



Climate needs Farmers

Project manual / Appendix

.....

compiled by

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Further information: <http://climateneedfarmers.webs.com/>



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Gleisdorf, 15th of September 2014



2. Presentations

2.1 Goladkowo vocational school (Poland)

2.2 Agricultural Chamber of Canakkale (Turkey)

2.3 Ecological Institute for Sustainable Development (Hungary)

2.4 OIKOS – Institute for Applied Ecology and Basic Research (Austria)

2.5 VERN e.V. – conserving old and rare crops (Germany)

2.6 WECF France (France)

2.7 FMP Farm management plans (OIKOS)

2.8 Eco-region Kaindorf (Fritz Loidl)

2.9 Biosphere Reserve Schorfheide-Chorin

2.10 Solar Explorer

2.11 Agriculture and climate change (Sekin Kaya, Ph.D.)

2.12 Bees and climate change (Prof. Dr. Türker Savas)

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2.14 Importance of Tisza River farming on floodplain (Bodnár Mihály)

2.15 Tokaj-Hegyalja Market (Katherine Chapman)

2.16 Agriculture in the Geneva Lake Region (Anne Barre)



The Jadwiga Dziubińska Group of Schools Agricultural Education Centre



School's headmasters

- **Krzysztof Nuskiewicz**
- Headmaster
- **Aneta Wierzbicka**
- Vice-Headmaster





**Eliza Dembe –
Stańczak** –
supervisor of
practical
vocational
training



**Ewa
Chrzanowska** –
chief accountant



Sławomir Bloch
– administrative
manager

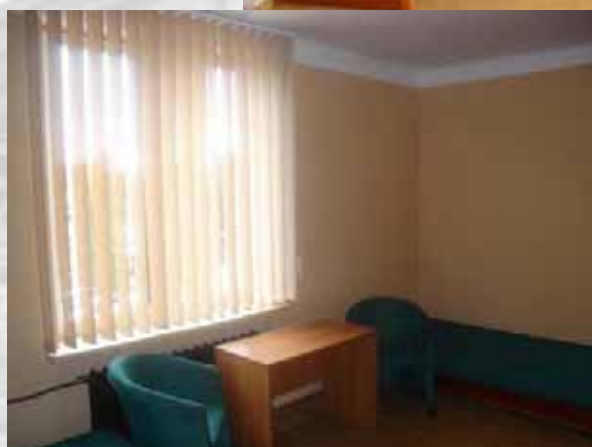


SCHOOL





DORMITORY





WORKSHOPS





Classroom at the workshops



LIVESTOCK BUILDING for Polish Red Cattle and old breed of horses Koniki Polskie





DRIVING SITE



MULTI-PURPOSE PLAYGROUND





MUSEUM



OUR OFFER

The school owns 17 ha, the production is certified organic.

THE 4-YEAR TECHNICAL SCHOOL'S PROFILES:

- [Technician of agricultural mechanization](#)
- [Technician of nourishment and](#)
- [Technician of agribusiness](#)
- [Technician of landscape architecture](#)
- [Technician of veterinary](#)
- [Technician of horse breeding](#)

THE 3-YEAR VOCATIONAL SCHOOL'S PROFILES:

- [Mechanic - operator of farming vehicles and machines](#)
- [Cook](#)



ADDITIONAL QUALIFICATIONS FOR STUDENTS

- Forklift operator course
- Driving course (category B and T)
- Harvester operator course



HORPYNA STABLE





GOLĄDKOWO SONG AND DANCE GROUP



School's life...







The number of students in the Jadwiga Dziubińska Group of Schools Agricultural Education Centre in Gołdkowo

the number of students of day schools-
117

the number of students of extramural
schools - 208



ADDRESS

**The Jadwiga Dziubińska
Group of Schools
Agricultural Education Centre**

Gołdkowo 41G
06-120 Winnica.
tel./fax 0048 236914073

www.zsrgoladkowo@tlen.pl

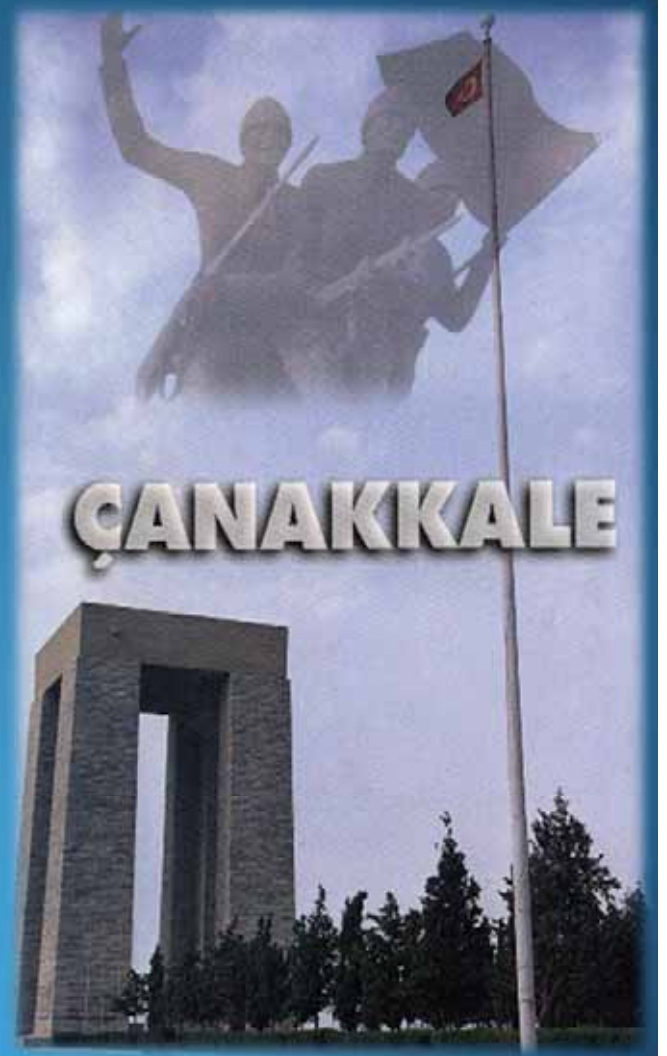
www.goladkowo.pl



Agricultural Chamber of Çanakkale

Çanakkale

Çanakkale has got 565 villages, 22 towns and 12 districts with a total area of 599 settlements, it has got area both Europa and Asia.



Agriculture Chamber of Çanakkale

- Our Chamber is the biggest non-governmental organization in our region.
- We sell pesticides and fertilizer. In addition, we organize fairs and projects.



Number of Staff and Persons

- There are four staff Çanakkale chamber of agriculture
- Accounting department has got two staff and pesticides and fertilizer department has got two staff.
- Apart from this, there are a chairman and six members of the board of directors.
- There are 21 council members.

Chamber Activities

Çanakkale Tomatoes



- For branding to Çanakkale tomato, we have gave education at the university. Farmers learned alot of things about the tomatoes. (eg: pesticides, fertilizer, insecticides-diseases, irrigation and harvest...)



- This project was a bridge between educators and farmers.



Home and Life



- Last project is about climate and agriculture relationship.
- Unconscious agricultural applications give harm to environment.
- More yield, more money, more good life so we don't consider to nature.

Bayramiç's White Nectarine

- This nectarine is grow only Bayramiç in Turkey.
- A variety of very tasty.
- In order to introduce, studies are carried out the country.



- It's presented to Member of Parlements



Bayramiç Apples



- They taste very nice in our country.
- Especially , Granny smith and Gala types.
- They are intruduced by media organs.



Agricultural Fairs

- Every year, we regularly make two or three fairs.
- Especially, one of them is at abroad.



- Farmers see many tecnologic equipments about fields, orchards and animals.



International Agricultural Fairs

- This year, we organized a fair in Bulgaria.



Detection of Natural Disasters and Loss

- We stand by our farmers in natural disasters.



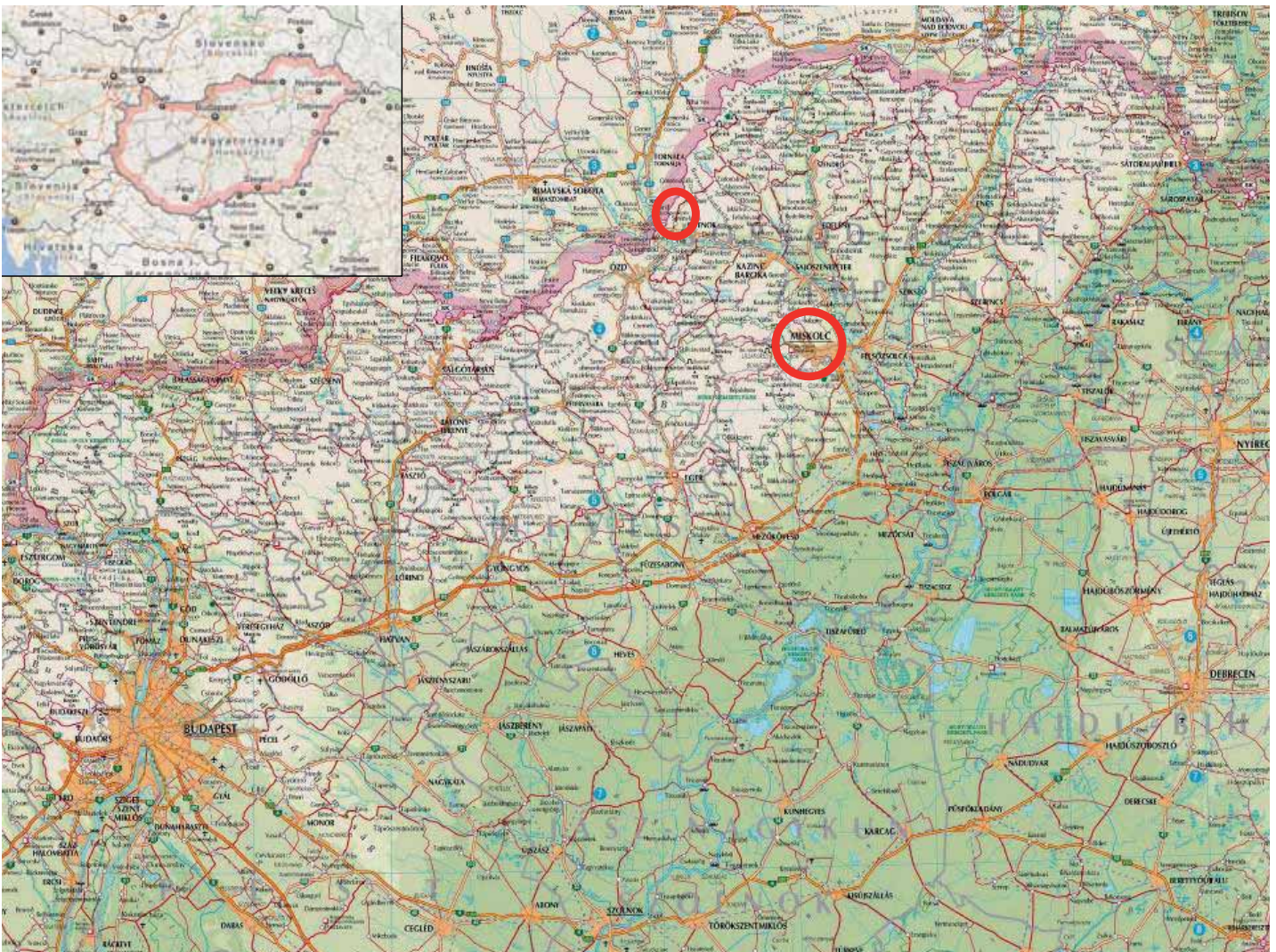


Ecological Institute for Sustainable Development - EISD



Hudák Katalin

hudak@ecolinst.hu



Ecological Institute for Sustainable Development - EISD



- The mission of the Ecological Institute for Sustainable Development (est.: 1992) consists of the promotion of sustainable development, improvement of the ecological culture, education to global thinking, and – throughout all these – elaboration the fundamentals of the realisation of sustainable development in practice, promotion and awareness raising.
- Further information can you find on the webpage: www.ecolinst.hu

Ecological Institute for Sustainable Development - EISD

Our main activities:

- -to form the sustainable-policy
- -elaboration and implementation of sustainable rural development models
- -spreading information and knowledge
- -nature researches
- -land use history researches
- -operating the Eco-counselling office
- -development of environmental databases

Our main Programmes:

- Information Center in GömörSZölös
- Short Films for Sustainability
- Activities for Orchards
- Conservation of Natural Heritage
- Education

Financial Background:

- Project subsidies

Ecological Institute for Sustainable Development - EISD



- -we are working on various levels (local, county, regional, etc.)
- -the programmes and projects are implemented by full-time staff members (10), external experts and volunteers



Habitat Management



Bush-cutting
Cutting the dry trees
Renewing the old trees
Planting of young trees
Mowing
Protection against fire



Fruit-Drier



FruitFestival in GÖMÖR



Fruit Presentations



Trainings



- Fruit-tree keeping
- Propagation
- Processing

Posters for Traditional Orchards

Hagyományos gyümölcsösök

Jellegzetességek

Azokat a gyümölcstermő helyeket, ahol különböző korú és változatos fa- és fajtaszervezetű, kevésbé szabályos rendbe telepített, nem intenzíven művelt gyümölcsfák vannak, hagyományos gyümölcsösöknek tekintjük.

Ezek lehetnek házikertek, szőlőhegyi gyümölcsösök, temetőkerék, templomkertek, legelők, rétek, útemi gyümölcsfasorok, de szőlőföldi mezsgyék is.

Hosszú távú fennmaradásukat azonban az égetések, illegális vágások, a területek felhagyása és művelési águk megváltoztatása veszélyeztetik.



Ha átlátunk a magyar településeken, még ma is sokfelé láthatunk foghíjas gyümölcsfasorokat, öreg fákat a dűlődező házu portákon, vagy éppen szőlőhegyeket, ahol egy-egy gyümölcsfa magának ki a terjeszkedő bozótából. Ezek a fák és gyümölcsösök is hozzátartoznak az adott táj képéhez, kultúrájához, biológiai gazdagságához.

Hagyományos gyümölcsösök

Faj és fajtaválaszték

A nagyüzemi termeléssel ellentétben a hagyományos gyümölcsösök hihetetlen gazdag fajtaválasztékra támaszkodtak.

Az Újfehértói Kutatóintézetben található almai termésűek gyűjteményében magyarországi gyűjtésből közel 700 alma, 500 körte-, 60 birs- és 30 naspolyafajtát őriznek!



A régen ültetett fajták között vannak friss fogyasztásra való, vagy hosszúan eltárolható, esetleg csak lénak, vagy borkak, vagy ecetek jó változatok, mások aszaltványnak, vagy lekvárnak, befőtnék kiválóak.

A régi fajtákat faluhelyen a 19. század végéig megtehető bőséggben és rendszerességgel termesztették (pl. Kármán körte, Sövényi alma, Arpas körte, Batul alma, Pönyik alma, stb.).

A két világháború közötti időszakban azonban a gyümölcsök piaca erőteljesen csökkent, az új, nemesített, fűszőlőkből beszerezhető fajták térhódításával pedig a régi tájfajták tovább vesztették jelentőségüket.

„Leaflets” about Traditional Varieties

Harka körte

Fajta leírás: Harka körte, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

Nagykor körte

Fajta leírás: Nagykor körte, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

Bélgasszony körte

Fajta leírás: Bélgasszony körte, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

Nyári körtefajták
Gömör-Tornai tersegeben

Fajta leírás: Nyári körtefajták, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

Fűszerező

Fajta leírás: Fűszerező, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

K.ár

Fajta leírás: K.ár, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

Eva

Fajta leírás: Eva, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

Nyári piros Kálit

Fajta leírás: Nyári piros Kálit, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

Mogyoróalma

Fajta leírás: Mogyoróalma, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.

Asztraháni piros

Fajta leírás: Asztraháni piros, a magyarországi gyümölcsösök egyik legismertebb fajtája. A gyümölcsök általában sárga-zöld színűek, és a fa jellemzően magasra nő.





OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Profile and Portfolio

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Warszawa, 12.02.2013



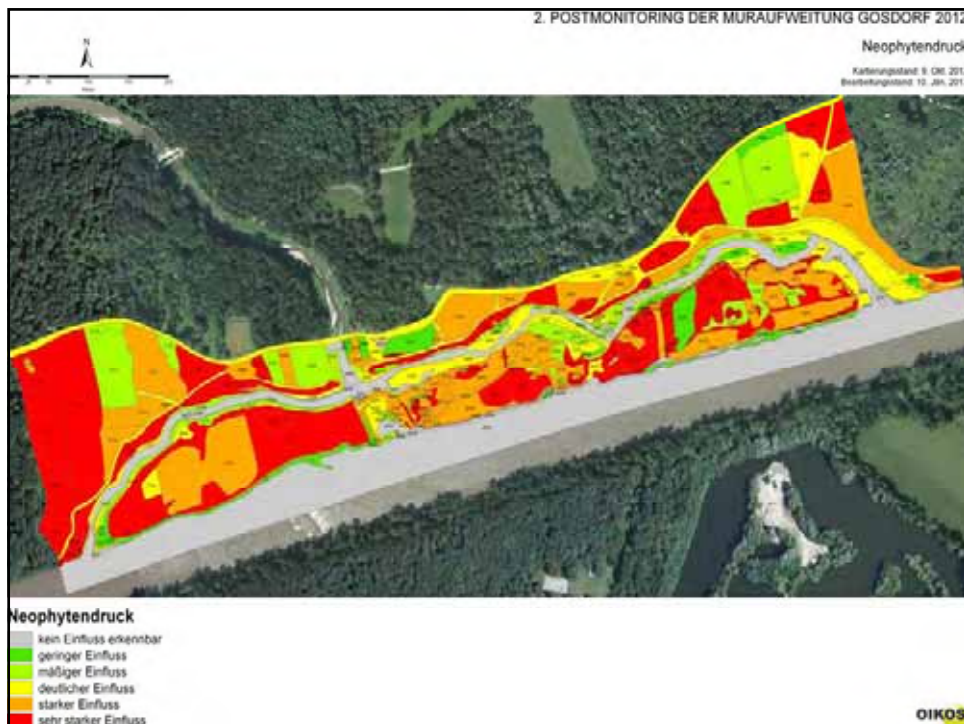
OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Our innovative team of scientists and consultants offers...

- basic research
- studies, concepts and planning
- surveys and expert evidence
- project management

in the field of applied ecological questions





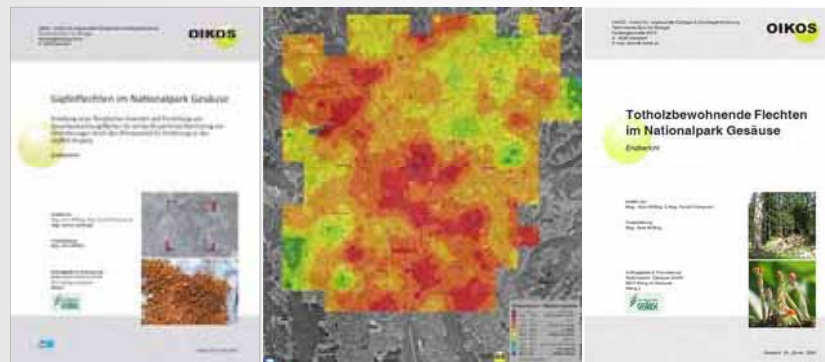
Lebensraum Bergbau
Talschicht Flatsenwald
Das Flatsenwald-Gebiet im Sölkertal

Lebensraum Bergbau
Talschicht Flatsenwald
Das Flatsenwald-Gebiet im Sölkertal

OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Environmental impact studies & surveys (eg Natura 2000)

Renaturation on mines
(Luzenac, Rio Tinto, Sölker Marmor Bergbau Ges.m.b.H., etc.)



OIKOS – Institute for Applied Ecology and Basic Research
 OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Research: climatic change

(GLORIA, lichens on high mountain peaks, etc.); Climate needs farmers: Leonardo da Vinci Lifelong Learning Project, partners from Germany, France, Poland, Hungary and Turkey

Bioindication: monitoring of air quality


(„particulate matter“)

Bio-monitoring:


forest ecosystemes, etc.







Handbuch
Kartierung
und Beratung der
ÖPNL-Anlagen für den
Landschaftsschutz



Advisors & farmers – partners in conservation of agricultural landscape
Farm management plans in Austria

Poradce a zemědělci – partneři v ochraně zemědělské krajiny
Farm management plans in Austria
in cooperation with Institut pro aplikovanou ekologii a základní výzkum (OIKOS) v Olomouci
Mag. Anna Křivánek
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung
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anna.krivak@oikos.at


OIKOS

OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung


Agriculture & Ecology

Farm management plans (more than 4.000 contracts...)

International consulting projects:
zB Consulting Latvia, Germany, France, Czech Republic (Ministry of Agriculture), Hungary ...







Wir müssen einmal ernsthaft miteinander reden...


AGRI-COLA
– Innovative Bäuerinnen & Bauern in den Steirischen Naturparken

OIKOS – Institut für angewandte Ökologie & Grundlagenforschung
LE 07-13
Lk Wien: 21. Oktober 2013

OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Agriculture & Ecology

Project AGRI-COLA
Innovative farmers in Styria's nature parks



GENUSS REGION STEIERMÄRK

Die Hirschbirne

Wissenschaftliche Grundlage zur Beurteilung einer geschützten Ursprungsbezeichnung (z. B. für die „Pöllauer Hirschbirne“) sowie Basis für einen nationalen Erzeuger-Marketing-Bereich für Obstwirtschaft

DNK-RECHT

OIKOS

POMOLGY

OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Consulting & Research POMOLGY

OIKOS – National Competence Center for Traditional Orchards

- Pomological research
- protected geographical status (PGS)
- protected designation of origin (PDO)
- Pomological database (documentation and conservation of old fruit varieties)





OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Consulting & Research POMOLOGY INTERNATIONAL

ESTO – European Specialist in Traditional Orchards
 (Austria, Germany, France, Poland, Hungary, Denmark)

“Variety means life”
 (Austria, Germany, Poland, Hungary, Denmark)







OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Tourism & Ecology (ecotourism)

- Education and public work in the field of ecology, (nature)tourism and agriculture
- Information, seminars, lectures, conferences, etc.
- Leading in Austria in this field.



**„Austria's most creative
nature trail
awarded by the
Ministry of Agriculture ..."**

OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Concepts in **NATURE TOURISM & NATURE EDUCATION**







OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung



Tourism & Ecology (ecotourism)

Concepts & planning in ecotourism (for national parks, nature parks, touristic organisations, hotels (80 in 2012/13), spas, etc.)

Consulting of leading touristic enterprises (e.g. Mostviertel Tourismus, Nationalpark Gesäuse GesmbH, Seminarhotel**** Retter, u.a.m.)



OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Tourism & Ecology (ecotourism)

Nature communication for nature parks partners
(nature parks, touristic organisations, hotels, 80 in 2012/13.)



OIKOS – Institute for Applied Ecology and Basic Research
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung

Tourism & Ecology (ecotourism)

- **Kulturlandschaftspreis 2013** and
- **LEADER Innovationspreis 2013**

Verein zur Erhaltung und Rekultivierung von Nutzpflanzen in Brandenburg

VERN e. V.

conserving old and rare
crops....



Dr. Cornelia Lehmann / R. Vögel

structure of presentation

- VERN e. V.
 - founding
 - aims
 - activities
- *On Farm* conservation
 - cereals
 - legumes, eg. salad varieties



- 1996 founding hosted by
 - LAGS (administration for nature reserves...), Eberswalde
 - german national gene bank (IPK), Gatersleben
 - national information focal point for biological diversity (BLE-IBV), Bonn
- objectives
 - conserving old and rare crops *in situ* / *on farm*
 - keeping old crops available...
 - distributing and keeping knowledge alive
- ~500 members
(Stand 2012)
 - private,
 - farmers, gardeners,
 - institutions, small commerce



activities of VERN e. V.

- public and educational work about history and culture of local crops, use, tradition and modern change of domesticated plants
- research, documentation and project work about cultivation, use and marketing of elder crop varieties
- political engagement, dealing with neighboured initiatives at national and european level, seed legals, access and benefit-sharing, farmers rights,...



member of SAVE
(Safeguard of Agricultural Variety in Europa)

special activities of VERN e. V.

- collection of conservation varieties of est.
 - 1200 legumes- and crops
 - 650 cereals
 - 200 tomato and chilli

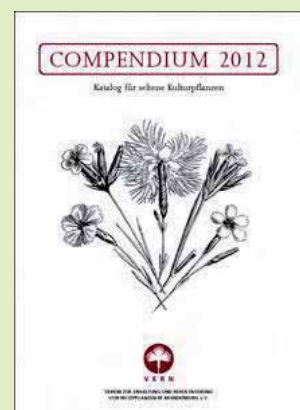


seed storage and replication /
presentation garden site in Greiffenberg

network of public
garden sites
Berlin/Brandenburg

dedicated activities of VERN e. V.

