

Functions presented

In this document all the Functions are presented. Each function is explained. Print them on paper for discussion purposes!



Handy summary list of functions

All functions

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This document is part of the **Desert – Adapt Replication Toolkit**.

<http://www.desert-adapt.it/index.php/en/>

1. AROMATICS



Growing aromatics and herbs for production purposes. Harvesting, drying, packaging and selling to restaurants, retailers, distributors or wholesale customers. Making added value products, like essential oils, is also possible.

Opportunities. Many species are possible and essential oils (as an added value product) is very profitable. Most species are easy to grow and harvest. In a small space you can have many plants. You can even grow them in patches in the forest.

Points of attention. Selling only the dried leaves or plants is not very profitable. It takes a lot of time to maintain, harvest, dry and pack. Margins are small. Weed control is essential, as well as watering in dry periods.



2. ANNUAL & SEEDS



Seed production can be very profitable when the correct species are selected. What about biological ancient grains and flower seeds? Annuals are often needed as fodder for animals. Select the best options for your soils and animals.

Opportunities. The market for seeds is big. Certainly for flowers, herbs, legumes and special grasses for pasture improvements. If you add the 'biological' stamp to it you really have something valuable. Growing ancient grain seeds for niche markets is trendy.

Points of attention. Harvesting requires some special machinery. And after that seed selection & cleaning, drying and storage will require some extra knowledge and maybe investments.



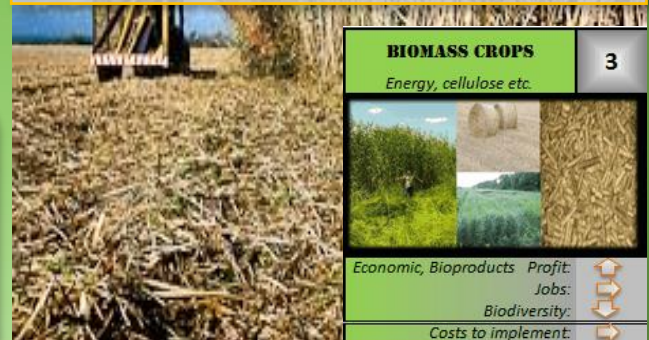
3. BIOMASS CROPS



With this function we aim at producing biomass, mostly for energy purposes. This can be made from woody materials, (sugar) cane or any other relevant product. But in this function we could also produce our own 'pellets', for example.

Opportunities. There is a growing demand for biomass and especially pellets. If you can produce them a sell directly (with your own logo on the bags) to your own local region there are many opportunities.

Points of attention. Forget about selling huge quantities to energy plants. Transport is more expensive then the product. Also realize that biomass growing requires a lot of space (hectares). And it need to be done in a sustainable (5 year rotation) way.



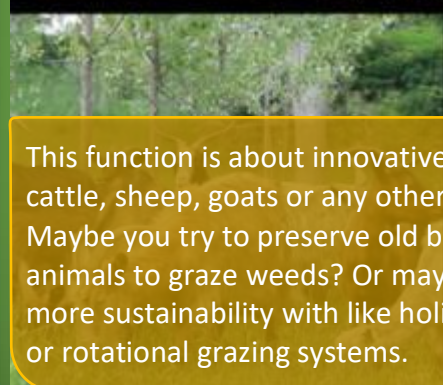
4. LIVESTOCK



Opportunities. Preserving old breeds grow in importance all the time because their market is growing. Many animals can also help to graze weeds and unwanted small trees in nature-like areas.

Points of attention. Working with animals requires extra steps nowadays. Rotational grazing plans are a must. Read more about holistic management, which is also a way to achieve a closed-loop farming system.

This function is about innovative ways to keep cattle, sheep, goats or any other livestock. Maybe you try to preserve old breeds, or use animals to graze weeds? Or maybe you aim for more sustainability with like holistic management or rotational grazing systems.










5. STIMULANTS



Coffee, Cocoa and Tea are the main products under this function. And Coffee and Cocoa grows mainly in the tropics. But 'green/herbal tea' is a fast growing market. Such herbs & fruits can grow anywhere.

Opportunities. Traditional tea producers are switching to green/herbal teas. And they need a lot of ingredients for that. What if you become a specialist supplier for such herbs (and fruits)? And why not start your own tea brand?

Points of attention. Producing 'dry' tea ingredients require some thinking and maybe some investments. Working with herbs is labour intensive. Also think about certification (biological).

