interrogation/intern. trade in certified biofuels
National
- 1: 500 000
- To determine where/what biofuels be produced
- To determine quantity
- Enable national decisions eg. food vs fuel
Project level
- Field scale
- Determines layout and intensity
- Enables planning
Open access
Verifier
Intnl orgs to pay
Nat govts to pay
Projects to pay

Decision-Tree for sustainable biofuel development



Indicative decision tree for sustainable biofuel development (*based on land use and potential productivity levels)*

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DRAFT 1 - 1st July 2008

slightly revised in Aug. 08 by
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