- keep old varieties available....
 - seed production and quality service
 - publishing an annual catalogue of offered seeds
 - delivery of seeds and plants, mainly non-commercial basis



On farm Conservation of Plant Genetic Resources

- conserving genetic resources by use...(in situ, on farm)
 - supplement to *Ex-situ* conservation of gene banks
 - conservation alive, adaptation of genetic resources to (changing) environment under modern agricultural practise
- political background



- Conference of Rio (CBD) 1992: demanding *in situ* conservation
- International treaty for PGR (ITPGR)
- Global Plan of action (Leipzig, 1996)
- BMELV 2002: National program for conserving and sustainable use of plant genetic resources Ressourcen



On farm Conservation of Plant Genetic Resources

- encouraging agrobiodiversity
 - improving biodiversity in agricultural sites
 - improving species/cultivar diversity and commercial presented/offered biodiversity
 - re-chaining of regional cycles
- Re-activation of phenotype diversity
- Conservation of cultural heritage
 - cultivars are output of human creativity!
 - knowledge about seed multiplying and seed conserving



On farm Conservation of Plant Genetic Resources

- searching and selecting of suitable varieties..
- constructing links from seed to production, processing, dealing to consumer
 - example 1: Cereals
 - Establishing *On farm*-conservation of old/regional cereal varieties with farmers in Brandenburg
 - example 2: Legumes
 - pilot project for re-establishing of elder salad varieties



Establishing *On farm*-conservation of old/regional cereal varieties with farmers in Brandenburg

- multiplying and evaluation of cereal landraces and elder cultivars of north-east german origin, dedicated for extensive production
- description, plot evaluation, quality test and seed multiplying
- after successful testing distribution to association members
- looking for use and processing possibilities (bakery, local markets, restaurants)
- conservation breeding, regularly field evaluation



Establishing *On farm*-conservation of old/regional cereal varieties with farmers in Brandenburg

• Collaboration

- Since 1994 VERN and nature conservation administrations (biosphere reserves, nature parks,...)
- farmers network for cereal conservation (present ~70 farmers)
- network of bakeries
- field trials and cultivar description by (on chance...)
 - official regional trials on cultivar use (Brandenburg, Thüringen)
 - associations and farms
 - universities and agricultural institutes: bachelor and master degrees at HU Berlin, HNE Eberswalde, FH Neubrandenburg
 - national seed survey (Bundessortenamt): testing of long time on farm conserved cultivars for sustainability and stability (DUS-criterias)



history sources, suitability, adaptation

| | | |
|---------------------------------|---|--|
| Squareheadwheat | thick, compact ears, low straw, stable, erect, since 1900 | <i>Kuwerts ostpreussischer Dickkopf</i> <i>Alter pommerscher Dickkopf</i> <i>Lembkes Obotriten</i> |
| Easteuropean winterwheat | Long ears, ährig, awned, no awns, hairy glumes. 19.Jh. from east europe brought by breeders and dealers | Eppweizen (different breeding varieties and phenotypes) Banater Winterweizen (regional origin, but widespread and known in middle europe) |
| Regional landraces | Long straw, good processing quality, shape of ears and colour very varying | Märkischer Landweizen Sächsischer Landweizen Lüneburger Landweizen Hessischer Landweizen |
| Regional cultivars | Cultivars derived from landraces (Dummel-weizen), operating for nearly 100 years | <i>Criewener Nr. 27</i> , <i>Criewener Nr. 104</i> <i>Criewener Nr. 192</i> (alle v. Arnim'sche Saatzucht, Criewen/O.) |



Examples for varieties, suitable for *On-farm* conservation, special adaptation for poor, sandy soils

| | | |
|---------------------|--|---|
| Roggen | Norddeutscher Champagnerroggen | Long straw, cold resistant |
| Sommerweizen | Roter Schlanstedter Galizischer Grannen | Regional cultivar, origin from landrace |
| Winterweizen | Pommerscher Dickkopf Crieuener | Short stemmed, compact ears Regional cultivars |
| Hafer | Heidegold Vienauer | Panicle oat, white glumes |
| Sommergerste | Imperialgerste Chevaliergerste | Two-rowed barley, for brewery (elder, standing varieties) |

Vögel, 2010

est. 150 tested and available varieties, conserved and managed by VERN member network

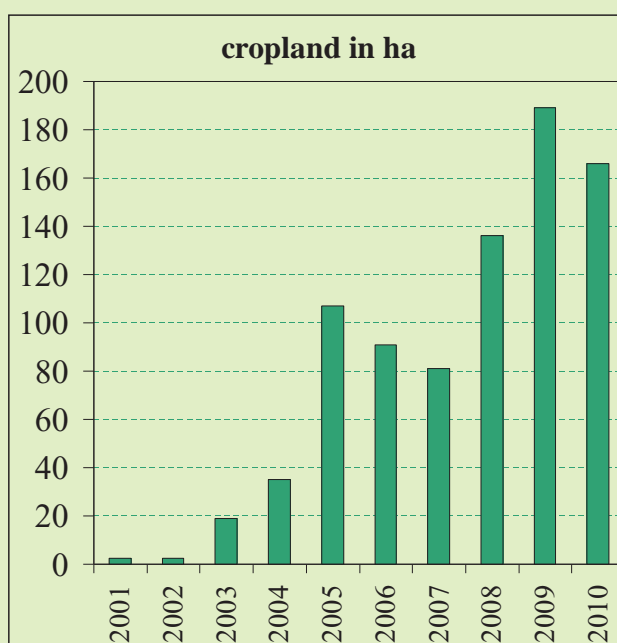


subsidies by EC-regulation ELER (KULAP program 2000)

registered cultivars for subsidy

| Crop species | Cv's |
|-------------------------------------|------|
| Weizen (<i>Triticum aestivum</i>) | 26 |
| Dinkel (<i>Triticum spelta</i>) | 2 |
| Emmer (<i>Triticum dicoccum</i>) | 4 |
| Rauhweizen (<i>T. turgidum</i>) | 1 |
| Gerste (<i>Hordeum vulgare</i>) | 8 |
| Hafer (<i>Avena sativa</i>) | 19 |
| Roggen (<i>Secale cereale</i>) | 7 |
| Hirse (<i>Panicum</i>) | 1 |
| Mais (<i>Zea mays</i>) | 1 |

cropland subsidy in Brandenburg

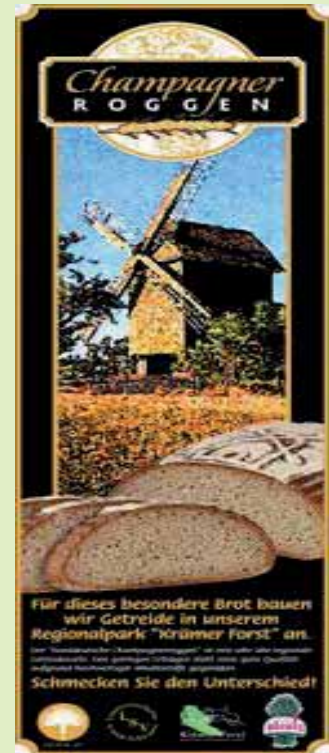


Max. 400 €/ha; max. 20 ha /farm



Establishing *On farm*-conservation of old/regional cereal varieties with farmers in Brandenburg

- Cultivation
 - 200 ha announced for subsidy, ca. 200 ha no add. subsidy
 - elder cultivars are often suitable for poor soil condition
 - e. g. Champagne Rye yield is similar to modern varieties on soil range of 15-30 (scaling to 100 pt.s)
- harvest use
 - fodder
 - bakery, handicraft processing
 - selling
 - need for improvement of processing and marketing possibilities



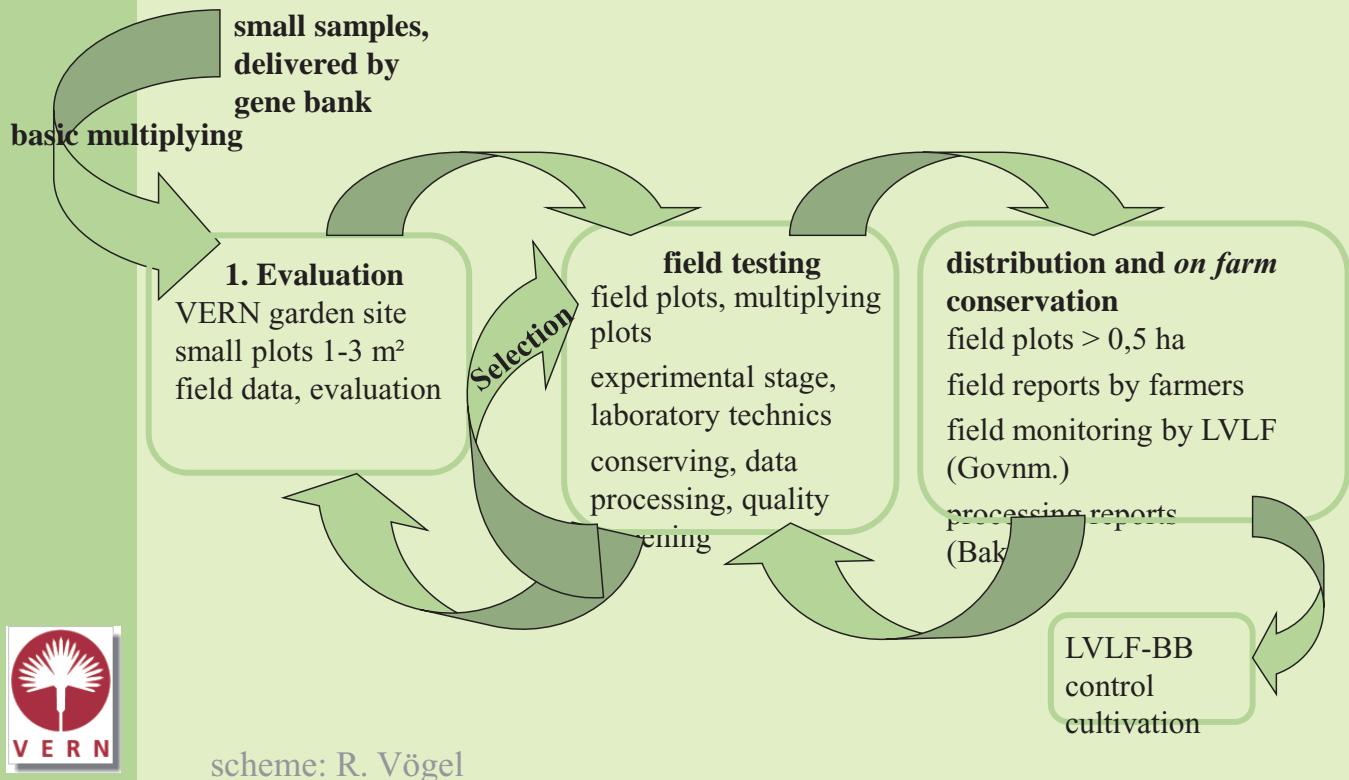
Establishing *On farm*-conservation of old/regional cereal varieties with farmers in Brandenburg

- Seed production of the *on farm* -network Beratende advised by VERN
- needed: farmers with good skills and experience
- Monitoring and registration for KULAP-program
 - controlled and supervised by LVL-FBB, Referat Saatenanerkennung
 - data sheets of field evaluation



On farm conservation of selected cereal varieties

Selection done by historical review of regional gene pools



Modell- und Demonstrationsvorhaben zur Wiedereinführung alter Salatsorten (HU Berlin und VERN)

- Erprobung der *On-farm* Nutzung alter Sorten
 - Anbaueignung prüfen
 - Vermarktungspotentiale testen
 - Fördernde und hemmende Faktoren der *On-farm* Erhaltung identifizieren
- *Lactuca sativa* – die Modellpflanze
 - Kultur ist kurz und relativ einfach
 - Formenvielfalt



Kopfsalat



Blattsalat



Romanasalat



Stängelsalat

Prüfung der Anbaueignung an der HU Berlin

| Anzahl Sorten | Sortentyp |
|----------------------|----------------|
| 33 + 1 Referenzsorte | Kopfsalat |
| 6 | Romana - Salat |
| 8 | Blattsalat |
| 2 | Grasse - Typ |
| 9 | Stängelsalat |
| 58 + 1 | Summe |



Evaluierungsanbau von Genbank-Herkünften

Erstellen von aktuellen Sortenbeschreibungen

| Jahr | Anbauperiode | | | |
|------|--------------|----------|--------|--------|
| 2007 | Frühanbau | Frühjahr | Sommer | Herbst |
| 2008 | Frühanbau | Frühjahr | Sommer | - |



Auswahl attraktiver Sorten für die Praxistests im Erwerbsgartenbau



'Romaine Red Cos'
rot, delikates Aroma



'Bunte Forellen'
rot gesprenkelt



'Struwelpeter'
bezeichnender Name



'Wiener Maidivi'
schöne Form, Name



'Rehzeunge, Grasse-
Typ, ungewöhnlich



'Chinesische Keule'
Stängelsalat



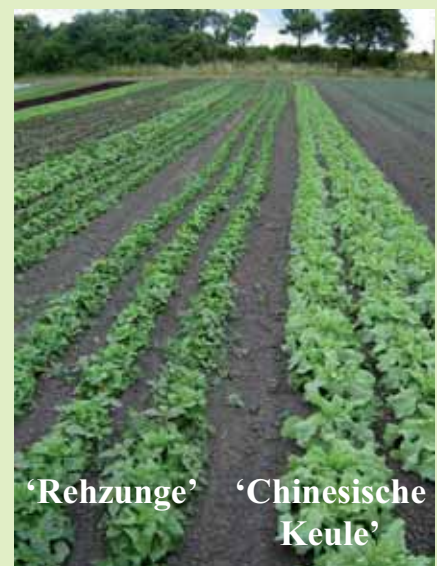
Praxistest mit direkt vermarktenden Betrieben

- 9 Gartenbaubetriebe (1 - 21 ha)
 - 6 ökologisch wirtschaftend
- 23 Sorten
 - je 5 Sorten pro Anbauzeitpunkt
 - 4 Anbauzeitpunkte, je 2 Sätze
- Prüfung von
 - Anbaueignung
 - Ertrag
 - Verkaufserfolg
- Sortenbewertung der Betriebe
 - Eignung für den jeweiligen Standort
 - Subjektive Bewertung der Sorten



Praxistest mit Naturkosthandelskette

- 11 Filialen in Berlin
 - **Abnahmegarantie für die Ernte**
 - Verkaufsaktion Juni/Juli
- 1 Gartenbaubetrieb (25 ha)
 - ökologisch wirtschaftend
- 3 Sorten, 1 Anbauzeitpunkt
- Prüfung von
 - Anbaueignung
 - Ertrag
 - Verkaufserfolg



Ergebnisse – Direkt vermarktende Betriebe

- Anbaueignung
 - 11 Sorten generell gut geeignet
 - 8 Sorten ungeeignet
 - 5 Sorten unterschiedlich bewertet
- Verkaufserfolg
 - gut in der Großstadt Berlin
 - schlecht in der ländlichen Region in Brandenburg
- Stammkundschaft
 - im Direktverkauf für Verkaufserfolg sehr wichtig
 - Käuferpotentual bei “bio”-orientierten Kunden



Ergebnisse - Naturkosthandelskette

- Problem Saatgut
 - Verfügbare Mengen zu knapp
 - Pillierung nicht möglich (Mindestmenge 150 g /Sorte)
 - maschinelle Anzucht von Jungpflanzen nicht möglich
- Anbau
 - Einheitlichkeit der Sorten
 - mehr als 10% Abweicher im „Großanbau“
 - Erntezeitpunkt
 - z. T. nicht optimal getroffen
 - Angaben zur optimalen Kulturführung fehlen noch
- Qualität der Ernteprodukte
 - Sorten zu empfindlich für Selbstbedienung

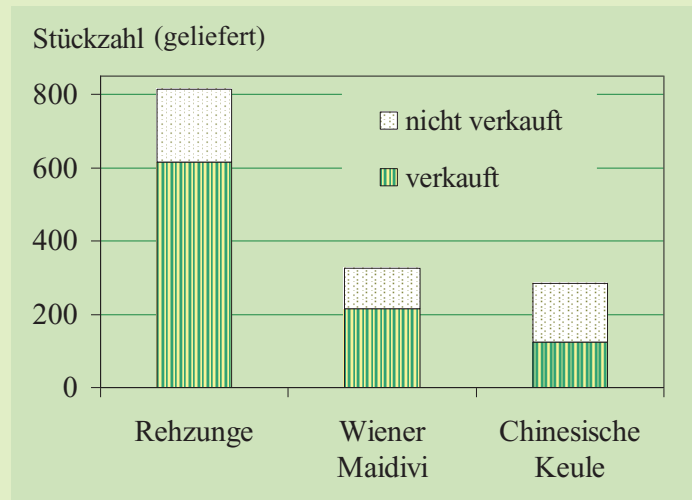


Abweicher bei
‘Wiener Maidivi‘



Ergebnisse - Naturkosthandelskette

• Vermarktung als „Retrosalat“



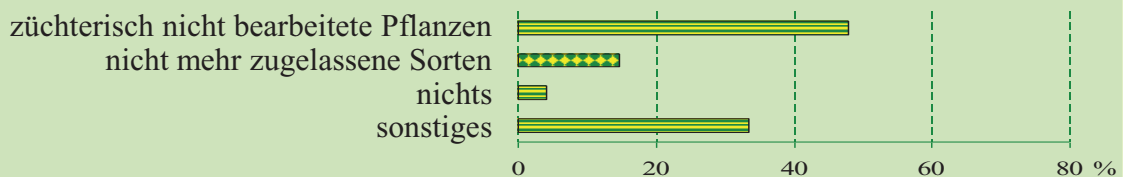
Der Verkaufserfolg war sortenabhängig

Der Verkaufserfolg variierte stark zwischen den 11 Filialen.

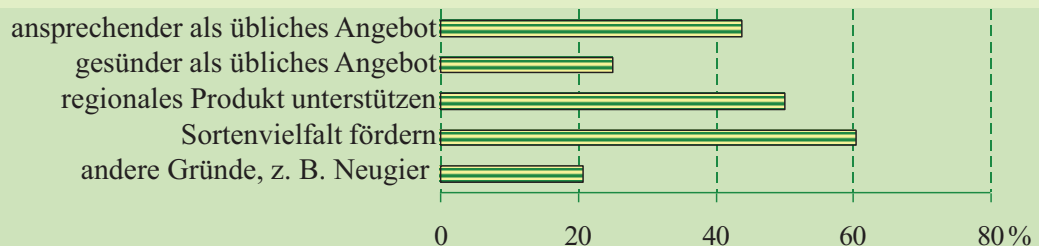


Ergebnisse: Kundenmotivation

Was verbinden Sie mit einer historischen Sorte ?



Warum kaufen Sie eine historische Sorte ? (Mehrere Antworten möglich)



(Kundenbefragung bei Direktvermarktern in Berlin, n=53)

- 100% Bewahrung alter Sorten ist wichtig oder sehr wichtig



Fördernde Faktoren der *On-farm*-Erhaltung

- Engagement der Erwerbsgärtner/innen
 - Persönliche Überzeugung, Mut zum Experimentieren
 - Akzeptieren eines Rentabilitätsrisikos
- Engagement bei Einzelhändlern
 - Bereitschaft zu Abnahmegarantie bei Produkt mit unsicherer Rentabilität
 - Werbung für Kauf alter Sorten
- Regionalität
 - Eingliederung in Konzepte regionaler Vermarktung
- Kundenpotential
 - „bio“- orientierte Kunden in der Stadt
 - Stammkunden von Direktvermarktern



Fördernde Faktoren der *On-farm*-Erhaltung

- Attraktive Eigenschaften alter Sorten
 - Wiedererkennungswert bestimmter Sorten, z. B. Forellensalate, ‘Romaine Red Cos’, ‘Rehzunge’
- Exklusivität
 - Alte Sorten nur bei wenigen Erwerbsgärtnereien im Anbau
 - Direktvermarkter heben sich durch exklusives Angebot hervor
 - Handelskette: Positives Image durch Förderung alter Sorten



Hemmfaktoren der *On-farm*-Erhaltung

- Rentabilitätsrisiko
 - spezieller Aufwand bei Anbau und Vermarktung
- Aktuelle Sortenbeschreibungen fehlen häufig
- Angaben zur optimalen Kulturführung fehlen
 - Anbauzeitpunkt z. T. nicht eindeutig definiert
 - Erntezeitpunkt z. T. nicht optimal getroffen
- Saatgut
 - Schwierigkeit, ausreichend Saatgut bestimmter Sorten bereit zu stellen
 - Qualität (sortenreines, gesundes Saatgut) muss gesichert werden
 - Saatgutrecht



Fazit MuD Wiedereinführung alter Salatsorten

- Sorten generell interessant für Hobbygärten zur Selbstversorgung
- Einige Sorten geeignet als Nischenprodukte für direktvermarktende Betriebe
- Aktuelle Beschreibungen von 48 alten Sorten verfügbar (Sortenbroschüre)
- Aufbau eines Erhalternetzwerks zur *On-farm* Nutzung alter Sorten



Zusammenfassung

- Wiedereinführung alter Sorten zur *On farm* Erhaltung ist grundsätzlich möglich
- Besonderer Aufwand ist erforderlich
- Fachkompetenz, Beratung, Wissen
- Verwertungs-, Verarbeitungs- und Vermarktungsmöglichkeiten müssen verbessert werden
Technische Schwierigkeiten bei Saatgutmengen und –qualität
- rechtliche Situation unbefriedigend
 - SaatG
 - Erhaltungssortenverordnung, Erhaltungssortenrichtlinie



Literatur

- Lissek-Wolf, G., Lehmann, C., Huyskens-Keil, S. 2000: Die Vielfalt alter Salatsorten- eine Dokumentation.
http://www.bmelv.de/SharedDocs/Downloads/Landwirtschaft/Klima-und-Umwelt/BiologischeVielfalt/SalatsortenBroschuere.pdf?__blob=publicationFile
- Vögel, R., Schulz, U. 2010: On farm Erhaltung durch Landwirte. Möglichkeiten, Grenzen und Entwicklungschancen aus der Praxiserfahrung zweier Bundesländer. In: Förster, K., Lohwasser, U., Börner, T. (Hrsg.) Saatgut als Kulturerbe – Produktion, Nutzung und Erhaltung. Berichte der Gesellschaft für Pflanzenbauwissenschaften Band 5, S. 89-92.
<http://vern.de/>





Women in Europe for a Common Future

12-13 January 2013



WECF is a network of 150 environmental women's organisations implementing sustainable development projects at local level and advocating globally to carry out women's voices for an ecological transition



WECF' origins

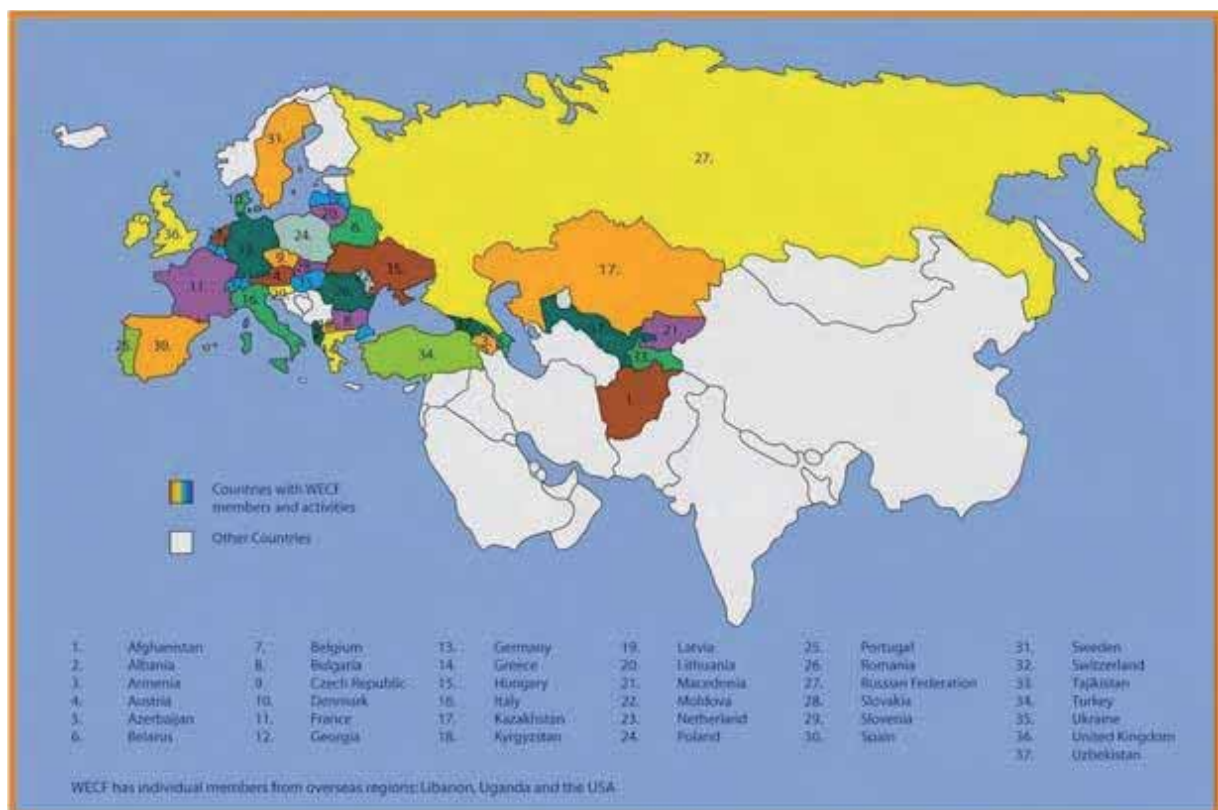
1992 Earth Summit in Rio
Gro Harlem Bruntland's report

"Our Common Future"

⇒ **Women in Europe for a Common Future**, created to federate womens' organisations working for sustainable development