STIMULANTS		5
Cocoa, coffee, vines, hop, barley		
		
Economic, Bioproducts	Profit:	
	Jobs:	
	Biodiversity:	
	Costs to implement:	









6. CUT FLOWERS & BULBS



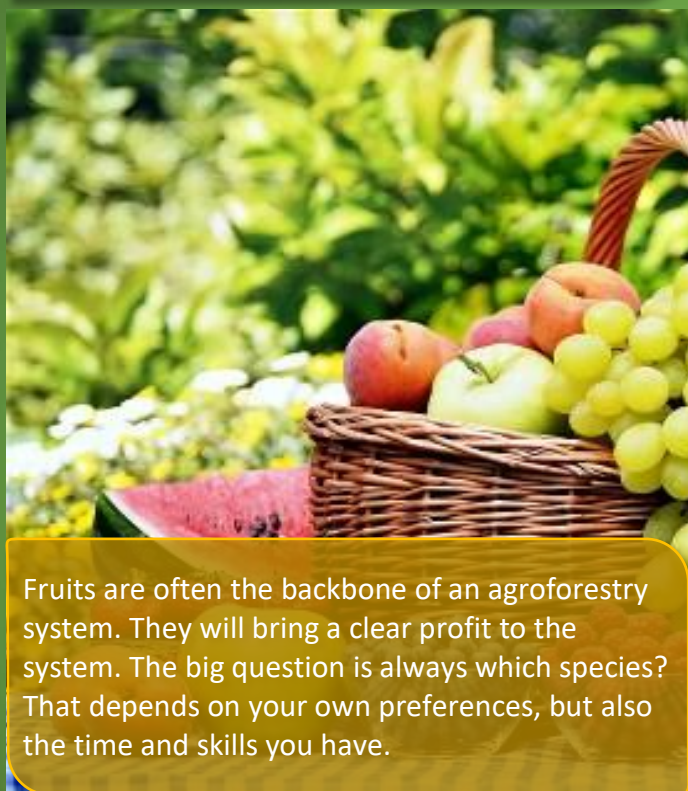
Producing flowers and bulbs is specialized work, when doing this on a large scale. And you often need a good greenhouse with climate control. But what about your small local market?

Opportunities. Growing a selection of native flower species for a local network might be a good solution. And what if you make this a 'pick-yourself' location? And in a Community Supported Agriculture (CSA) set-up?

Points of attention. Growing flowers is often labour intensive. And each specie has its own seasons and maintenance. Best to grow them in a 'nature-like' mixed set-up.

CUT FLOWERS & BULBS		6
		
		
Economic, Bioproducts	Profit:	
	Jobs:	
	Biodiversity:	
	Costs to implement:	

7. FRUITS



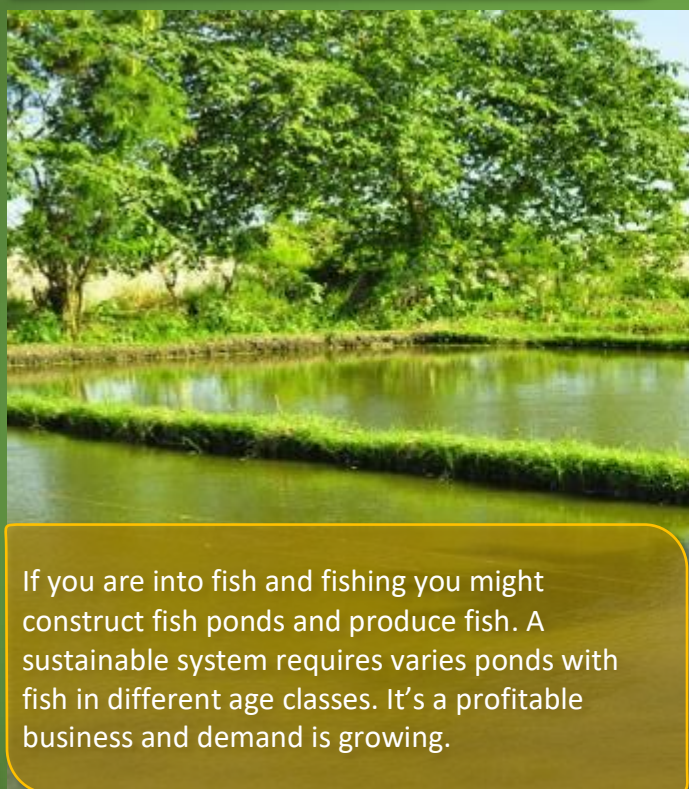
Opportunities. Many species are very profitable, even when grow extensive or in 'high or medium standard' height. Best to add value: make apple/berry flavour juice or cider, jams, dried fruits etc. Grow old varieties with a story.

Points of attention. Every specie comes with its own maintenance. When growing biological it requires skills to produce good fruits. Some species are labour intensive, others not. Added value might come with extra investments.

Fruits are often the backbone of an agroforestry system. They will bring a clear profit to the system. The big question is always which species? That depends on your own preferences, but also the time and skills you have.

FRUITS		7
From trees like olives, apple, pear...		
Economic, Bioproducts	Profit:	
	Jobs:	
	Biodiversity:	
	Costs to implement:	

8. FISH CULTURE & -FARMING



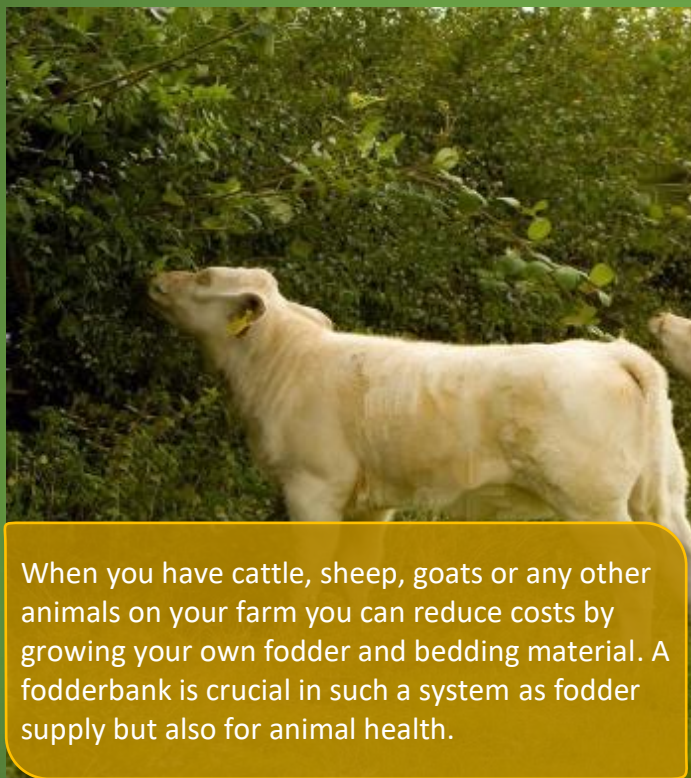
Opportunities. If you have a 'feeling' for fish this might me a good option. It can be done in small ponds (no huge operation needed). The demand is growing for fish produced in a farm set-up (more sustainable when compared to emptying rivers and sees.

Points of attention. Offcourse this requires skills. You also need to consult an expert in constructing the connected pond system with fresh and streaming water availability.

If you are into fish and fishing you might construct fish ponds and produce fish. A sustainable system requires varies ponds with fish in different age classes. It's a profitable business and demand is growing.

FISH CULTURE & -FARMING		8
Selling fish		
Economic, Bioproducts	Profit:	
	Jobs:	
	Biodiversity:	
	Costs to implement:	

9. FODDER & BEDDING



When you have cattle, sheep, goats or any other animals on your farm you can reduce costs by growing your own fodder and bedding material. A fodderbank is crucial in such a system as fodder supply but also for animal health.

Opportunities. On a sustainable farm all fodder and bedding is produced at the farm. And a fodderbank (shrubs and trees) is also very good for animal health as an additional food source. And what about bedding material for your barns?

Points of attention. A Fodderbank can be planted along all borders in a 'natural fence' style. Animals are eating over the fence. Check on your animals what nutrients they are missing and then select your species based on that.

FODDER & BEDDING And fodder banks

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Economic, Bioproducts Profit:
Jobs:
Biodiversity:
Costs to implement:



10. FRESH VEGETABLES



Fresh vegetables should be connected to a Community Supported Agriculture (CSA) set-up. You produce on demand for a fixed group of local customers. Traditional large-scale production is of course also possible, but you should go for Biological.

Opportunities. CSA systems are growing fast. They are profitable and there is a big demand for it by customers (families living close by). Full-field production in a biological way is the other solution. This market is also growing.

Points of attention. Growing vegetables is very labour intensive. You need to enjoy doing it, otherwise don't start. There are also many risks, therefore make sure you grow many different types of vegetables.