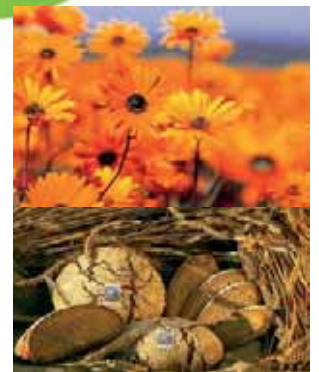
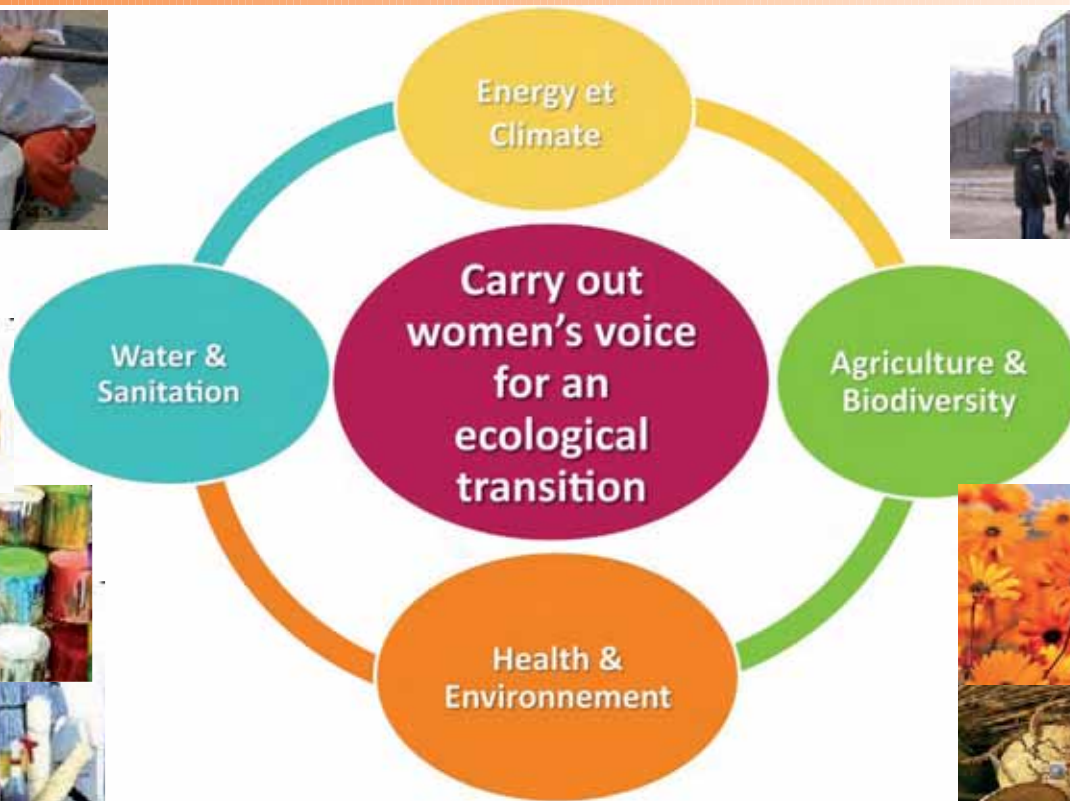


WECF' s projects and partners: localisation





4 pillars for one mission



WECF's International Recognition

Official partner of UNEP

ECOSOC Status by UNO

Member of the Steering Committee of the Women's Major Group for Rio+20 and post Rio processes

Member of European Environment & Health Committee





Energy projects



Solar tank training, BIOM



Energy insulation training, Habitat Kyrgyzstan



Solar fruit dryer, RCDA

Examples of renewable energy solutions taking into account women's needs and visions

Self-made low-tech solar collectors, UGAM



Hi-tech solar collectors, UGAM



Solar fruit training, Little Earth





Sustainable sanitation: urine diverting dry toilets, a sustainable solution to improve hygiene conditions for girls ... and preventing the drop out of school effect



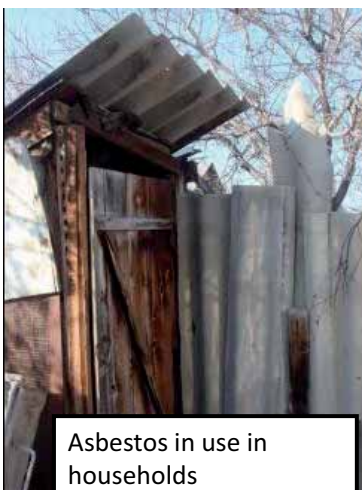
Inventory report on asbestos



High-Level Conference, Astana 2009



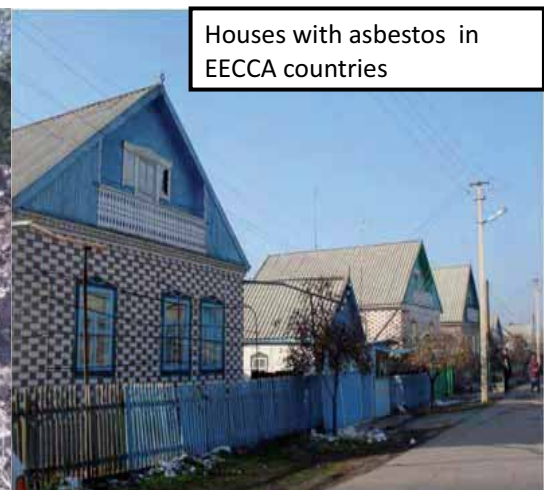
Chemicals management: women's voices carried out at the highest political level



Asbestos in use in households



Waste dump with asbestos



Houses with asbestos in EECCA countries



Health & Environment projects



WECF's publications for environmental health



2000



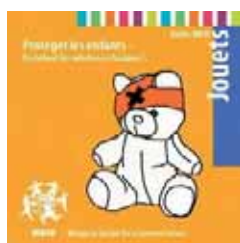
2006-2009



2007-2009



2012





Unserland Network: an inspiration for WECF

The network:

180 farmers producing, transforming & distributing local, sustainable and fair agriculture products in 740 sales points around Munich



Good governance:

- Farmers
- Local food shops
- Associations/ NGOs
- Local political decisionmakers



Développer une agriculture durable de proximité sur le bassin lémanique : projet de « couveuse d'activités agricoles du Genevois français »



Agricultural incubator : potential partners



national network of agricultural incubators

OdAmap



CSA in Rhône-Alpes and France

Rhône-Alpes

175 AMAP (7875 baskets distributed)

Annual turnover : 2,6 millions €

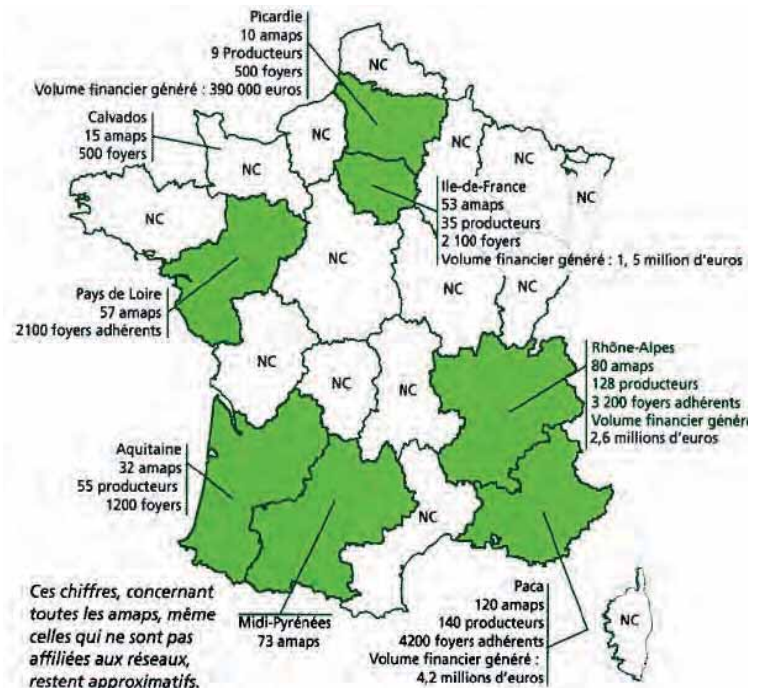
France:

1200 AMAP, 50 000 familles

Annual turnover : 36 millions

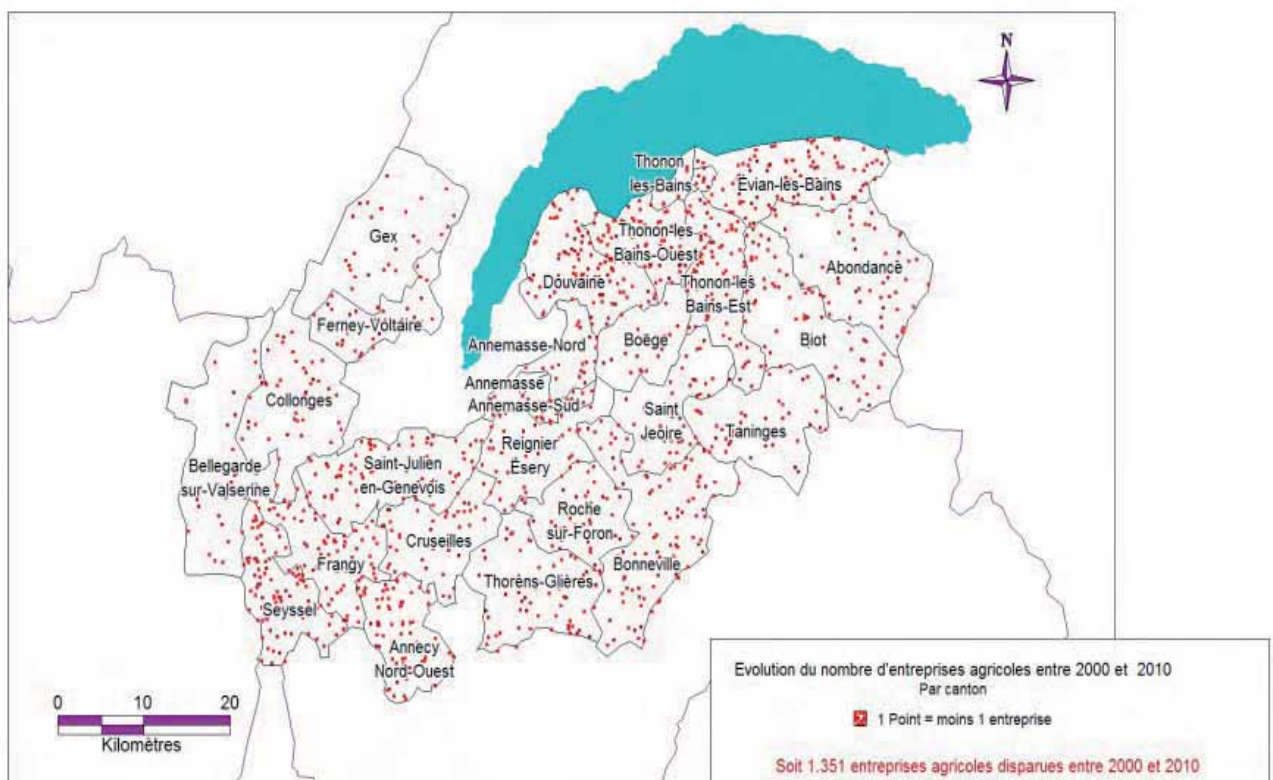
General statements:

- Safer, more sustainable revenues
- AMAPS have an « élitiste » image
- Members are not really involved
- Network not structured enough
- Access to land is difficult



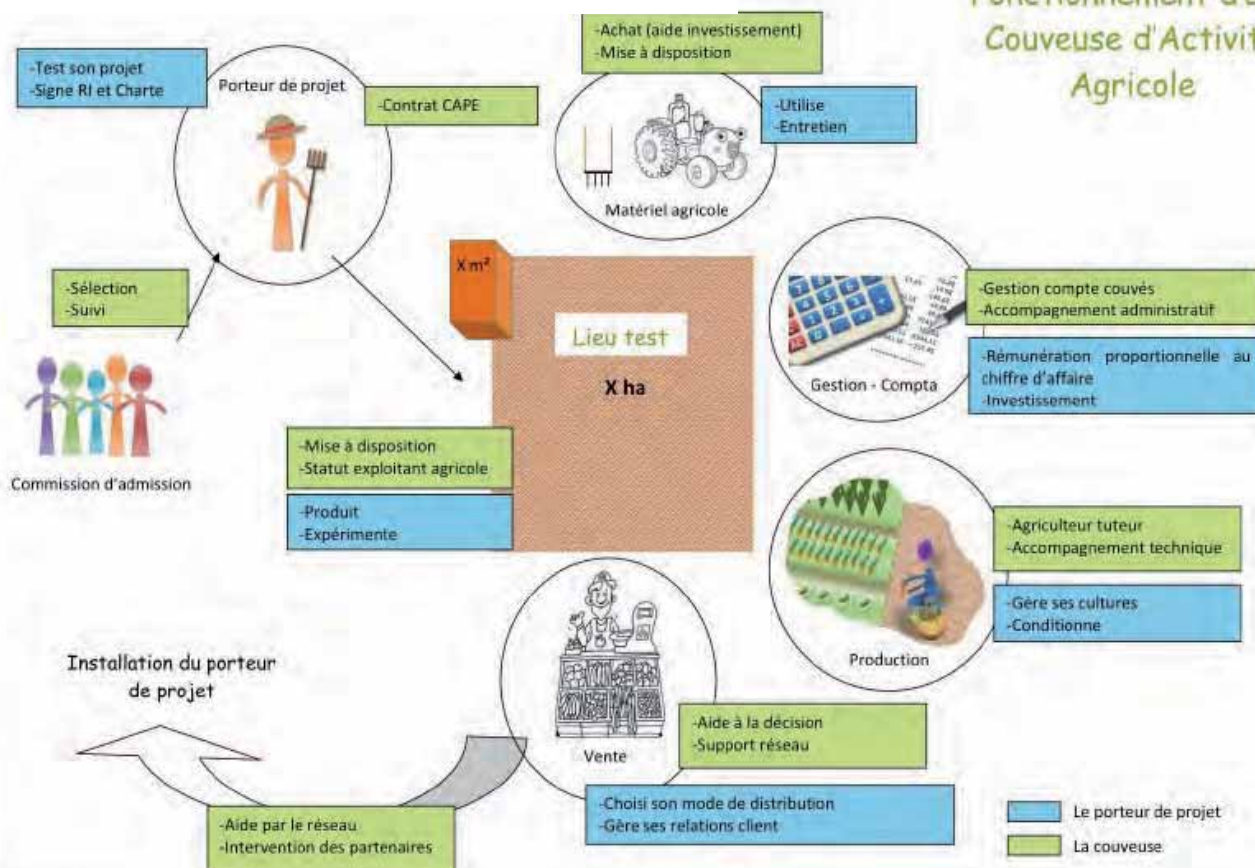
CSA= Community Supported Agriculture

Geneva area– Evolution of farm number (red=disappeared since 2000)



Incubator for new farmers

Fonctionnement d'une Cueilleuse d'Activité Agricole





Merci pour votre attention!

Climate needs farmers
Lifelong Learning Programme, Leonardo da Vinci

2nd Transnational Meeting
9 – 11 May 2013, Pöllau/Austria



FMP Farm Management Plans

– a cooperation of farmers and nature conservation for sustainable land use

Mag. Alois Wilfling
OIKOS – Institut für angewandte Ökologie & Grundlagenforschung
8200 Gleisdorf, Hartbergerstraße 40/12
oikos@utanet.at

Pöllau, 09.05.2013

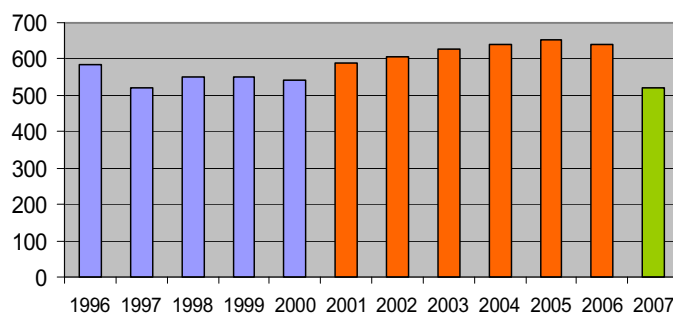


Characteristics of Austrian agriculture

- Small structured (6% > 50 ha; e.g. 33% France)
- 80% of Austrias surface in farmers ownership
- 2/3 of the farms situated in mountainous or disadvantaged regions
- farmers assure 20% of full-time jobs in rural regions



Development of ÖPUL premiums in Austria (Mill €)

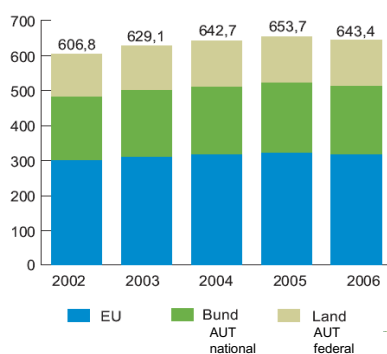


The Austrian agri-environmental programme ÖPUL

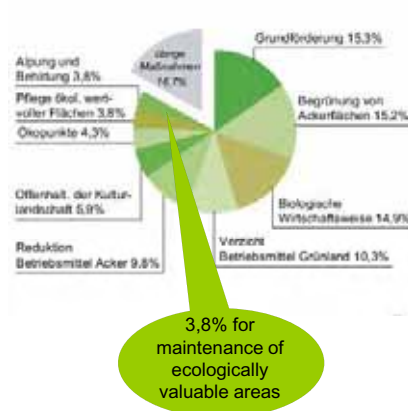
- 75% of the farms take part in the ÖPUL-programme
- 123.605 farms (88,4% of the agricultural area) receive support
- „green contract“ – programme (2007-13)
- AMA central agency - processing all ÖPUL agendas



Austrian agri-environmental programme ÖPUL
in Mio €

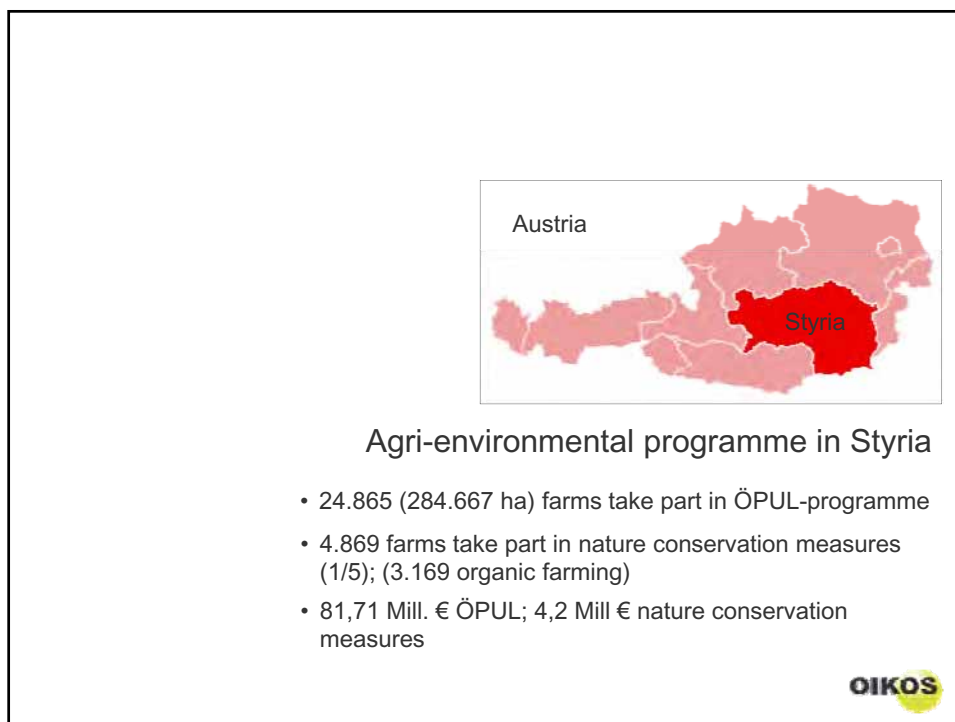
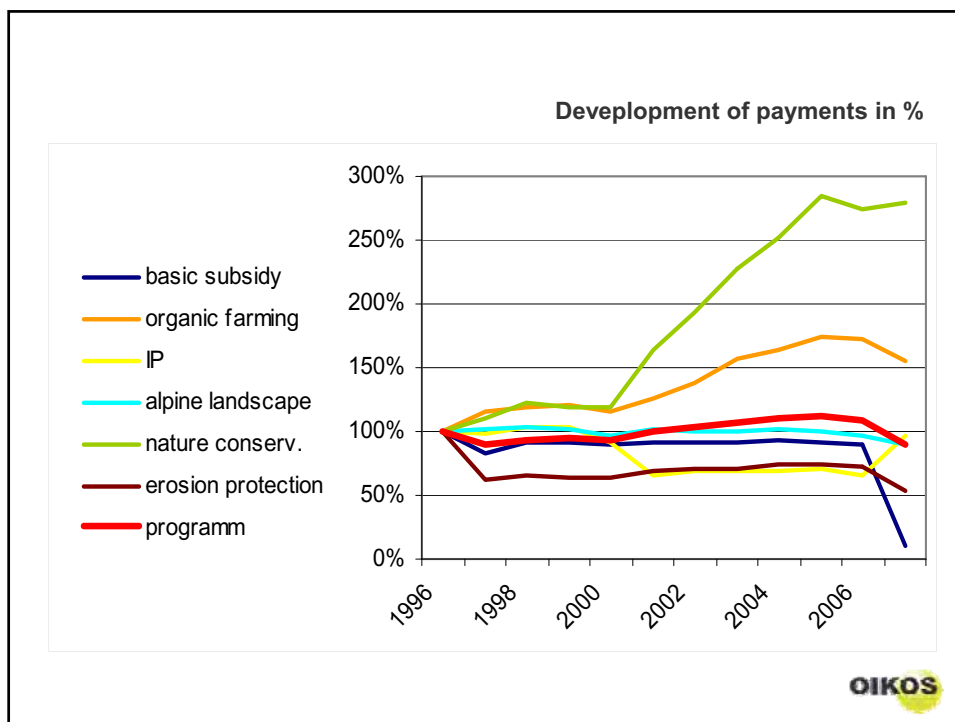


Distribution within ÖPUL-programme 2006



Source: Lebensministerium; Grüner Bericht: <http://www.gruenerbericht.at>







Changing models of nature conservation

- some decades ago – nature conservation was solely in responsibility of official authorities (decreed by law)
- often low acceptance by land owners
- 1980's: first programmes – voluntary contracts

Participation voluntary !!!



New partnership

- farmers - most important partners of nature conservation
- high acceptance (consultancy arises acceptance from 6% to 37 % in N2K-regions)
- 5 - 7 years contracts (2007/08/09-2013)
- specific characteristic: direct contact; on-farm-consultancy; preparing the contract together – comprehensive individual consultancy!



| | | | | | |
|---|--|---------------------------|------------------|---|--|
| ÖPUL 2007 – Naturschutzflächen Anmeldung zur Begutachtung/Kartierung im Jahr 2009 <small>Kartierungen werden nach Maßgabe der finanziellen Ressourcen nur in Europaschutzgebieten durchgeführt. Die Abgabe des Anmeldeformulars stellt keine Garantie – kein Rechtsanspruch – dar, dass es tatsächlich zu einer Kartierung und Förderung kommt.</small> | | | | | |
| An das Amt der Steiermärkischen Landesregierung Fachabteilung 13C, Fachstelle Naturschutz Karmeliterplatz 2 8010 Graz | <table border="1"> <tr> <td style="width: 50%;">Eingangsstempel und Datum</td> <td style="width: 50%;">Entgegengenommen</td> </tr> <tr> <td colspan="2">Erfassungsdatum und Paraph: Erfasser</td> </tr> </table> | Eingangsstempel und Datum | Entgegengenommen | Erfassungsdatum und Paraph: Erfasser | |
| Eingangsstempel und Datum | Entgegengenommen | | | | |
| Erfassungsdatum und Paraph: Erfasser | | | | | |

Going into a FMP in Austria

- Farmers are informed regularly on agri-environmental purposes and the ÖPUL-programme (by journals and their local stakeholders)
- The AMA-agency distributes detailed information
- Personal information in villages / municipalities (twice a year)

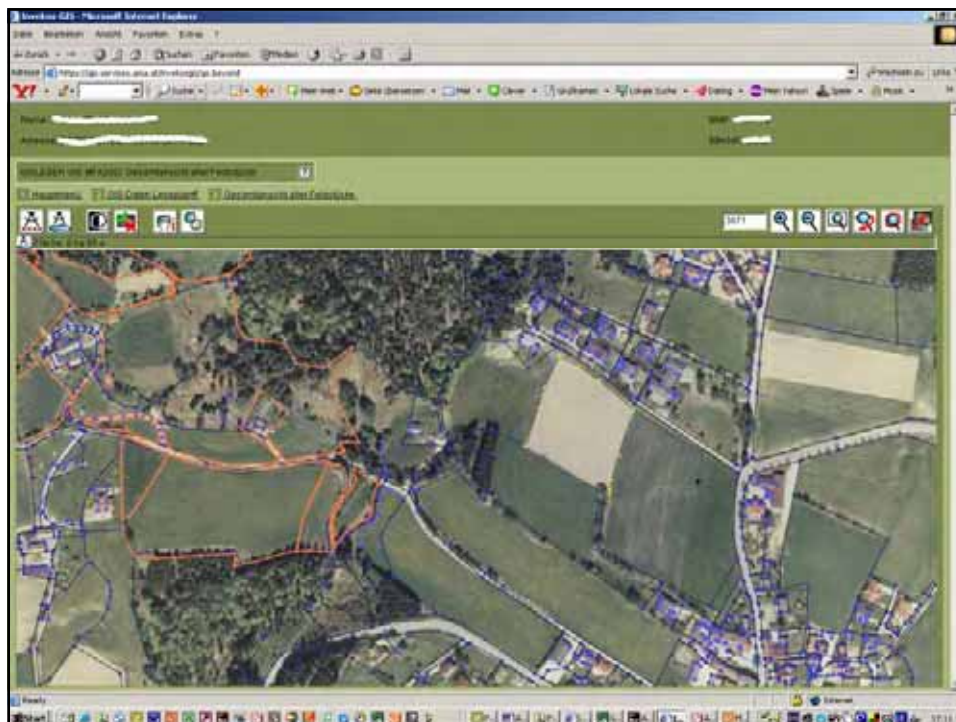


| | | | | | |
|---|--|---------------------------|------------------|---|--|
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| Eingangsstempel und Datum | Entgegengenommen | | | | |
| Erfassungsdatum und Paraph: Erfasser | | | | | |

Going into a FMP in Austria

- The farmer applies at the federal department for nature conservation for a consultation (brings in application on his/her own free will, „invitation“)
- The department charges experts (single persons, companies; all biologists, etc.) to do the consultation work on the farm





Consulting process & field work ...

- 'opening procedure' (many questions...)
- common field trip & consultation (farmer shows his farm to the consultant, consultant proposes ideas how to work more ecologically)
- define borders of the contract areas within a DIALOG



Consulting process & field work ...

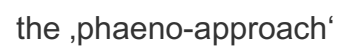
- negotiations concerning date & frequency of mowing or pasturing
- fixe fertilizing regime (amount of dung/nitrogen)
- fixe status / maintenance of particular landscape structures (trees, hedges, swamps...)
- Fixing compensation rate (max. € 800,00 / ha / year)



Consulting process & field work ... - cutting date

- Cutting date: fix term sometimes causes huge problems (doesn't refer to local climatic situation, annual weather conditions, etc.)
- Essential for many animal and plant species to survive
- „Calendar written by the nature“ - phaenology
- Instead of fixed calendar date cutting is determined by flower or fruit phases of common plant species (e.g. Sambucus nigra – black elderberry etc.)





[illegible]



Two main goals

- conservation of existing areas with high ecological value
- improving areas with (high) ecological potential

Maintaining or creating biodiversity in the cultivated landscape has priority in the agri-environmental programme of Austria.

- (actually no comprehensive programme for forest & woodland)



| | Auflagenpaket | Bewirtschaftungsauflage | Betrag / ha | |
|----|---------------|--|-------------|---------|
| en | ST005 | kein Entfernen ökologisch wertvoller Strukturen (absterbende Baumteile, Baumhöhlen, Nestsstellen, ...) | 0,00 | Löschen |
| | ST006 | Nachpflanzungen nur mit bodenständigen, alten | 0,00 | Löschen |

Processing data in the office

- Collection of data in the AMA-database NAON (nature conservation **online**)
- On-line processing of the GIS-based data (aerial photographs) is also possible.





FMP farm management plans – the comprehensive solution

- Some farmers join only with one or a few single fields
- The „nature conservation plan on the entire-farm “ (= FMP) wants to optimize all ecological structures on the farm
- The farmer has to bring in at least three fields
- Special money for maintenance of ‚landscape elements‘



FMP farm management plans – the comprehensive solution

- Farmer gets ecological consultation regarding the whole farm area
- time consuming – but creating close contact
(high participation rate justifies effort)





FMP farm management plans – the comprehensive solution

- Two days of special nature conservation training are obligatory (farmer has to pay for this a small amount)
- The FMP is free for the farmer






Eco-Region Kaindorf CLIMATE needs FARMERS

9th of May, 2013

Fritz Loidl

1

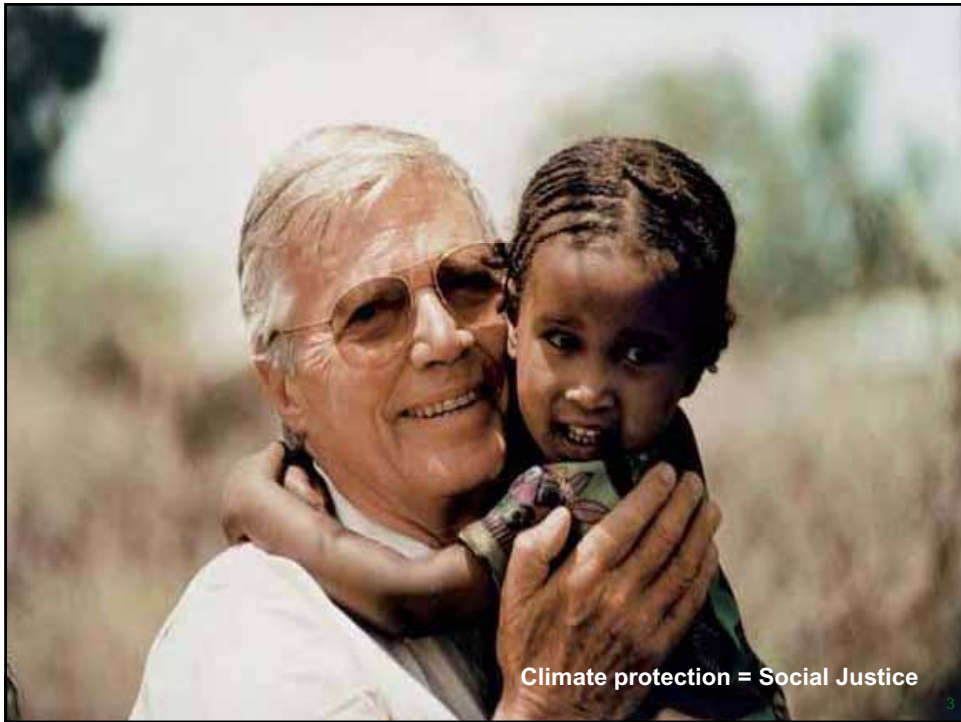


Eco-Region Kaindorf

- Founded in April 2007
- 6 municipalities
- 5.500 inhabitants, 68 km²
- Agricultural land
- Dedicated population



2



Eco-Region Kaindorf

- ▶ Protecting the climate
 - ▶ Positive image → Leading function
 - ▶ Bettering of the **quality of life**
 - ▶ Increasing of the added value
 - ▶ Strengthening of the identity
- = Independence!**



5

CO₂-Neutrality

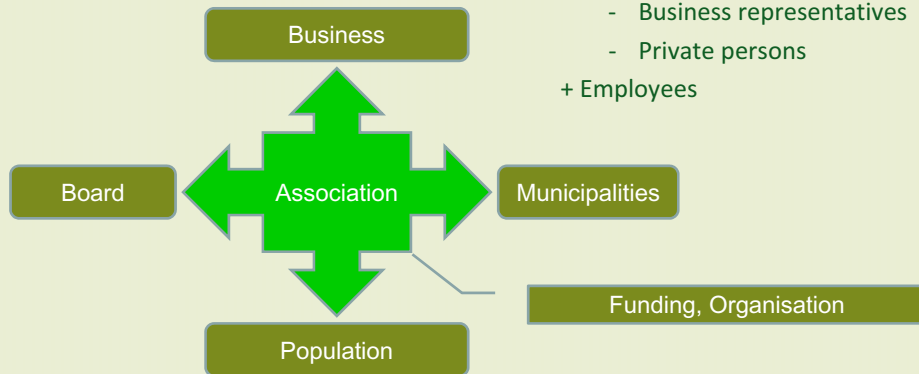
What can we do?

→ Reduce energy consumption!!

1. **Electricity:** Change on ecological power
2. **Heat:** Change on biomass, sun
3. **Consumption:** Buy regional, seasonal, biological, fair
4. **Mobility:** Change on alternative fuels, bicycle
5. **Agriculture:** Increase carbon in soil

6

Structure



Board (23 persons):

- Working-group leaders
 - Mayors
 - Business representatives
 - Private persons
- + Employees

7

Financing

- Member-fees
- Partnerships with companies
- Projects
- **Municipalities**
- **Sponsoring**



8

The way to the aim

- **Public-relations projects!!**
Economic efficiency, raising of awareness, energy efficiency
- **Education and youth**
With lasting effect environment-conscious setting
- **Cooperations**
Supports from the EC, federal state, country, etc.
- **Secure organisational structure**
Office



9

Implementation

- **Energy Saving**
 - Energy monitoring, Energy consulting, Energy-efficiency technologies an buildings
- Rising of the **refurbishments**



10

Implementation

- Public relation / create awareness
 - Events
 - Projects with companies, schools, municipalities

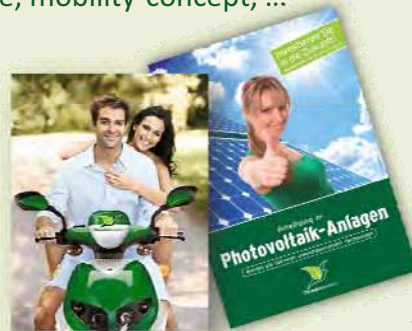


Coorporate Identiy



Implementation

- Supporting of **alternativ-fuels, public transport, bicycles, ...**
 - Improving the infrastructure, mobility-concept, ...
- Using the **sun-energy**
 - Photovoltaic, Solarheat, ...



13

Bicycle-Marathon



Implementation

- **Using biomass**
 - Fast-Wood & Agro-forestry
 - Rising the use of forests
 - Heating with biomass (instead of oil)
- **Increasing Humus**



15

Humus-Products




Website






**Introduction to the biosphere
reserve Schorfheide-Chorin,
6th September 2013**

**Biosphärenreservat
Schorfheide-Chorin** 



**BIOSPÄRENRESERVAT
SCHORFHEIDE-CHORIN**
Grünland und Naturschutz



A global network system of 621 biosphere reserves (June 2013)
stretches around the world.
It is based on the UNESCO- programme "Man and biosphere"

UNESCO-Biosphere reserves represent all types of landscape formations in the several geo-regions of the Earth. Their three main tasks are:



Protection:

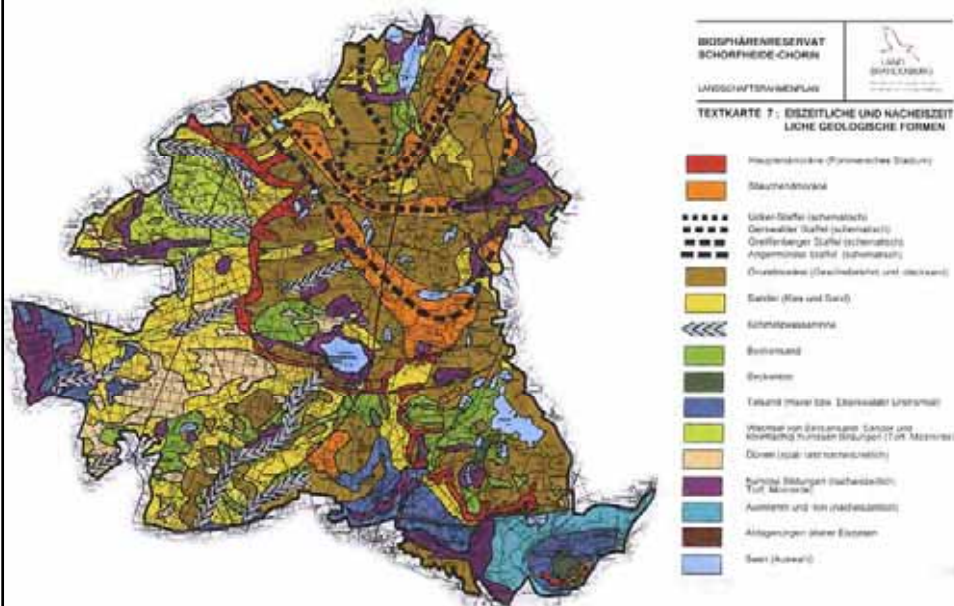
secure landscape, ecosystems, species and genetic diversity

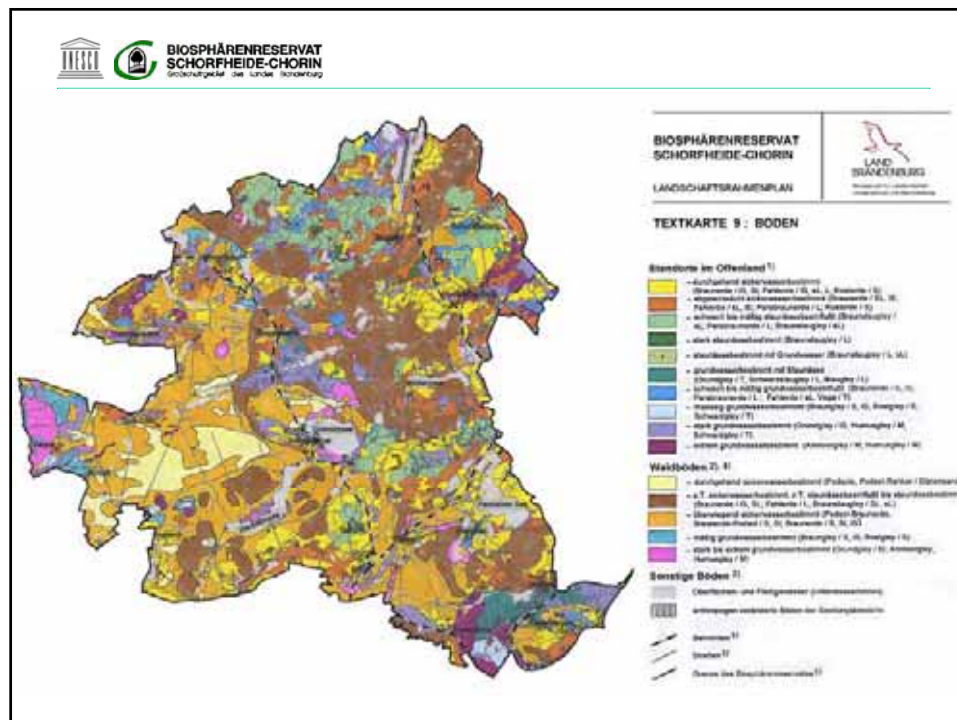
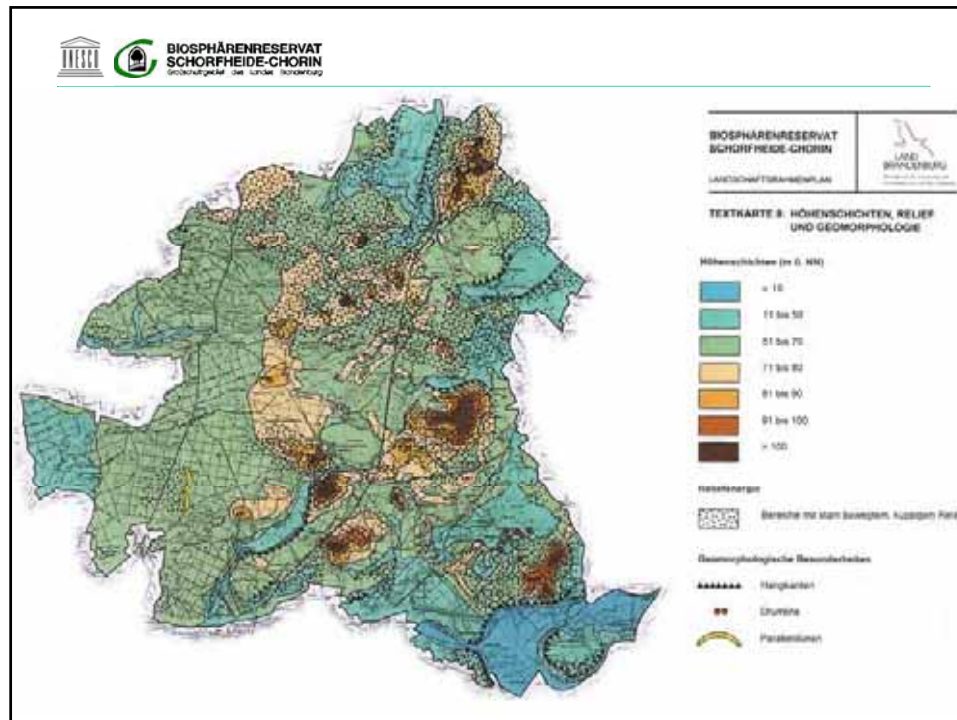
Development:

promote the economic development of the region, which is of cultural, social and ecological sustainability, and

Support:

science, environmental monitoring, education and exchange of information.







Zones I and II are protected as **Naturschutzgebiet** (NSG, nature protected area) by special decrees.

Zone III of the Biosphere reserve is in general protected as a **Landschaftsschutzgebiet** (LSG) (special act of the Law of Nature protection of Brandenburg)



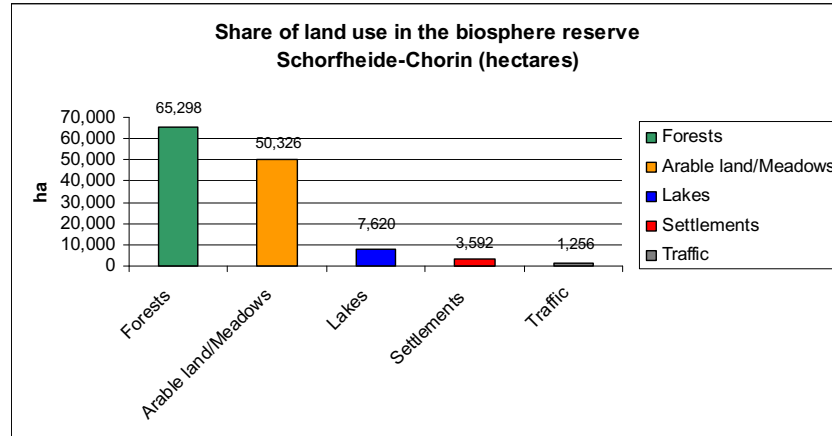
| | |
|---------------------|-------------------|
| Entire size: | 129,161 ha |
| Size of zone I | 4,000 ha |
| Size of zone II | 24,650 ha |
| Size of zone III | 100,863 ha |



In Biosphere reserves the residents live in unique, sensitive areas with a high-valuable biodiversity. That demands us for the future to find models how to harmonize the several needs of humans, animals and plants. To protect nature but also allow the humans to develop and to earn income.

The sustainable regional development in all issues of human use is one of the instruments.





In Biosphere reserves the residents live in unique, sensitive areas with high-value biodiversity. This requires us to find models for the future which harmonize the several needs of humans, animals and plants. To protect nature but also allow the humans to develop and to earn income.

Sustainable regional development in all issues of human use is one of the instruments.

That includes the immediate protection of biodiversity.

In the 14 German Biosphere reserves the development of nature-friendly and sustainable methods of land-use is one of the possibilities for running a future-orientated process.

Production, processing and marketing of regional products is part of regional economic circles. The enhanced value and quality of processed goods attracts consumers and helps to make sure that the residents can earn their income.

Sustainable use of the landscape by man

In Biosphere reserves the development of modern, sustainable, nature-friendly kinds of land-use takes place.

They serve as model areas, showing how to successfully develop ecological and economic regions.

So regions were created where people earn their income with the help of sustainable use of natural sources.



Extensive agriculture takes care of the environment and offers high-value food.

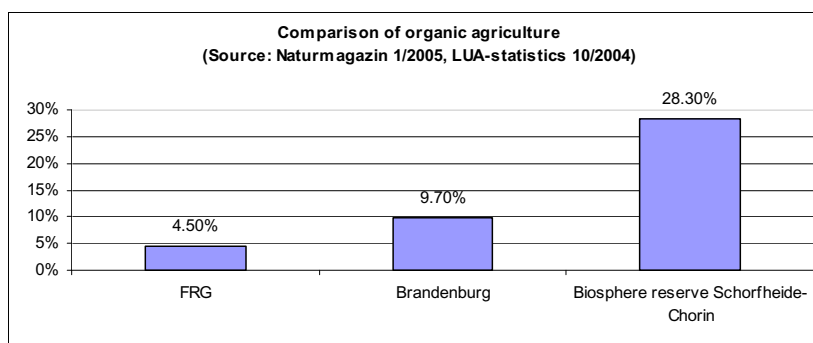


FSC-certified timber from forests in sustainable use





This kind of fishery is no burden on the sensitive ecosystem of a lake

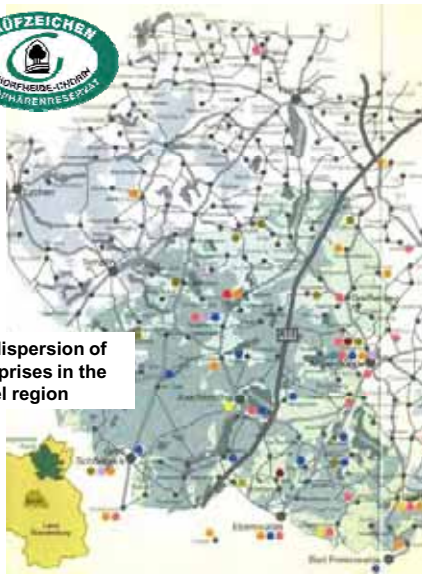
Land use



In 1990, when the Biosphere reserve was called to life, organic farming didn't exist. Today approx. 50 enterprises are engaged in organic land use, totalling nearly a third of the total arable land in the biosphere reserve.


BIOSPHÄRENRESERVAT SCHORFHEIDE-CHORIN
 Biosphärenpark der UN-Weltorganisation






The dispersion of enterprises in the model region

Qualität hat eine Heimat

Legend:

- Landwirtschaft & Tierhaltung
- Forstwirtschaft
- Industrie
- Dienstleistungen
- Andere
- Wasser
- Land
- Stadt
- See
- Biosphärenpark der UN-Weltorganisation




BIOSPHÄRENRESERVAT SCHORFHEIDE-CHORIN
 Biosphärenpark der UN-Weltorganisation

The certificate on the label of several products













Why was the certificate implemented in the biosphere reserve?

Political aims:



- Promotion of identification with the region and the aims of the biosphere reserve, of the landuser, producer and service enterprises
- Enhance identification of the consumers with the region and the aims of the biosphere reserve
- Strengthening of co-operation on a regional level by developing economic relations between the producer and user
- Enhancement of the degree of familiarity of the biosphere reserve and the region Barnim-Uckermark

Aims of the certificate of the biosphere reserve

Economic aims:



- Increase the profit of the enterprises
- Development of regional economic circles
- Conservation and promotion of a sustainable land management
- Promotion of organic farming
- Production of healthy food
- Improve the processing and refining of agricultural primary products in the region Barnim-Uckermark

Eco-Tourism as part of sustainable regional development in the biosphere reserve “Schorfheide-Chorin”

Tourism in protected areas is a big challenge and a good possibility for earning more income for the inhabitants

The basic prerequisites are:

- Tourist infrastructure such as prepared hiking trails, camp sites and recreation areas
- Typical regional gastronomy and accommodation
- Authentic appearance of traditional villages and settlements

In order to bring these issues into public awareness, the biosphere reserve runs a contest to make historical structures and local buildings visible

Typical regional construction and building in the biosphere reserve Schorfheide - Chorin

A contest for builder-owners

Examples of exemplary construction; categories as follows:



Private residential home (reconstruction and new building)



Public and private facilities in common use



Agricultural buildings and other facilities of industries, hand craft and others



Care of an architectural monument: Beate Dapper, Poratz



New building in typical regional construction: Ekkehard Koch, Börnicke

Contest of builder-owners

(some of the winners)



Changed use of a historical monument (a stable is shown here):
Restaurierungsatelier Volker Ehlich, Brodowin

Remainders from the former political system

After the political change in 1989 many agricultural facilities were closed down and abandoned.

Socialist recreation sites, located mostly in sensitive biotopes, were no longer in use and became destroyed by vandalism.

Faced with this, the administration of the biosphere reserve initiated the demolition register, listed all of those sites and organised the demolition and re-naturation of the locations. The old buildings disappear and the space is given back to nature.

Protection of waterbodies, re-establishment of water conditions

Although there are more than 230 lakes and more than 3000 mires and bogs in the biosphere reserve, a dramatic loss of water is imminent in the area. The ground-water level has been decreasing over the years, due to drainage of the land and lower precipitation.

The biosphere reserve runs a long-term-project to transform some sites into their former situation and to raise the water level again.

Demolition register

1998-2000 worked out with the help of a job-creating measure

Register of approx. 200 buildings and facilities, out of use and located in the outer sphere of settlements

Goal: demolition, normally with the instrument of compensation(financing)
 Regulation of interferences
 If possible, with measures of job-creation,
 It is intended for high acceptance of the residents

Vision: extension to a compensation register

EU-Life Project "promotion of the Great Bittern in the SPA Schorfheide-Chorin"

1999-2003

Financial value €1.5m

Realisation of more than 100 measure packages, for example:

Buying core areas
 Hydraulic engineering measures
 Tourist infrastructure
 Steering of visitors, information
 etc.

Example of a demolition measure in a village (complex of stables)



Stegelitz



The last container leaves

Education for sustainable development

A main goal of public relations and environmental education, corresponding to the specifics of the category "Biosphere reserve", is to encourage the residents of the protected area to join the activities and model projects of the Biosphere administration in a sense of sustainability.



Thousands of guests see the information centres of the biosphere reserve every year .



The association "Monuments of Glambeck" one of the many partners who maintain and develop the cultural aspect in our landscape.



The rangers explain and advise all ages in all questions of nature protection and sustainable tourism.

Information point for the regional certificate



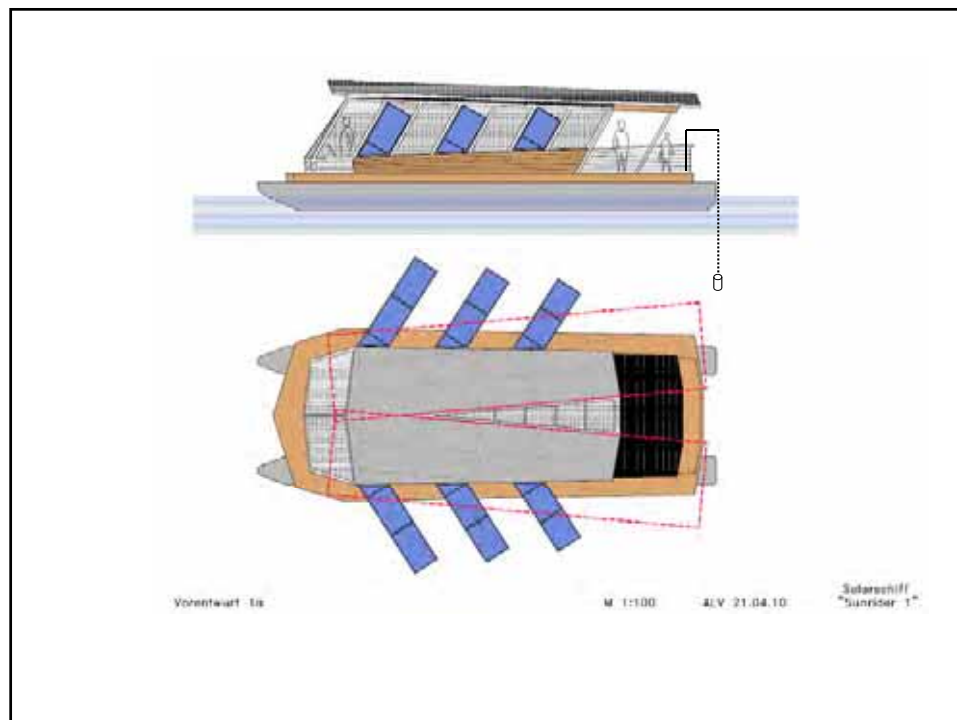
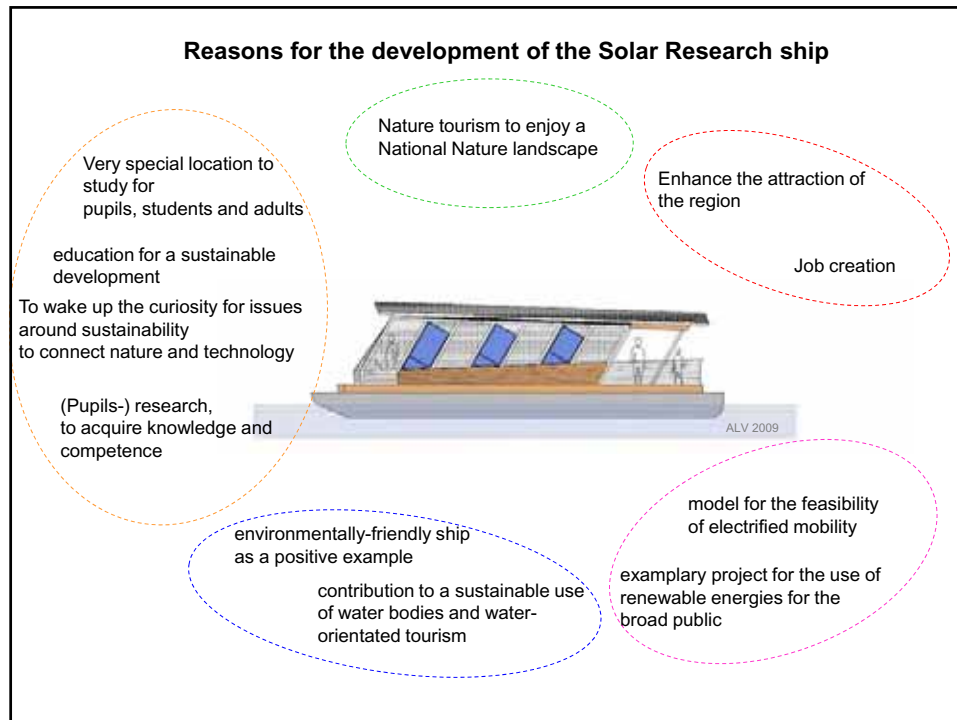
presentation of products
for sale

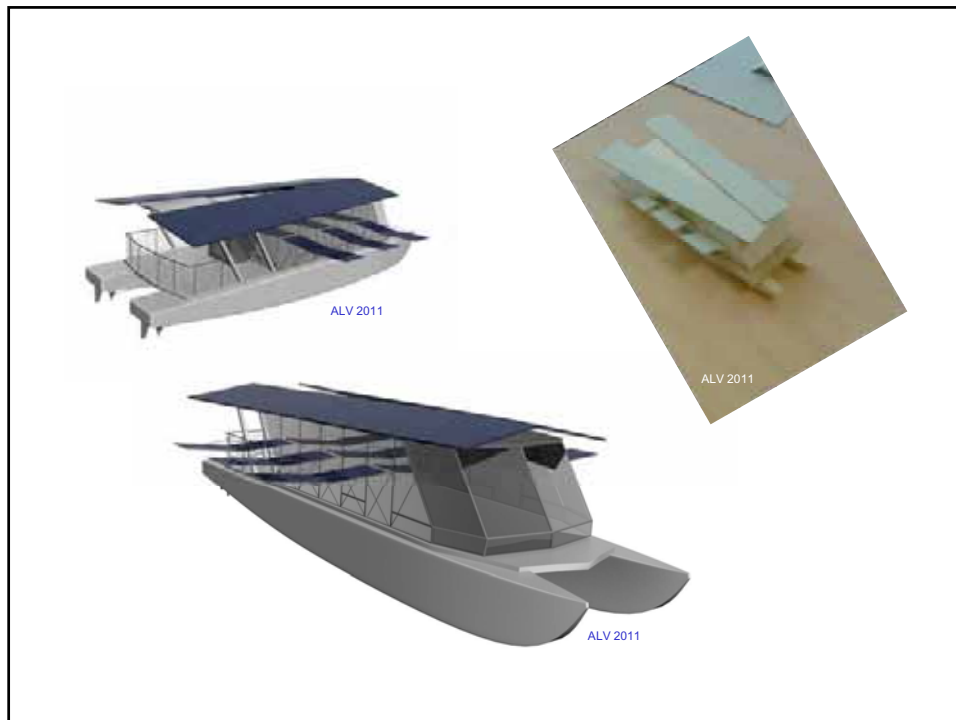




The Solar Research Ship „Solar Explorer“







Building of information panels



Information stands – “Life in a lake” and “Life in the reed bed”

Construction of visitor towers for birdwatching



Visitor tower "Old water works" in the village of Althüttendorf

Education

Information-Centres

Blumberger Mühle (Main information Centre of the biosphere),
House of Nature Care in Bad Freienwalde,
The gate "Berliner Tor" in Templin,
the Field, Wood and Meadow School in Groß Fredenwalde, the Game and Wildlife Park in Groß Schönebeck, The
"Kinderland" a holiday camp at the Werbellinsee, Eco-station Prenzlau

Guided tours

Ranger groups in Milmersdorf,
Angermünde, Eberswalde, Groß Schönebeck,

Administration of the biosphere reserve, the staff of the information centres and centres of environmental education

Local initiatives

Work group "local Agenda 21", children groups of the rangers : "Apis", "Spatz", "Ameisen", "Adler", youth group "art and nature protection"



Education for a sustainable development

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presentation of products
for sale





Biosphere Reserves in Germany

Statutory: § 25 BNatSchG

- Biosphärenreservate sind einheitlich **zu schützende und zu entwickelnde** Gebiete, die
 - großräumig** und für bestimmte **Landschaftstypen charakteristisch** sind,
 - in wesentlichen Teilen ihres Gebiets die **Voraussetzungen eines Naturschutzgebiets**, im Übrigen überwiegend eines Landschaftsschutzgebiets erfüllen,
 - vornehmlich der **Erhaltung, Entwicklung oder Wiederherstellung einer durch hergebrachte vielfältige Nutzung geprägten Landschaft** und der darin historisch gewachsenen **Arten- und Biotopvielfalt**, einschließlich Wild- und früherer Kulturformen wirtschaftlich genutzter oder nutzbarer Tier- und Pflanzenarten, dienen und
 - beispielhaft der Entwicklung und Erprobung von die Naturgüter besonders **schonenden Wirtschaftsweisen** dienen.
- Biosphärenreservate dienen, soweit es der Schutzzweck erlaubt, auch der **Forschung und der Beobachtung von Natur und Landschaft** sowie der **Bildung für nachhaltige Entwicklung**.

Die Gesamtfläche der **16 Biosphärenreservate** [Anm.: 15 von der UNESCO anerkannt] in Deutschland beträgt **1.873.911 ha**, abzüglich der Wasser- und Wattflächen der Nord- und Ostsee (666.960 ha) entspricht dies **3,4 %** der terrestrischen Fläche Deutschlands.

| Summe | Flächenangaben in Hektar | | |
|-------|--------------------------|----------|------------------|
| | Gesamtfläche | Kernzone | Entwicklungszone |
| | 1.873.911 | 334.742 | 865.355 |

Quelle: Bundesamt für Naturschutz (BfN), 2009 nach Angaben der Länder und Biosphärenreservatsverwaltungen



3



UNESCO-Biosphere reserves represent all types of landscape formations in the several geo-regions of the Earth. Their three main tasks are:



Protection:

secure landscape, ecosystems, species and genetic diversity

Development:

promote the economic development of the region, which is of cultural, social and ecological sustainability, and

Support:

science, environmental monitoring, education and exchange of information.

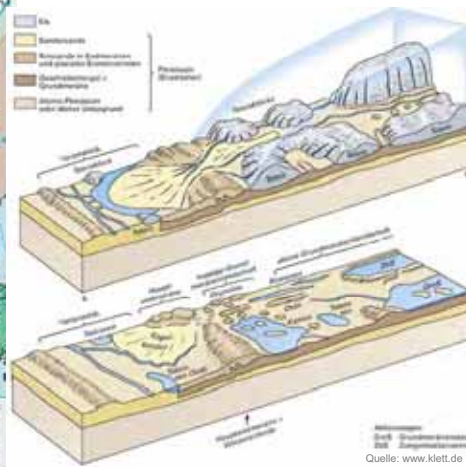
4

- founded in 1990
- aimed to the protection of a unique cultural landscape in Central Europe
- climate: transition zone sub- / continental, precipitation 550 mm
- 220 lakes >1 ha, four large-scaled lakes
- > 3,000 bogs
- ca. 50% forest
- ca. 25 residents/km² (ca. 32.000 residents totally)
- 70 communities. 40 km motorway,
- administration: staff 11 permanent positions
- nature wardens: 13

5

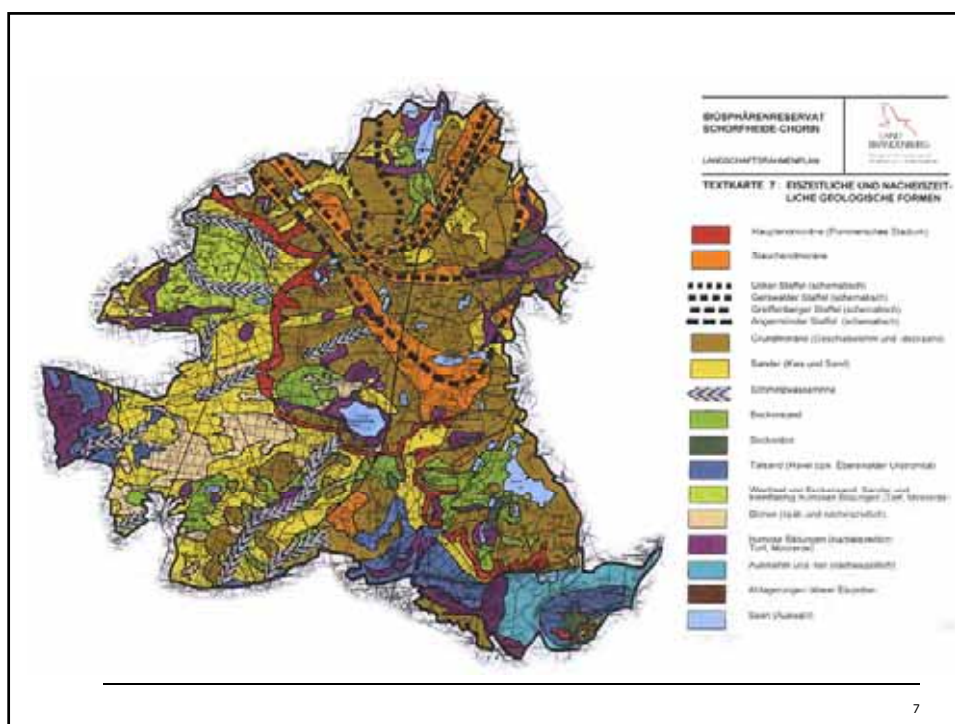


- The landscapes emerged after the last ice age ca. 15,000 years ago
- young pleistocene, multifaceted landscape of high diversity



Quelle: www.klett.de

6



Reasons for the development of the Solar Research ship

Very special location to study for pupils, students and adults

education for a sustainable development

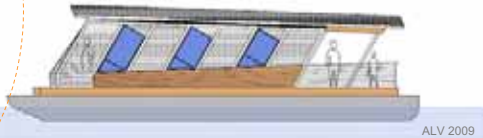
To wake up the curiosity for issues around sustainability to connect nature and technology

(Pupils-) research, to acquire knowledge and competence

Nature tourism to enjoy a National Nature landscape

Enhance the attraction of the region

Job creation



environmentally-friendly ship as a positive example

contribution to a sustainable use of water bodies and water-orientated tourism

model for the feasibility of electrified mobility

exemplary project for the use of renewable energies for the broad public

9

Planning groups und actives

Kulturlandschaft Uckermark e.V. (owner)

promoting association of the

Biosphere reserve „Schorfheide-Chorin“

- Martin Krassuski (Vorsitzender)

Hoher Steinweg 5-6, 16278 Angermünde

Tel.: 03331 / 29 80-82, Fax: -84

info@kulturlandschaft-uckermark.de



German Society for Solar Energy Berlin/Brandenburg e.V.

- Dr. U. Hartmann -

Wrangelstraße 100, 10243 Berlin

Tel.: 030 / 29 38 12-60, Fax: -61

uh@dgs-berlin.de



Biosphere reserve „Schorfheide-Chorin“

Landesamt für Umwelt, Gesundheit und

Verbraucherschutz des Landes Brandenburg

- Uwe Graumann -

Hoher Steinweg 5-6, 16278 Angermünde

Tel.: 03331 / 3654-21, Fax: -10

uwe.graumann@lua.brandenburg.de



Ingeneering office for Solar Driven Techniques

Büro für Solare Antriebe

- Wolfram Appel -

Solmsstraße 33, 10961 Berlin

Tel.: 030 / 69 24 622, Fax: / 69 04 09 22

wolfram.appel@t-online.de

TU Berlin, Institute for marine and terrestrial Transport

- Dipl.-Ing. Felix Fliege -

Salzufer 17-19, D - 10587 Berlin,

Tel.: 030/314 25143,

E-Mail: fliege@naoe.tu-berlin.de

10

Stand des Projektes

Vorgeschichte

- Erste Initiative, erste Entwürfe und Konzepte 2006
- Netzwerkbildung: breite Akzeptanz in der Region, Politik (bis zum Bund)
- Erarbeitung Umweltbildungskonzept 2008
- Mehrere erfolglose Fördermittelanträge bis Mitte 2009

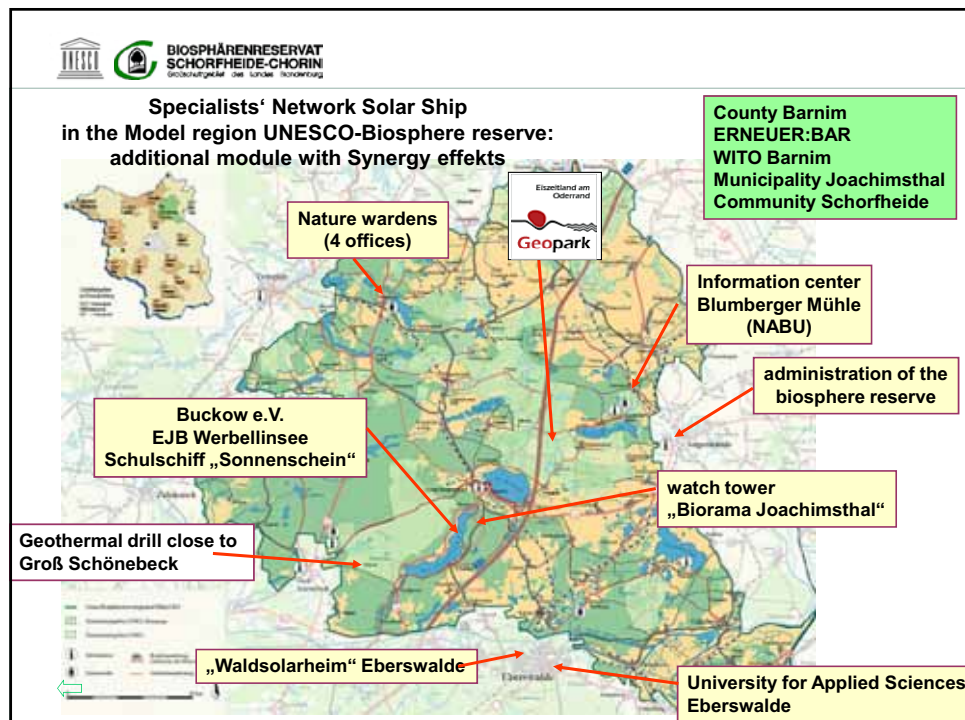
Realisierungsphase

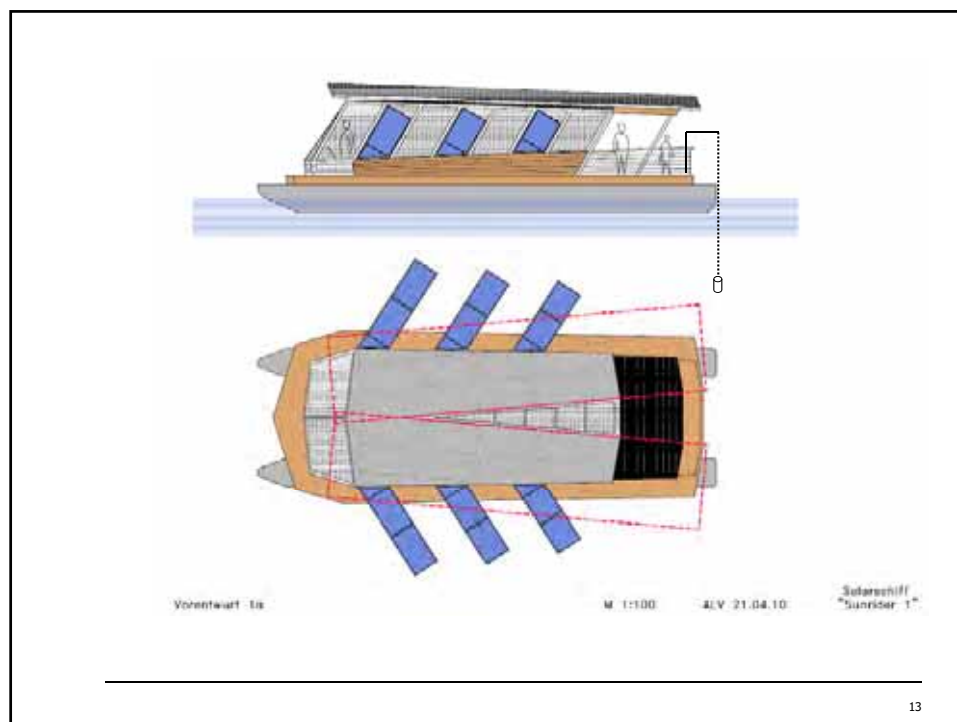
- Fördermittelbescheid zum Bau des Schiffes seit 22.12.2009 Planung und Schiffbau 2011
- Schirmherrschaft MUGV, Ministerin Frau Tack
- Einweihung am 19.08.2012

Weiteres Vorgehen

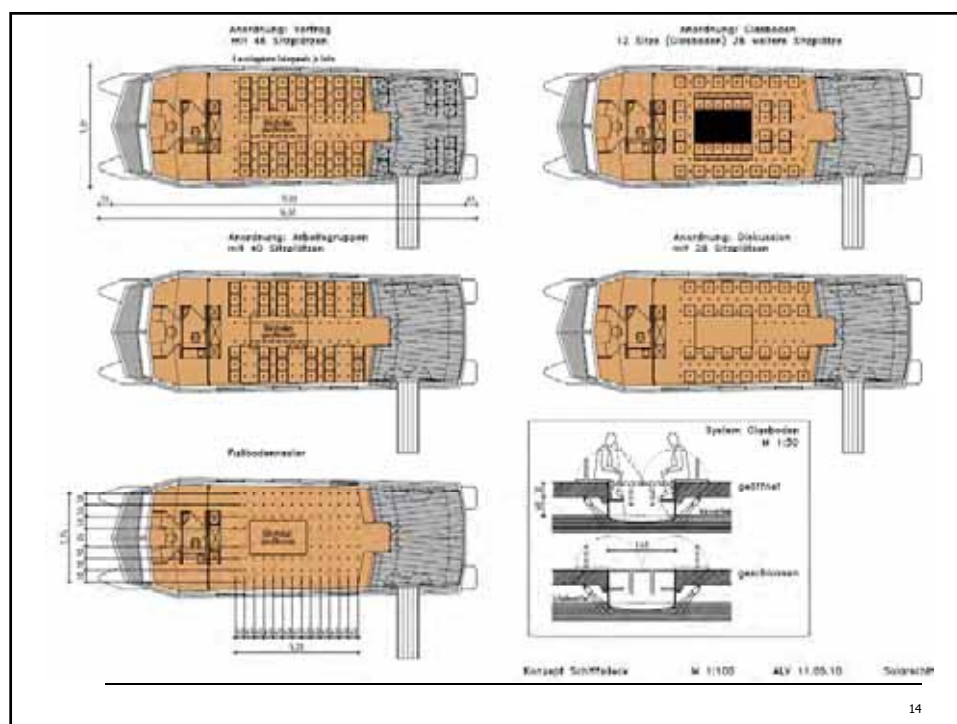
1. Abschluss DBU-Projekt mit HNEE und DGS und UfU zu Bildungsmodulen
2. Abschluss Ausrüstung, Einweisung Personal, Testfahrten; Aufbau Buchungssystem
3. Weitere Sponsoren-Akquise
4. Marketing

11

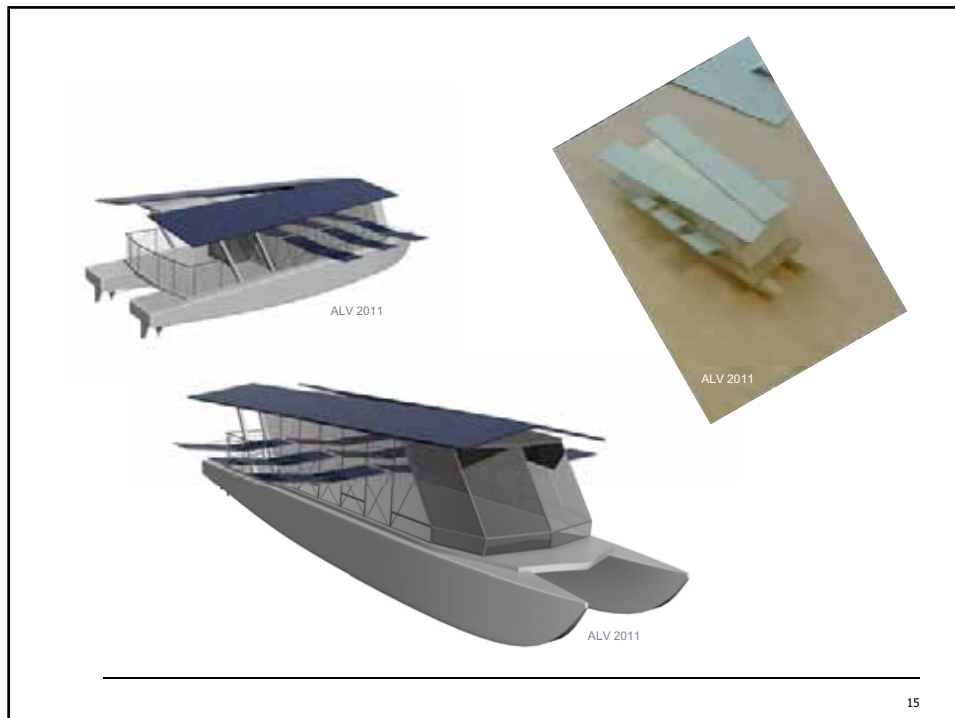




13



14



15

Ausstattung

Allgemeine Ausrüstung:

- Nautische Instrumente wie Echolot, Kompass, Logge, Vermessungssystem mit DGPS

Allgemeine Ausrüstung Schul-/Seminarbetrieb:

- Smartboard zur Präsentation von Vorträgen und Schulungsmaterial
- WLAN-Netzwerk mit bis zu 12 Laptops,
- Internetanschluss für direkte Übertragung von Aufnahmen ins Netz
- 230V Anschlüsse in Bodentanks

Ausrüstung Gewässerökologie:

- Unterwasserkamera bis 50 Meter Tiefe
- Absenkbarer Glasboden
- Geräte-David mit Tiefenanzeige
 - Materialgreifer für Sedimentproben
 - Wasserprobensammler
- Netzwerkfähige-fähige Mikroskope und
- Analysegeräte zur PH-Wert- und Sauerstoffmessung etc.
- Bestimmungsliteratur, Kleingeräte, Planktonnetze, Secchi-Scheibe etc.

Ausrüstung Photovoltaik (in Vorbereitung):

- Experimentierkästen Photovoltaik
- Solarflügel zur Demonstration im Großen
- Darstellung Globalstrahlung
- Darstellung des aktuellen Energieverbrauchs
- Darstellung der kumulierten Energieerzeugung in kWh und die dadurch vermiedenen CO2-Emissionen
- Dokumentation der Tagesproduktion

16

3 high valuable research devices with video-camera
5 microscopes



BMS Videomikroskop mit TFT Monitor, VGA & USB Ausgang. Ein Inspektions- und Vorführmikroskop mit hochauflösender Kamera und eingebautem TFT Monitor.
Technische Daten: * Zoombereich: 0,65x bis 5,5x * Arbeitsabstand: 113mm * Kamertyp: Sony 1/3" Super HAD IT * CCD Auflösung: 580 TV-Linien * Monitor: 8" TFT Farbmonitor * Vergrößerung auf dem Monitor: 10x bis 85x * VGA Ausgang für direkten Anschluß zum Computermonitor * USB Ausgang für direkten Anschluß zum PC * Stativ: Halogen Auf- und Durchlichtbeleuchtung, Intensität regelbar * Anschlußwerte: 230V / 50Hz * Abnehmbares Netzkabel



**Mit Video-Kamera
Motic BA210**

Das BA210 wurde sowohl für die Schule als auch für die biologisch/medizinische Grund-Ausbildung entwickelt.
Robuste Mechanik und verlässliche Optik machen es jedoch zu einem Basisgerät in jedem Umfeld, in dem Mikroskope mit aussagekräftigen Bildergebnissen erforderlich sind.

Steckbrief Motic BA210:
Objektive: Plan achromatisch
Beleuchtung: 6V/30W Halogen oder 3W LED
Okulare: Weitfeld
Vergrößerung: 40x, 100x, 400x und 1000x, erweiterbar
Dunkelfeld: Verfügbar
Phasenkontrast: Verfügbar
Köhlerbeleuchtung: Nein
Fluoreszenz: Nein

17

Waterkeeper



Underwater camera



Multiparameter sonde/detector

18

Education for Sustainable Development

- **Concept for a Sustainable Development exists**
- dedicated especially for different necessities of children, youngsters and adults
- contents adapted to the several educational plannings
- p.e. in the fields of Biology, Geography, Sociology, Physics, Chemistry
- Support of education in apprenticeship, university and vocational training

example: work of the nature wardens in the Biosphere reserve



Fotos: K. Pape / U. Graumann

19

proposal for middle-aged pupils: Biology

watching nature
recognize values
recognize sensity



<http://upload.wikimedia.org/wikipedia/commons/thumb/b/b3/VolvassenZeearend.jpg/800px-VolvassenZeearend.jpg>
Seadialer, Foto: Staatsbosbeheer/Vincent Wigbels.



<http://upload.wikimedia.org/wikipedia/commons/c/c3/Lac-du-der-taucher.jpg>
Haubentaucher, Foto: Enselin

20

Modules for the 5.-10. classes

| | Themen | Sekundarstufe I (5.-6. Klasse) | Sekundarstufe I (7.-8. Klasse) | Sekundarstufe II (9.-10. Klasse) |
|------------------|--|-----------------------------------|-----------------------------------|-------------------------------------|
| Einführung | Energie - was ist das? | | | |
| Pflanzensysteme | Photosynthese | | | |
| | Photovoltaik | | | |
| | Nutzungsbereitungen | | | |
| | Solarantrieb des Schiffes | | | |
| | Energie im Alltag | | | |
| Werkstoffsysteme | Erneuerbare und nicht-erneuerbare Energiequellen | | | |
| | Solaranlagen | | | |
| | Sonne als Energie- und Lebensspender | | | |
| | Solarantrieb als physikalisches System | | | |
| | Schiffswindkraft, Treibgasleistung, Dampftrieb | | | |
| Zusammenfassung | Sonnenenergie in Natur und Technik | | | |

Quelle: DGS Liliane van Dyck, UFU Heike Müller (2012),
gefördert durch die DBU

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Solarantrieb des Schiffes

Jahrgangsstufe 5/6
Station 4
(Pflicht)

Material für 2 Gruppen: 1 Globalstrahlungsmessgerät, 2 Taschenrechner

An dieser Station erfährt Ihr, wie sich das Schiff mithilfe der Sonnenenergie fortbewegt.

Das Boot erhält seine gesamte Energie von der Sonne. Die Solarzellen des Schiffes nutzen die Sonnenenergie um Strom zu erzeugen. Mehrere Solarzellen sind dabei zu einem Solarmodul zusammengeschlossen. Der Motor erhält seinen Strom von den Solarmodulen.

Bei gutem Wetter produzieren die Solarmodule mehr Strom als der Motor des Schiffes verbraucht. Mit dem übrigen Strom wird der Akku aufgeladen. Bei schlechtem Wetter verbraucht der Motor mehr Strom als von den Solarzellen produziert wird. Dann liefert der Akku den übrigen Strom und wird dabei entladen. So kann das Schiff auch dann fahren, wenn die Sonne gerade nicht scheint.

Auftrag 1: Leistung und Verbrauch des Schiffes ermitteln

Die Anzeigetafel zeigt, wie viel Strom die Solarmodule gerade produzieren (Aktuelle Leistung). Außerdem kann man ablesen, wie viel Strom der Motor aktuell verbraucht (Aktueller Verbrauch). Die Werte sind in der Einheit Watt angegeben.

- Tragt die aktuelle Leistung und den aktuellen Verbrauch in die weißen Felder ein.
- Wird der Akku gerade geladen oder entladen? Notiert die richtige Antwort.

| | |
|---------------------|---------------------------|
| Aktuelle Leistung | <input type="text"/> Watt |
| Aktueller Verbrauch | <input type="text"/> Watt |

Auftrag 2: Aktuelle Leistung und Gesamtleistung vergleichen

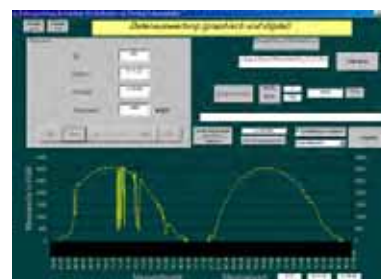
Die Solarmodule produzieren nicht immer gleich viel Strom. Bei optimalen Bedingungen können die Solarmodule eine Maximalleistung von 7380 Watt.

- Vervollständigt die Tabelle. Messt dazu mit dem Lichtmessgerät die aktuelle Strahlungsstärke.

| Datum | Zeit | Wetter (sonnig, Regen, leicht/stark bewölkt) | Strahlungsstärke (in Watt/m^2) | Aktuelle Leistung der Solarmodule (in Watt) | Differenz zur Maximalleistung |
|-------|------|--|--|---|-------------------------------|
| | | | | | |

Jahrgangsstufe 5/6 Station 4

Quelle: Getto (2011) bearb.
durch UFU 2012
Gefördert durch die DBU



Anzeige eines Datenlogger (in Vorbereitung)
<http://www.solarladen.de/bilder/wechselrichter/messwerte.jpg>

22

example for a learning module in the upper school: Limnology



Secchi-Scheibe:

Eine runde Scheibe aus weißem Porzellan wird an einer Schnur so weit ins Wasser gelassen, bis man sie nicht mehr erkennen kann. Dann kann man an der Schnur erkennen, wie weit die Scheibe im Wasser war und damit die Sichttiefe bestimmen.

http://www.hamburg.de/Behoerden/Umweltbehoerde/foej/brack/secchi_scheibe.jpg

<http://upload.wikimedia.org/wikipedia/commons/thumb/7/71/FoodChain.svg/424px-FoodChain.svg.png>



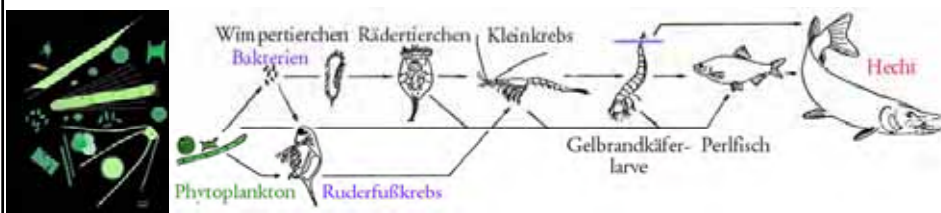
Ruttner-Wasserschöpfer:

Das ist eine Flasche für Tiefenwasser, die in an einer Schnur in die gewünschte Tiefe gelassen wird und die dann durch ein Metallstück, das an der Schnur entlang rutscht und an der Flasche einen Federmechanismus aktiviert, geschlossen wird. Die Flasche mit dem eingeschlossenen Tiefenwasser wird mit der Schnur wieder hochgezogen.

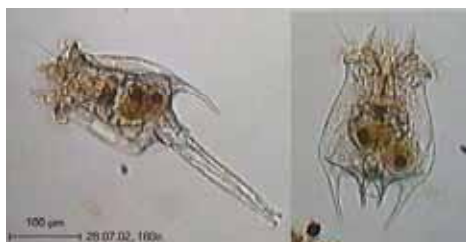
http://www.hamburg.de/Behoerden/Umweltbehoerde/foej/brack/wasserflasche_robert.jpg

23

example for a learning module: food webs



Nahrungsnetz-Ausschnitt (zu Wasserflöhe (*Daphnia*), Wimpertierchen (*Paramecium*), Rädertierchen (*Brachionus*), Kleinkrebs (*Mysis*), Gelbrandkäferlarve (*Dytiscus*), Perlflus (*Leuciscus*) und Hecht (*Esox*)). Quelle: http://de.wikipedia.org/wiki/%C3%96kosystem_See#Litoral
Phytoplankton: <http://upload.wikimedia.org/wikipedia/de/d/da/Phytopla.jpg>



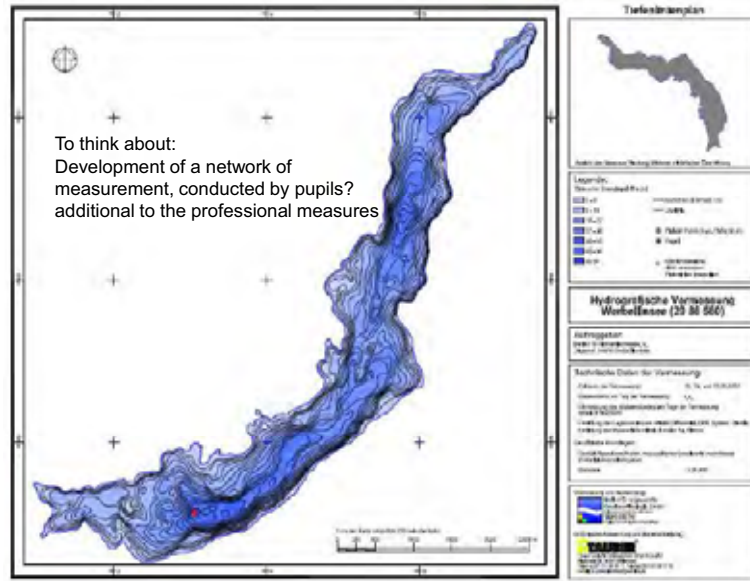
Rädertierchen der Gattung *Brachionus*, genauer *Brachionus quadridentatus*.
Quelle: http://de.wikipedia.org/wiki/%C3%96kosystem_See#Litoral Dr. Ralf Wagner



Gelbrandkäfer Quelle: http://de.wikipedia.org/wiki/%C3%96kosystem_See#Litoral Holger Gröschel

24

To think about:
Development of a network of
measurement, conducted by pupils?
additional to the professional measures



25

Educational module for high schools and universities

WILLKOMMEN AUF DER SOLAR EXPLORER

NAVIGATION

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ANMELDEN

ANMELDENAMEN

KENNWORT

ANMELDENAMEN MERKEN

Kennwort vergessen?

Login

NACHRICHTEN DER WEBSITE

EINFÜHRUNG IN DIE MODULE

von Admin Nutzer - Dienstag, 11. September 2012, 08:23

Auf dieser E-Lernplattform finden Sie verschiedene Module zur Gewässerökologie vor. Mit den Modulen werden Schüler der Leistungskurse sowie Studenten angeleitet, selbstständig gewässerökologische Untersuchungen auf dem Werbellinsee durchzuführen. Im weiteren Verlauf des Projektes werden diese mittels Evaluationen speziell auf die Bedingungen des Solar Explorers angepasst.

Folgende Kurse finden Sie in der Navigation vor:

- Mikrotiere - Fischen was die kleine Maräne am liebsten frisst!
- Mikroplanzen - Fischen was die kleine Maräne im Winter frisst!
- Wasserelemente - Auskundschaften der Wohlfühlelemente der kleinen Maräne
- Wasserkörper - Besichtigung der Stockwerke des Werbellinsees
- Untergrundwelten - Das Fundament des Werbellinsees an die Oberfläche holen

Die kleine Maräne schwimmt nur in den Wassern tiefer Seen. Der Werbellinsee ist tief genug für die kleine Maräne. Auf der Reise durch den Werbellinsee begegnet die kleine Maräne so allerhand Tierisches und Pflanzliches, sie schwimmt durch verschiedene Lebensräume hindurch und fühlt sich

Startseite, Modulwahl

Quelle: HNEE Frank Torkler,
Wolfram Wehrmann (2012)
gefördert durch die DBU

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13

Modul 4, Chemisch-physikalische Messung der „Stockwerke der kleinen Maräne“ mit einer Multiparametersonde

Quelle: HNEE Frank Torkler, Wolfram Wehmann (2012), gefördert durch die DBU

Prozessziele

Die Föhrer als Bivalgen bildenden Organismen werden den Bädern zugeordnet. Da manche unter anderem den buben „Parasiten“ Phycodonta enthalten wurden die „Bivalgen“ genannt. Nach Sortierungen der Forscher sie werden bereits seit ca. 15 Mrd. Jahren die Föhr. Dichtab zählen sie zu den ursprünglichen Lebewesen der Welt.

2. Wasserkörper erkennen

Die verschiedenen Zirkulationsformen während dem Jahreszeiten Wechsel sowie die Wasserschichtung im Gewässer werden hier erklärt.

3. Messung

Wie mit der Multiparametersonde gemessen und ein Tiefenprofil aufgenommen wird ist hier beschrieben.

4. Datenaufnahme

In die Excel-Tabelle werden die Daten eingetragen und ein Tiefenprofil angelegt.

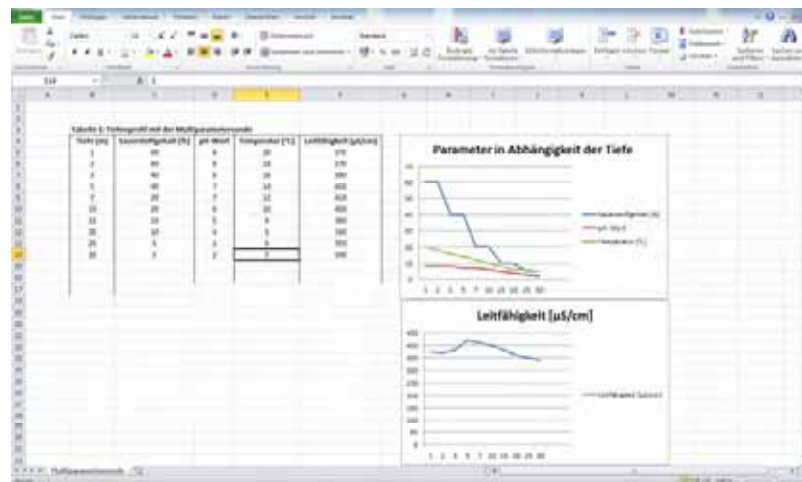
Lernziele: 1

Lernziele: 1

Lernziele: 1

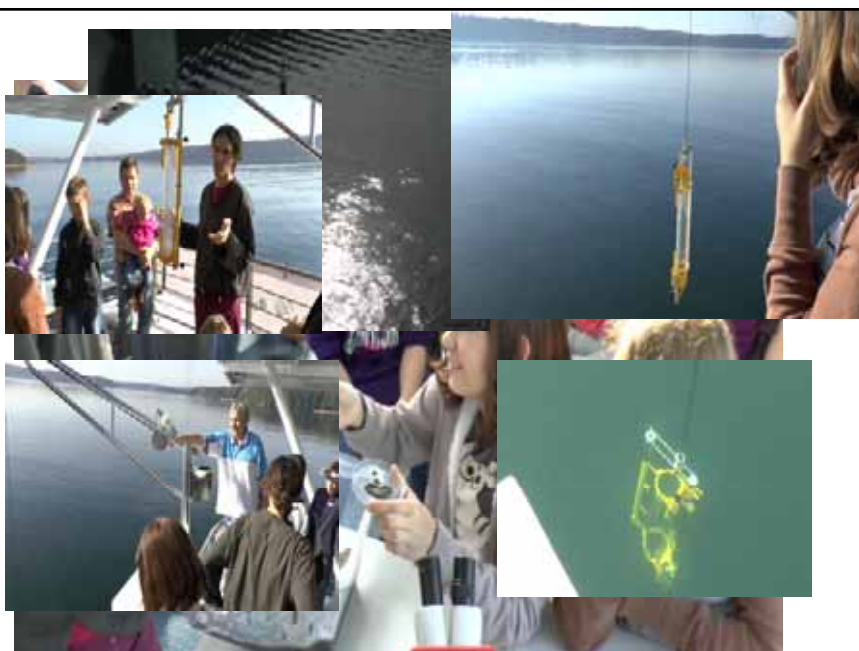
Modul 4, Chemisch-physikalische Messung der „Stockwerke der kleinen Maräne“ mit einer Multiparametersonde

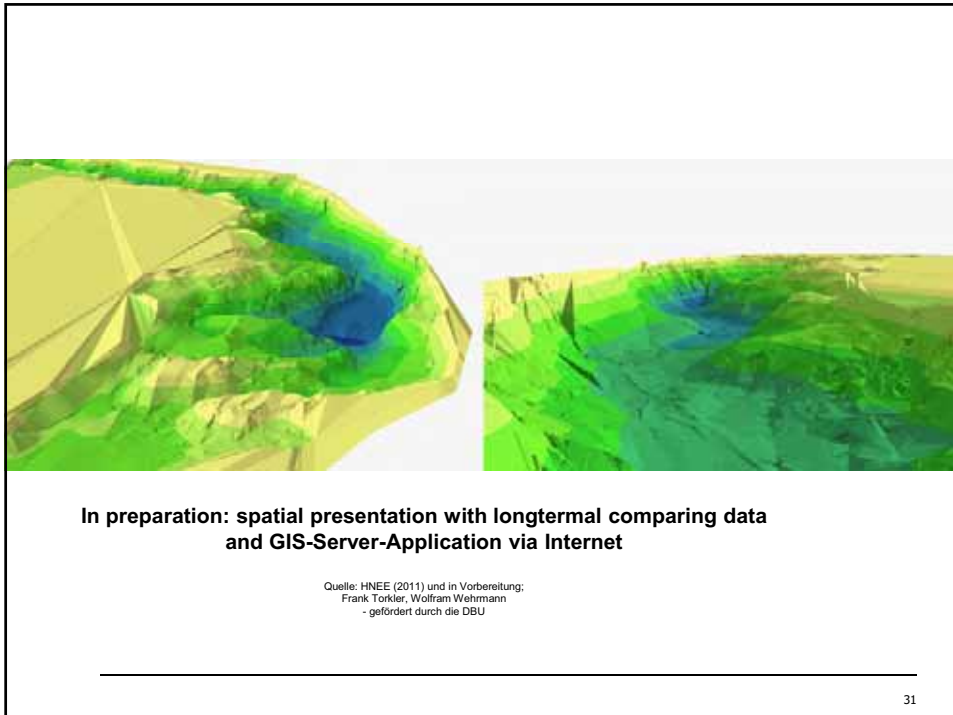
Quelle: HNEE Frank Torkler, Wolfram Wehmann (2012), gefördert durch die DBU



Vorkonfigurierte Dateneingabe
(fiktives, unrealistisches Beispiel)

Quelle: HNEE Frank Torkler,
Wolfram Wehrmann (2012),
gefördert durch die DBU







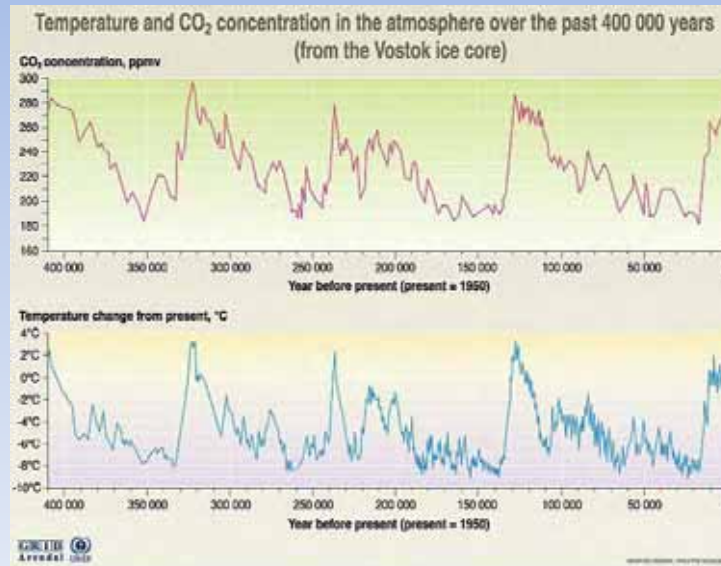
Agriculture and Climate Change

Seçkin Kaya, Ph. D.
Canakkale Onsekiz Mart University
Faculty of Agriculture
Dept. Of Horticulture

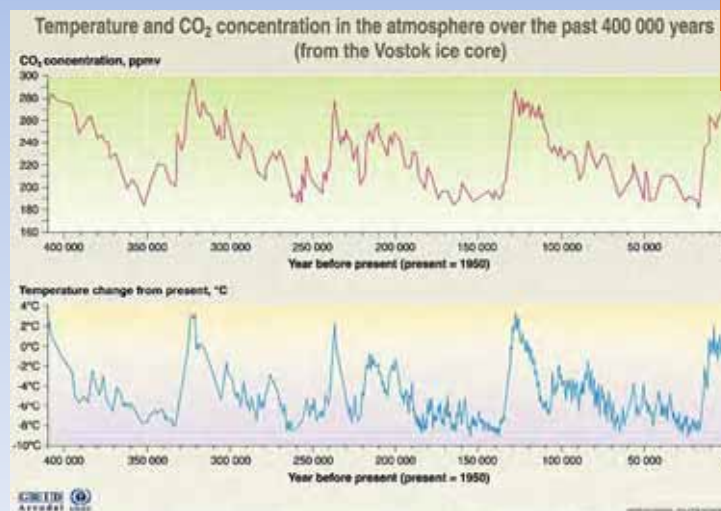
Outline

- Evidence for global climate change
- Future atmospheric carbon dioxide concentrations
- Simulations of global climate and future climate change
- “Climate surprises”
- Social inequities and ethical issues surrounding climate change
- Summary

Carbon Dioxide and Temperature

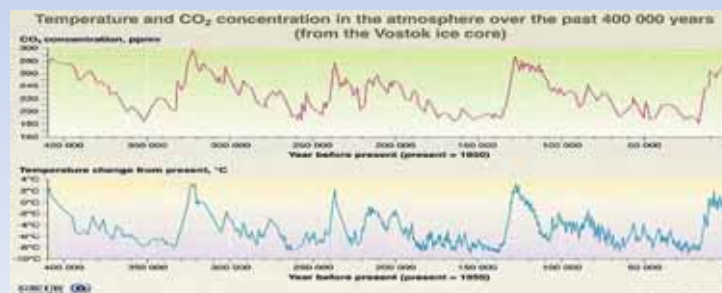


Carbon Dioxide and Temperature



Carbon Dioxide and Temperature

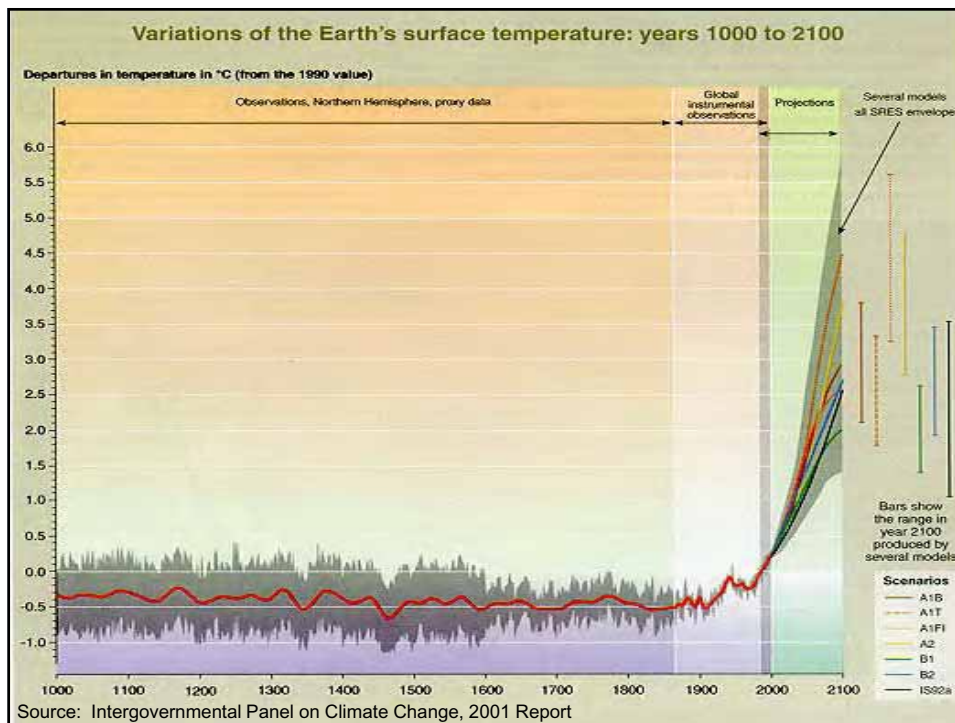
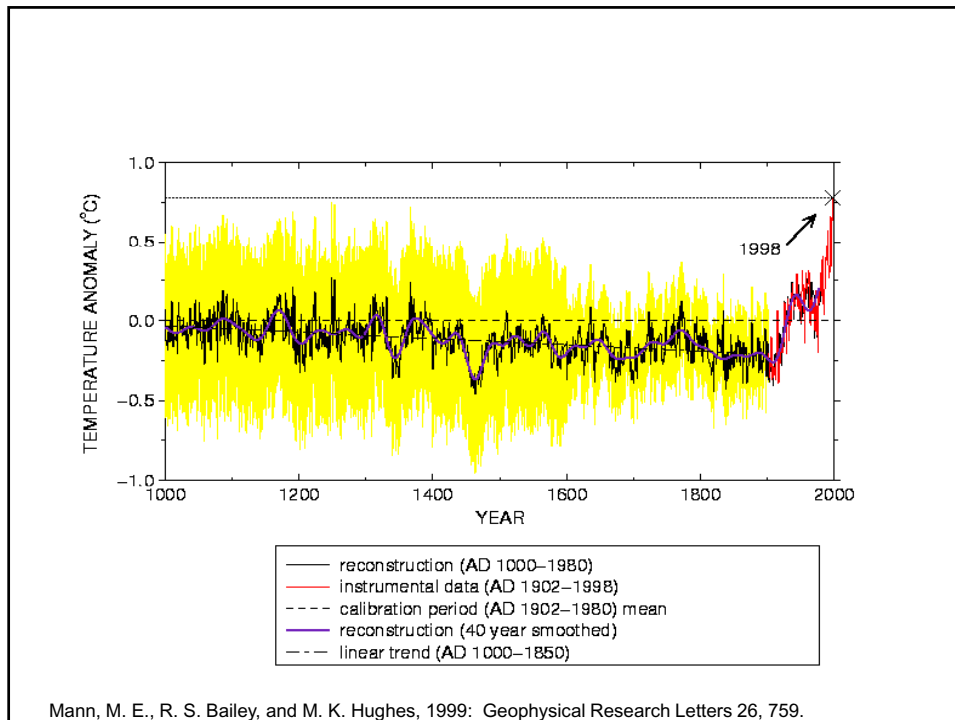
“Business as Usual”
(fossil intensive)
2100



Associated Climate Changes

- Global sea-level has increased 1-2 mm/yr
- Duration of ice cover of rivers and lakes decreased by 2 weeks in N. Hemisphere
- Arctic ice has thinned substantially, decreased in extent by 10-15%
- Reduced permafrost in polar, sub-polar, mountainous regions
- Growing season lengthened by 1-4 days in N. Hemisphere
- Retreat of continental glaciers on all continents
- Poleward shift of animal and plant ranges
- Snow cover decreased by 10%
- Earlier flowering dates
- Coral reef bleaching

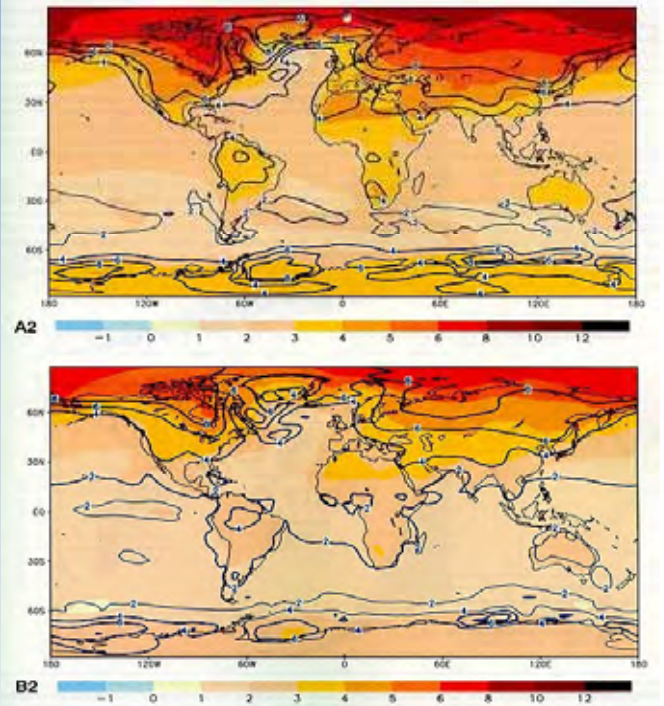
Source: Intergovernmental Panel on Climate Change, 2001 Report



Climate Change
Projected for 2100

Rapid Economic
Growth

Slower Economic
Growth



- An increasing body of observations gives a collective picture of a warming world and other changes in the climate system
- Emissions of greenhouse gases and aerosols due to human activities continue to alter the atmosphere in ways that are expected to affect the climate

- Confidence in the ability of models to project future climate has increased
- There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities

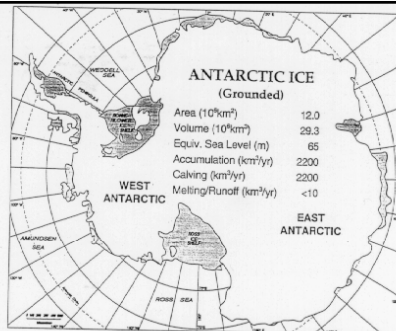
- Anthropogenic climate change will persist for many centuries
- Further action is required to address remaining gaps in information and understanding



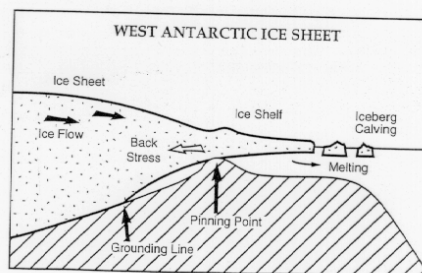
Meltwater flows into
a large moulin on
Greenland and down to
the bedrock to "lubricate"
the sheet

BBC News: World Edition

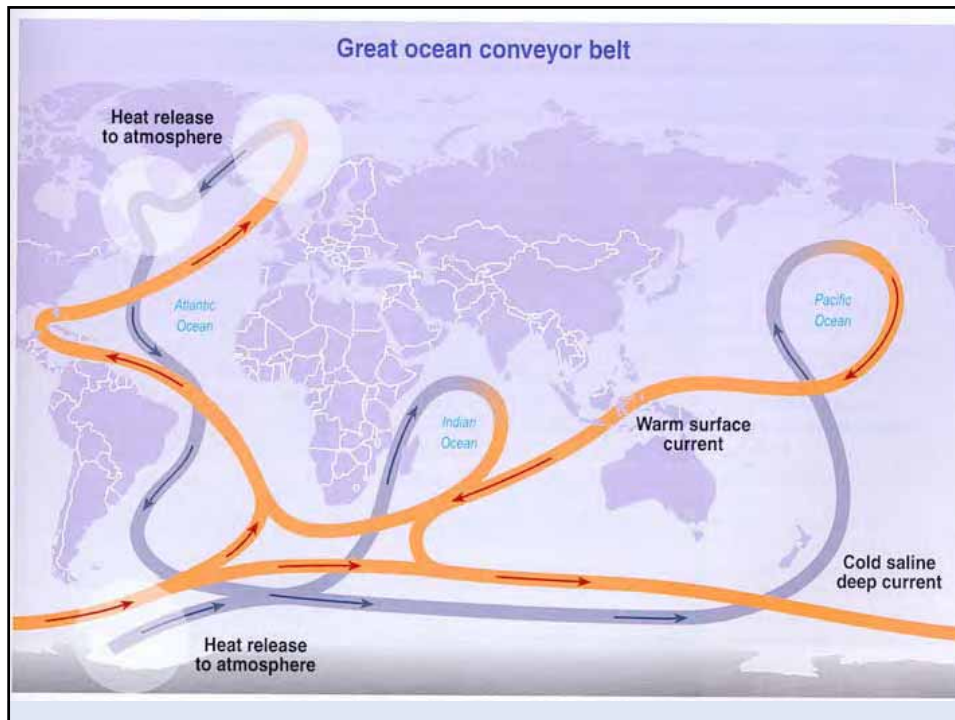
<http://news.bbc.co.uk/2/hi/science/nature/2558319.stm>



4 The Antarctic ice sheet. (Gray areas are not covered by the ice sheet.)

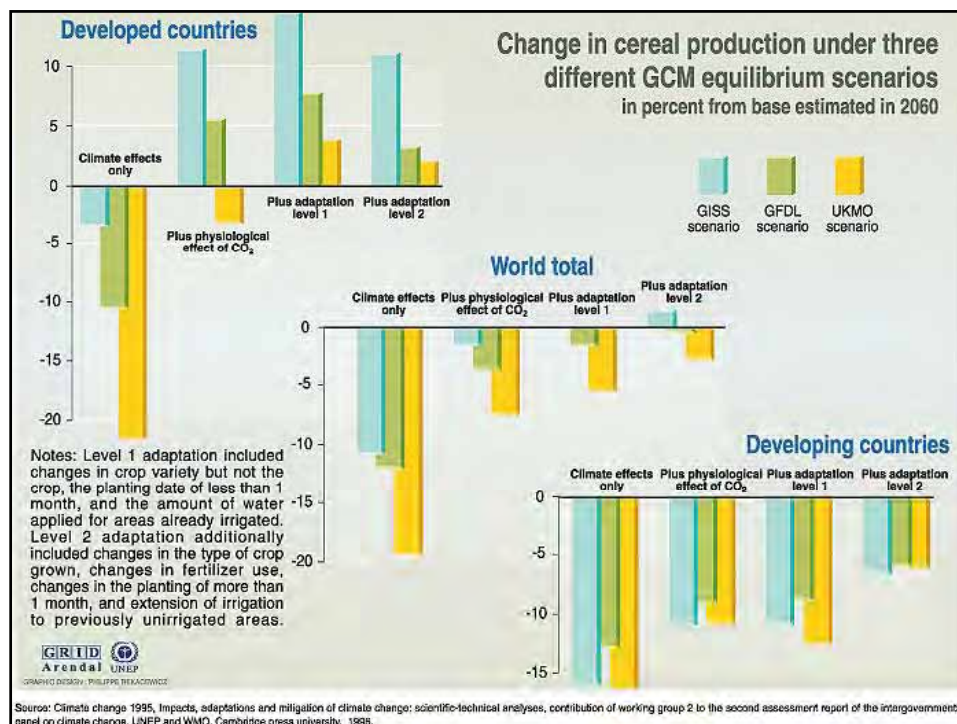


5 Processes in the West Antarctic ice sheet.

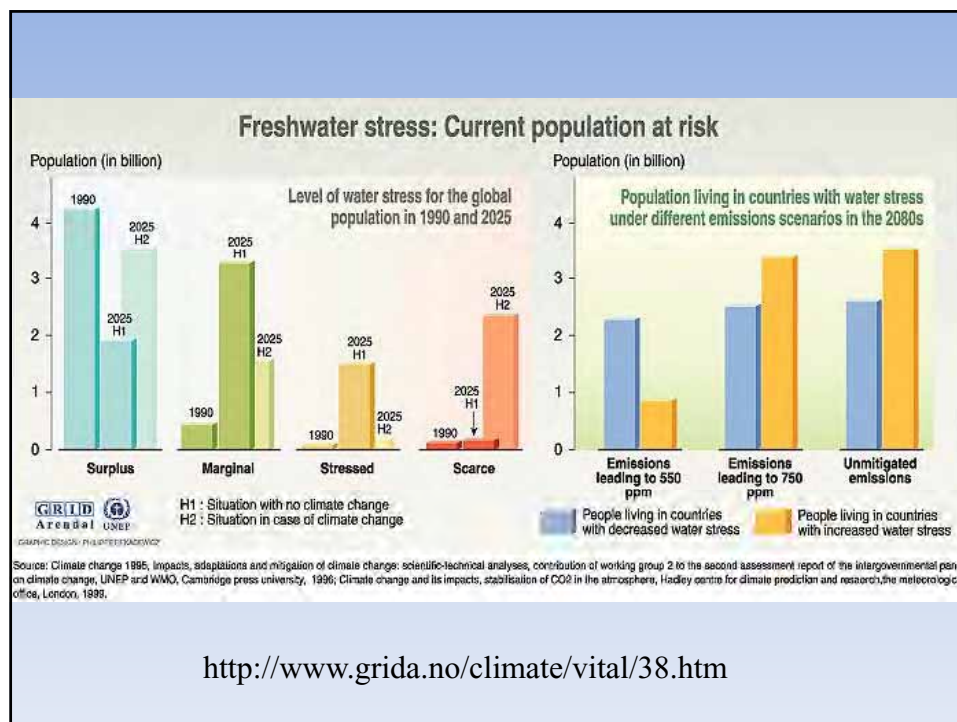


Social Inequities due to Climate Change

- Agricultural production
- Freshwater availability
- Sea-water inundation
- Intergenerational equities



- Areas now marginal for agriculture may become less suitable
- Some areas now having abundant water but limited growing seasons may be winners
- Areas with good soils and robust climate, may be impacted less
- Changes in consumption and agricultural production in other nations may affect agriculture more than changes to regional climate



II. Impacts of Climate Change on Agriculture

Direct impacts from temp/precip. changes, plus:

- Increased variability in weather
- Extreme conditions
- Sea level rise & surge – inundating & ruining coastal agricultural lands
- CO₂ fertilization

(FAO 2003, IPCC 2008)

II. Impacts of Climate Change on Agriculture

Indirect impacts:

- Changing crop-weed competition dynamics
- Range changes of pests & pathogens
 - Expanded range predicted for many pathogens
 - Less-cold winters allow increase in pests
 - Different range changes between pests & pathogens and natural controls
- Decreased biodiversity in natural ecosystems

(Patterson et al. 1999, FAO 2003, IPCC 2008)

III. Agriculture as part of the solution?

Increasing carbon sequestration through land management

- Agroforestry
- Rotations with cover crops, green manure
- Conservation tillage
 - Could reduce global CO₂ emissions by 5-15%
- Organic farming (but limited benefits)
 - Enhances carbon storage in soil
- Biogas digesters?

(Gomiero et al. 2008, FAO 2003, Niles et al. 2002)

Other solutions and adaptations

Changing inputs

- Biofuels
- Reduce agrochemicals (e.g., N fertilizers)
- Reduce pumped irrigation and mechanical power
- Reduce high energy-consuming feedstuffs for livestock
- Adapt: Selective breeding, GMOs



(Gomiero et al. 2008, FAO 2003, Niles et al. 2002)

Summary

- Climate change is real and we need to be doing something about it
- The longer we wait, the fewer our options
- Regional patterns of warming will be complicated
- Climate surprises can't be discounted
- Climate change will create regional agricultural winners and losers
- Climate change carries ethical implications

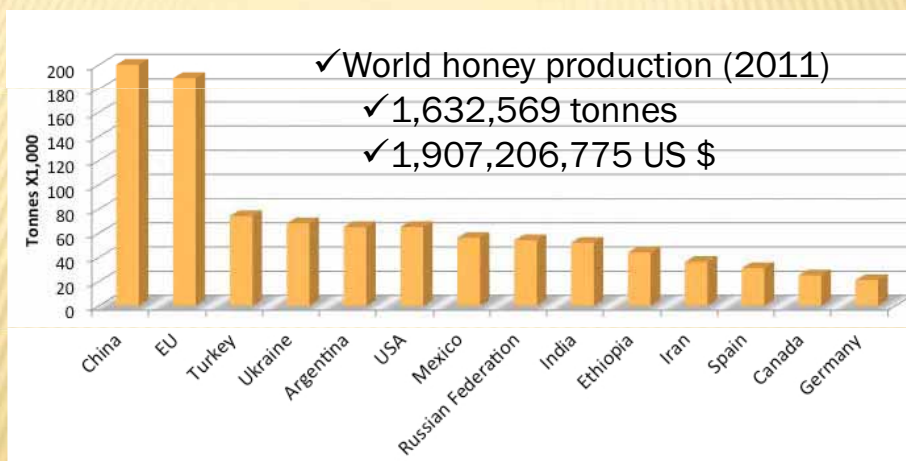
BEES AND CLIMATE CHANGE



Prof. Dr. Türker SAVAŞ
Çanakkale Onsekiz Mart University
Department of Animal Science

1

IMPORTANCE OF THE HONEYBEE



2

IMPORTANCE OF THE HONEYBEE

- ✕ Number of beehives in the World
 - + 78,411,621
- ✕ **Pollination**
 - + 212,000,000,000 US \$
 - + 9.5% of the total value of agricultural production



3

BEEKEEPING VERSUS LIVESTOCK

- ✕ Honeybee production is more dependent on...
 - + Ecology
 - + Particularly climate
- ✕ Also...
 - + Honeybee is an important element of the ecosystem
 - + Particularly agroecosystem

4

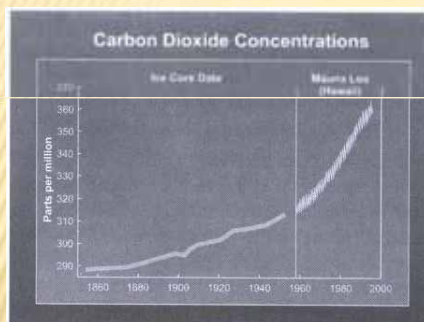
HONEYBEE ECOLOGY

- ✗ Changes in the ecosystem have an effect on the honeybee production
- ✗ A decline in beekeeping can be a negative impact on the ecology
 - + On the agricultural ecosystem, anyway...



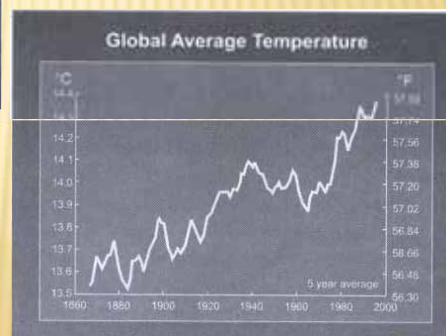
5

GLOBAL CLIMATE CHANGE



- ✗ The climate data clearly show that...

- ✗ ...climate change is a fact!



6

CLIMATE CHANGE AFFECTING THE BEEKEEPING?

- ✗ It is expected that climate change will affect the ecosystem deeply
- ✗ In recent years, large colony losses are observed
 - + Are this losses a result of the climate change?
- ✗ It is hard to say yes!
 - + it is difficult to find a direct link between beekeeping and climate change

7

COLONY COLLAPSE DISORDER (CCD)

- ✗ High rates of overwintering mortality in US honey bee colonies have been reported
 - + 32% for 2006-7
 - + 36% for 2007-8
- ✗ One of the key characteristics of this syndrome is that it leaves affected colonies and apiaries devoid of dead bees
- ✗ The underlying reason for high colony losses is not completely understood

8

POSSIBLE FACTORS FOR HIGH WINTER LOSSES

- ✗ Varroatosis
- ✗ Nosemosis
- ✗ Deformed wing virus
- ✗ Acute bee paralysis virus
- ✗ Old queens
- ✗ Low population density of the colonies in autumn

9

VARROATOSIS

- ✗ A mite (*Varroa destructor*) infestation
- ✗ Original host
 - + The eastern honeybee *Apis cerana*
- ✗ First reported in from the Pacific coast of Russia in 1952

10

VARROATOSIS

- ✗ 1958 in Japan
 - ✗ 1967 in Bulgaria
 - ✗ 1977 in Germany
 - ✗ 1980 in Poland
 - ✗ 1982 in France
 - ✗ 1984 in Switzerland, Spain, Italy
 - ✗ 1987 in Portugal
 - ✗ 1987 in USA
 - ✗ 1989 in Canada
 - ✗ 1992 in England
 - ✗ 2000 in New Zealand
- ✗ Global warming may favor the spread of the mite?

11

NOSEMOSIS

- ✗ Caused by microsporidian unicellular parasites
 - + *Nosema apis* in cooler regions
 - + *Nosema ceranae* in warmer regions
- ✗ *N. ceranae* spread has been responsible for most of colony losses in cooler region recently
- ✗ A effect of global warming?

12

ASIAN PREDATORY HORNET

- ✗ *Vespa velutina*
- ✗ Prey on honeybees
- ✗ Originated from south east Asia
- ✗ In 2005, reported in south-west France
- ✗ Since then the species has widely spread across the country
 - + Approximately 190.000 km² until 2010
- ✗ Global warming increases the risk of invasion of the Nordic countries

13

SIDE EFFECTS OF THE SPREADING OF PARASITES OR PREDATORS

- ✗ Single bee losses reducing colony size
 - + Reducing colony size has a negative effect of colony overwintering
- ✗ Transfer of bacterial or viral diseases
 - + Decreased the colony health
 - + Decreasing colony health increase winter losses

14

OTHER POSSIBLE EFFECTS OF GLOBAL WARMING

- ✗ Warmer winters
 - + Disturbance of the winter cluster
 - ✗ During sudden temperature drop, the bees cannot congregate the winter cluster again
 - + High brood activity in winter
 - ✗ Due to obsolescence, early dying of the worker bees
 - ✗ High winter food intake
 - ✗ Starvation!
- ✗ Earlier springs, two weeks in average
 - + Some plants blooming earlier, some plants timely
 - ✗ Flowering time of the different plants don't overlap
 - ★ Due to lack of pollen, interruption of the brood!

15

CONCLUSION

- ✗ The global warming is a fact!
 - + It can either be the result of human activities or a normal climate change of the world climate history
- ✗ We cannot expect that this fact will not affect our agricultural production
- ✗ Especially for a species, highly interacted with environment

16

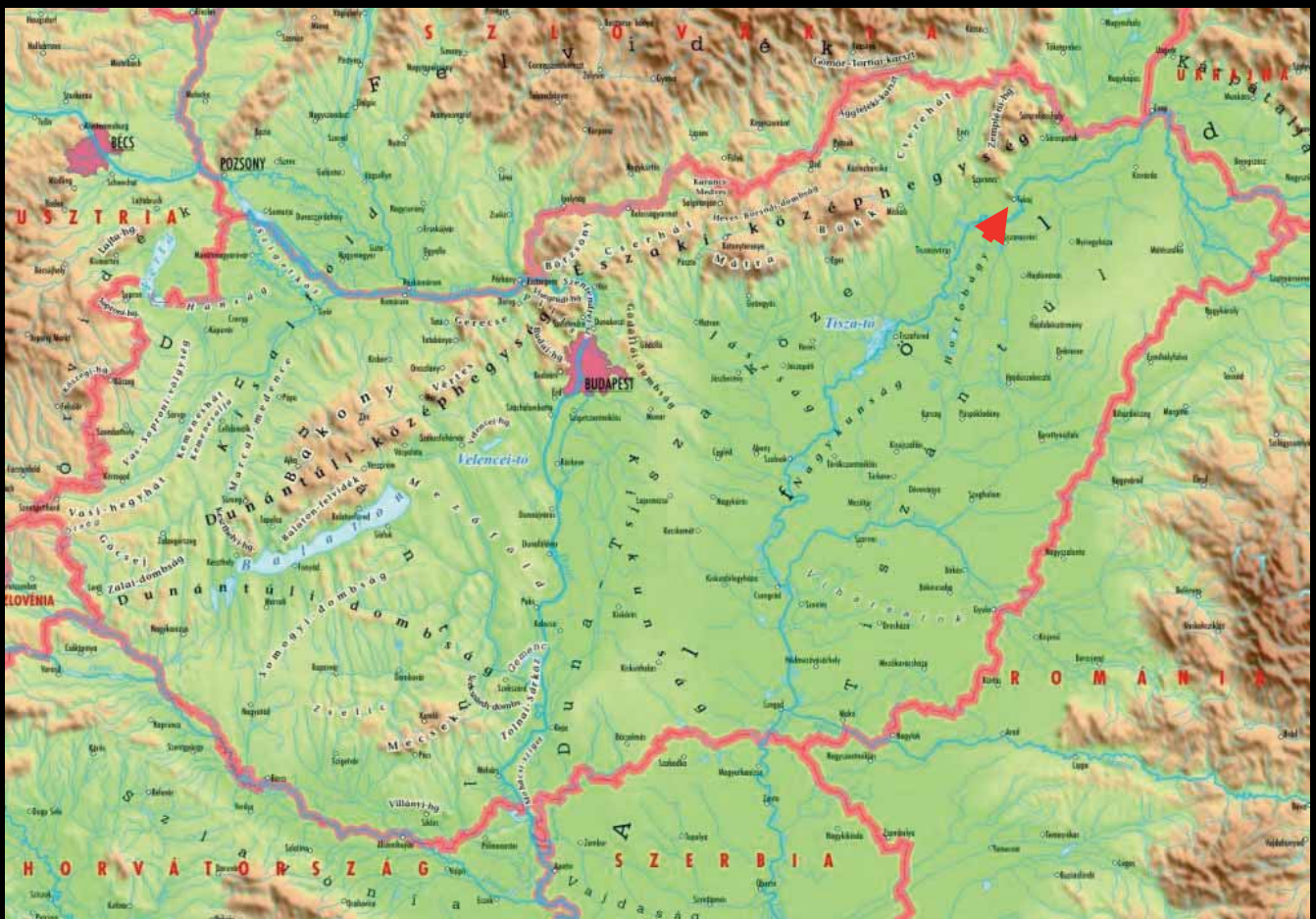


THANK YOU VERY MUCH FOR YOUR ATTENTION

Tokaj-Bodrogzug Protected Landscape area

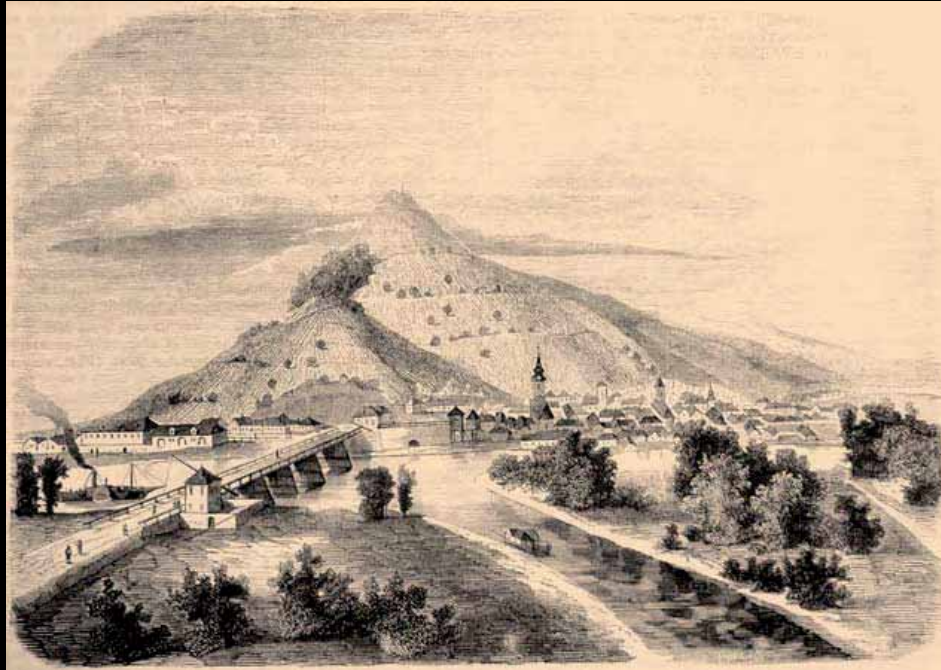


- Belongs to the Aggtelek National Park
- Protected since: 1986
- Total area is 5.058 hectares, from which 724 hectares are strictly protected
- Bodrogzug is a RAMSAR site (since 1989)

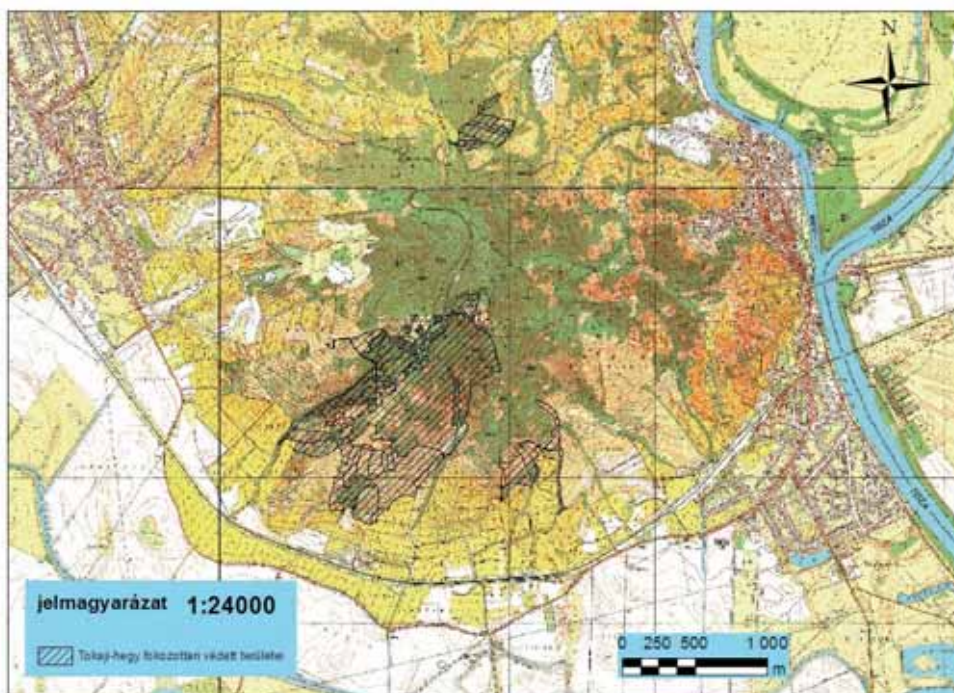


Tokaj-Bodrogzug Protected Landscape area Nagy Kopasz Hill

- The history of the wine region documented since 1561



Strickly protected Areas in Nagy Kopasz



Nagy Kopasz hill is the highest (512 meters), largest and in the same time one of the youngest volcanic "witness hills" in Hungary

A meeting point of different flora and fauna elements





Stipa sp.



Pulsatilla grandis



Iris pumila



Iris pumila



Androsace maxima



Astragalus dasyanthus



Plebejus zephrus



Iris aphylla ssp. *hungarica*



Himantoglossum caprinum



Importance of Tisza River farming on floodplain

Bodnár Mihály,
Tiszatáj Public foundation
2014.05.08. Tokaj

Datas:

- The Black and White Tisza come from the Carpatian and they joined to each-other
- Joine to the Danube near Titel
- The longest tributary of the Danube, 962 km today
- Before regulation (began in 1846), was 1,419 km long
- During the several decades of regulatory work hundreds of bends were over-cut.



Near Tiszadob a 36 kilometer curvy section elicited with an 8 km long transection



3

Before the regulation the water spread slowly on large floodplains, giving special help to agriculture, allowing the floodplain-farming



4

Waterlevel between the dams has increased, and began the dike-heightening competition



5

Coll. XVI. Seclio XVI.

Thcil der Borschoder Saboltcher und Hewescher Comitab.

Till the regulation people along the river lived in harmony with nature

- The golden age of nature-gardens
- Mongol and Turkish invasion, concentrationing of settlements
- Self-catering
- Feudal latifundia system, extensive cultivation methods

6



Along the riverside were orchards, on the deepest places were meadows, on the loess sides were arable lands

7



Growing of population in Europe and in Hungary..

- Prosperity of cereals
- Growing of settlements
- Necessity of transportation
- All these indicated the establishing of drainage channels and closing Tisza River between the dams

8

River regulations, drainages

- Radical change of natural conditions
- Ongoing interventions (regulation, drainage systems, irrigation systems)
- Secondary cultivated place from Tisza-valley

9

The main economical branches

- Till 1867: the agriculture
- Till the '90s: agro-industrial country
- Today: the service sector


10

An aerial photograph of a vast, green landscape in the Tisza valley. The terrain is a mix of grasslands, wetlands, and cultivated fields, with a winding river or stream visible. The landscape is dotted with small trees and shrubs, and the overall color is a vibrant green.

Secondary cultural- landscape of Tisza- valley

- Grasslands
- Wetlands
- Cultivated forests
- Arable lands

11

A photograph of a farmer standing in front of a traditional white house with a thatched roof. The farmer is wearing a brown jacket and a fur hat, and is holding a long wooden staff. The house is situated in a rural area with trees and a body of water in the background.

The developer of this cultural landscape is the farmer

- The floodplain-farming has to be a part of the system of agrosupporting
- Importance of zone system
- The „first pillar“ is marked with marketoriented, industrial agriculture
- The „second pillar“ is servicing for a healthy nature and society

12

The aim of floodplain farming


- Maintenance of landscape rich in natural values
- Income production
- Retention of rural population

13

Tasks of floodplain-farming

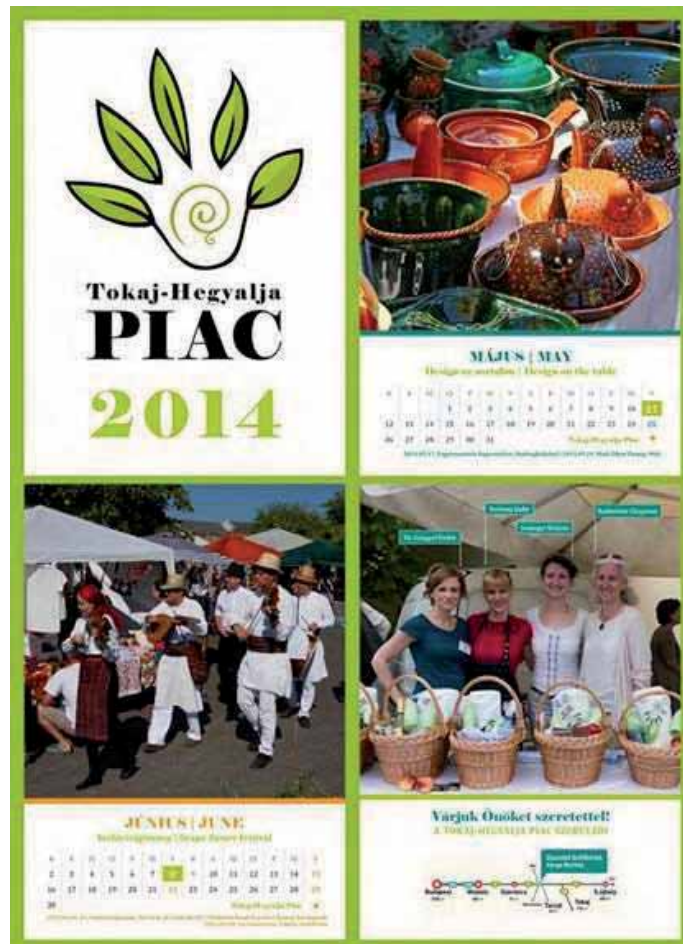
- Maintain and care of valuable habitats with nature-friendly farming methods
- Maintain of a new environment-friendly managing on the so-called „second pillar“ areas

14

An aerial photograph showing a river winding through a lush green landscape. The river has several meanders, creating oxbow-like shapes. The surrounding land is a mix of green fields, some with distinct patterns, and dense green forests. In the distance, a small town or village is visible on the riverbank. The overall scene depicts a natural, undisturbed floodplain environment.

The long-term key to our survival is the maintain and applicaton of principles of a naturefriendly and floodplain farming

Tokaj-Hegyalja Market



Speaker:
Katherine Chapman,
organiser



Organisers

Civil initiative!!!

Team: started with 7 women linked to Tokaj Wine Region

Now 4: Dr. Enikő Lengyel, Judit Fortuna, Krisztina Somogyi, Katherine Chapman



Previous market experience

Miskolc Central Organic Market (Biovásár),
Budapest Hunyadi-téri Market

Officially organised by:

Zempléni Nemzeti Parkért Szövetség – National Park Association





Aims

- Provide an opportunity for **local** – primarily Tokaj Wine Region and Zemplén Mountains, BAZ county **producers and craftsmen/women** – to offer, promote and sell goods directly and without travelling
- Make people aware of as many **products linked to the local area**
- Local, exclusively **handcrafted products** – high quality and small quantity, not using mass production methods and equipment
- To provide place for sale of genuine products, **direct relationship /dialogue between the buyer and producer**, without middle man
- That the market be a community building event, a **leisure-time activity for friends and family**
- Encourage **traditional varieties, organic production**



Structure

Form

- Local producers' market

Venue

- Around Sárga Borház Restaurant on the Disznókő Estate

Time

- The second Sunday of every month since 15th April 2012, 10.00-16.00.

Except January. February market indoors



VENUE

Tokaj Historic Wine Region and UNESCO World Heritage Cultural Landscape



Disznókő
Estate
and the
Sárka
Borház
Restaurant

on the
main road
37, 20km
from
border
with
Slovakia,
on a main
route to
Poland



Target buyers, visitors

- Local inhabitants
- From nearby larger cities: Miskolc, Nyíregyháza, Debrecen and others
- Guests to Sárka Borház, Disznókő
- People travelling on road 37
- Tourists and wine lovers in the wine region, Zemplén Mountains
- Visitors to local festivals





Marketing

On the Internet

- Own website and Facebook pages

<http://tokajhegyaljapiac.blogspot.com/> - English

<http://www.facebook.com/HegyaljaPiac> - Hungarian

- Often on one of the original organiser's gastro-blog (40 000 readers)
- Wine and culinary portals, tourist sites, local products (e.g.: Szőlőlevél, tokajwinregion.com vinoport.hu, helyipiac.hu, vendegvaro.hu, veddamgyart.hu)

In other media

- Interviews on national and local TV (Duna TV, Szerencsi TV, etc.)
- BliskoTokaj

Flyers, posters locally

- Post offices, schools, nurseries, shops, petrol stations, etc.
Restaurants, cafés, wineries e.g. Sárga Borház Restaurant, Disznókő

By word of mouth and people's own FB!!!

- Organisers, producers and „market friends” tell friends, family....



Marketing – social media

<http://www.facebook.com/HegyaljaPiac>

2,599 likes, many regulars who share





Marketing – social media

<http://tokajhegyaljapiac.blogspot.com/>



Marketing

Tokaj-Hegyalja Market Days in 2014 – themed markets:

- February 9th Furmint February and Masked Ball
- March 9th Chocolate doping
- April 13th Easter ham parade
- May 11th Design on the table
- June 8th Grape flower festival
- July 13th Picnic with apricots
- August 10th Fröccs & cordial fest
- September 14th Tokaj grapes!
- October 12th Must & quince delights
- November 9th Bags and more bags
- December 14th Christmas Fair



Marketing – events and services

- Thematic **wine tastings** of top wines of the Tokaj Wine Region
- **Estate visit and tasting** on Disznókő Estate
- Live „artisan” **music** (and dance)
- **Craft demonstrations** e.g. basketry, coopers
- **Exhibitions** e.g. art, craft, photo
- **Conscientious consumer** films, talks
- **Market menu** – local, seasonal products in the Sárga Borház Restaurant
- **Children’s play area and supervision**
- **Free parking** on Disznókő estate



Main supporters

- Local village council - Mezőzombor : tables transport and lending
- Mezőzombor Polgárőr Egyesület: traffic control, parking
- Disznókő Estate: venue, infrastructure, events (e.g. wine tasting)
- Sárga Borház Restaurant: venue, infrastructure, market menu
- Tokaj Research Institute for Viticulture and Enology: initial office infrastructure, advertising space (Szőlő-levél newsletter)
- Zempléni Refuse Company (Hulladékkezelési Közzolgáltató Kft.): selective rubbish, rubbish sacks and refuse collection
- Szerencsi TV for photos and videos
- Zsolt Szentirmai of PWSDesign – for photos





Results

First market – 15th April 2012

- 39 food and craftsmen/women
- Around 1500 visitors
- Around 500 parked cars
- Events: Furmint tasting 7 Tokaj top and artisan winemakers, music and Modavian dance house, film: „The smallest market also counts”, (A legkisebb piac is számít), craft demonstration: basket weaving, treasure hunt on the Estate, Eszter Fűszeres gastro-blogger cooked potato pancakes, local lamb roast in the Sárga Borház, eastate visit and wine tastings at Disznókő Birtok
- **Happy visitors and producers!!!**



Questions

Self-sustatinable financially???

- Table price from: 1000 – 7500 HUF (3.5 – 25 EUR) (3% of income)
- Infrastructure e.g. if it rains, signage e.g. parking etc.
- Printing costs, musicians and other events, photography, etc.

Authorities - flexibility???

- Only small scale producers allowed „kistermelő”, craftsmen/women, not companies,
- Hygiene rules as in permanent market halls

Lack of **volunteers**

- 4 main voluntary organisers was not enough for tasks: collecting money, emergencies, info desk.
We now have a full-time employee





**Thank you
- and hope you can join us one day!**

Contact:

Katherine Chapman

E-mail: tokajhegyaljapiac@gmail.com

<https://www.facebook.com/HegyaljaPiac>

Mobile: +36 70 612 0400

TOKAJ-HEGYALJA MARKET

Second Sunday of every month!





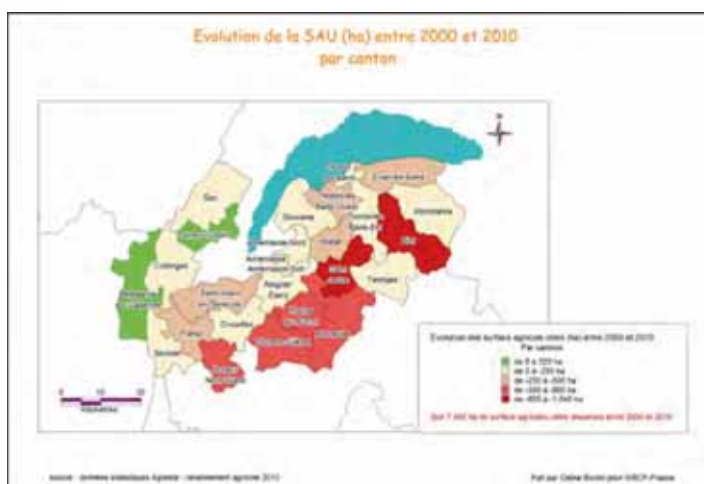
Agriculture in the Geneva Lake Region and work of the Collective « Local Sustainable Agriculture »



Agriculture in the Lemanic Region : agricultural land

For 10 years, the number of farmers and farmland are steadily declining.

Between urbanization and changes in agricultural practices, nearly 7,500 ha of agricultural land were lost between 2000 and 2010, equivalent to 10,000 football pitches (7% of the Ag. land identified in 2000).



Agriculture in the Lemanic Region : number of farms

Loss of agricultural land has been accompanied by the closure of 1,351 agricultural farms throughout the Lake Geneva or third existing farms in 2000.



Source : données statistiques Agroscope / recensement agricole 2010

Fait par Gene Baudou pour WECF France

Agriculture in the Lemanic Region : productions





Birth of the Collective “sustainable and local agriculture” - Leman

June 2010 : WECF France, and different Partners network, different actors involved (associations, AMAP and ACP members, elected officials, project leaders, academics) formed a working group from this Region to implement actions to develop sustainable and local agriculture.

After conducting a **diagnostic survey** of AMAP in France and ACP in Switzerland, three working committees were established in **September 2010** to work on the major issues identified for agriculture in the Lake Geneva basin:

1. access to land
2. forms of product distribution to reach a wider audience
3. the need for training and support, as well as sharing of agricultural techniques.

February 2011 : Birth of the Collective and 1st proposition of a Chart

November 2013 : Revision of the Chart



Collective goals

- Contribute to the settlement of farmers
- Contribute to the maintenance of agricultural land through the mobilization of all actors
- Contribute to the diversification of agricultural production in this area
- Increase food self-sufficiency Lake Geneva while improving product quality
- Responding to growing consumer demand for tasty local produce, healthy and environmentally friendly
- Creating sustainable employment in agriculture over Lake Geneva
- **Improving the environmental performance of local agriculture.**



FOUNDING VALUES

★ **sustainable agriculture**, relating to four dimensions inseparable :

- economic efficiency: efficient and autonomous production systems, decent income
- social equity: sharing of wealth, production rights and decision-making power, gender equality
- the protection of the environment: preserves soil fertility, biodiversity, landscape, air quality and water
- culture and ethics: respect for future generations, rural and peasant communities. Participatory management of space and modes of production of quality food.

★ **peasant agriculture**, defined as the peasant agriculture that respects and meets the expectations of society, by promoting:

- distribution
- transmissibility
- work with nature
- local development
- autonomy
- product quality

★ **the social economy**, based on seven values :

- social well-being
- citizenship and participatory democracy
- ecology,
- autonomy
- solidarity,
- la cohérence
- diversity

★ **food sovereignty**,

defined as "the right of peoples to define their own agricultural and food policies without dumping to other countries, as well as the right of peoples to healthy food, in respect of crops produced using methods sustainable and environmentally friendly

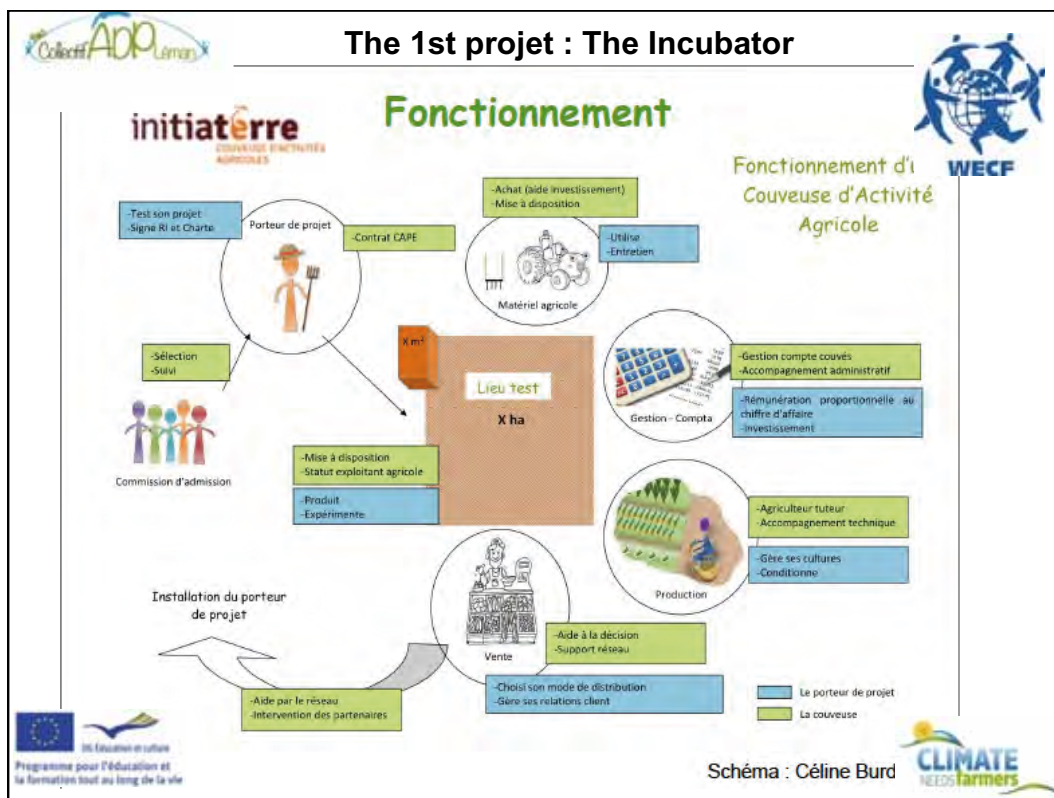
★ **Responsible food**, based on:

- awareness of the implications of our eating habits on the environment and humans
- choices promoting agricultural practices beneficial for the environment
- choices enabling farmers to gain autonomy.
- consumption of seasonal products, focusing on local produce and short circuits, promoting organic products.

PRINCIPLES

The Collective ADP's objective is to promote and develop the territory Basin Lake Geneva:

1. A viable and sustainable agriculture, which should enable farmers to live decently from their job and more to access it.
2. Agriculture that provides consumers with access to a healthy, tasty and quality food, produced without synthetic chemicals.
3. Agriculture that respects natural resources, biodiversity, soil quality and animal welfare.
4. Agriculture that contributes to maintain the diversity of high animal populations and crop varieties.
5. Agriculture that fits into an argument over the long term and comprehensive manner, while enhancing resources, production methods, and local terroir.
6. Distribution methods that reduce maximum supply distances and the number of intermediaries in the channels, while focusing on the social relationships between people (producers, processors, consumers) and territories (urban and rural).
7. Citizen agriculture, which values the exchange with associations, the social and solidarity economy, civil society, to promote shared values enshrined in the Charter.
8. Work "awareness" of the entire population to promote the values of the group and assist citizens to better understand the concepts of seasonality and geographic consistency in their purchasing actions. "
9. Acts favoring the preservation of agricultural land



The 2nd projet : Eat well, Easy!

Objectives:

Promote sustainable food systems from farm to plate, in the “Savoie Country” (and extension).

Specifically, it aims to educate consumers with a focus on young people and professional catering and tourism in the “Savoie Country” towards a responsible power.

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CLIMATE NEEDS farmers

The 2nd projet : Eat well, Easy!

Menu of the workshops :



The 2nd projet : Eat well, Easy!





The last one....



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