FRESH VEGETABLES

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Economic, Bioproducts Profit:
Jobs:
Biodiversity:
Costs to implement:



11. BEE KEEPING



In any agroforestry systems bees play a crucial role. Therefore bee keeping is essential. In this function we aim to start the bee-keeping activity yourself. The alternative is to hire somebody else, and this is mentioned under function 22.

Opportunities. Bee keeping gives you some control on pollination. But it rewards you also with honey. If you have a small shop or sell your products locally you will have another product to sell, with a story!

Points of attention. Bee keeping is not easy. A special training is required, and experience. Bee hives have to be placed and maintained. Bee colonies not always survive, or sometimes simply disappear or have problems with other colonies. And you cannot create too much competition with wild bees.

BEE KEEPING		11
Producing honey from own bee hives		
		
Economic, Bioproducts	Profit:	👉
	Jobs:	👉
	Biodiversity:	👉
	Costs to implement:	👉

12. MUSHROOMS/TRUFFLES



The aim in this function is not 'wild-picking'. We aim for production. This can be done in three ways: A) on wood logs, somewhere in a moisture rich and forest like setting. B) In an old barn, cellar or other moisture rich building. C) by inoculating new planting material (mostly trees) with mushroom spores.

Opportunities. There is a stable market for mushrooms. Selling is not the problem. But producing enough volumes to make it profitable is difficult. Inoculating new planting material is easy and after a few years who knows what can be harvested?

Points of attention. This can be labour intensive (option a and b) and you need have the skills. Climate control is everything, also outside. For inoculating you need a specialized nursery.

MUSHROOMS / TRUFFLES		12
Wild picking or cultivated		
		
Economic, Bioproducts	Profit:	👉
	Jobs:	👉
	Biodiversity:	👉
	Costs to implement:	👉

13. NATURAL FIBRES



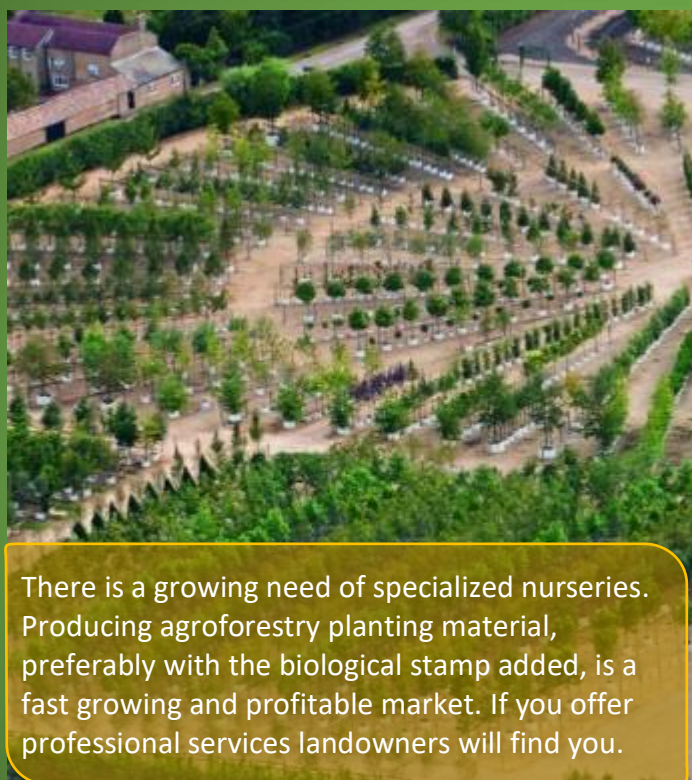
Fibres are for example cork, wool, hemp, trees for paper production, Bamboo, Moringa, Miscanthus and Cane species. Such is produced for the industry but maybe also for the building sector or as bedding for farms (Miscanthus).

Opportunities. In general these are new niche markets in many cases. It means you need to explore yourself and contact potential customers that like to explore further and are into product development.

Points of attention. Main issue with this product is space. This is about large volumes when you need to make it profitable. You also have to be careful not to exhaust your soils with annual crops. But crops like Miscanthus seems to work fine because it is a Perennial.

NATURAL FIBRES		13
From animals, cork, nuts etc		
Economic, Bioproducts	Profit:	🏠
	Jobs:	🏠
	Biodiversity:	🏠
	Costs to implement:	🏠

14. PLANT NURSERY



There is a growing need of specialized nurseries. Producing agroforestry planting material, preferably with the biological stamp added, is a fast growing and profitable market. If you offer professional services landowners will find you.

Opportunities. There is a substantial shortage of agroforestry planting material. If you can inoculate your planting material with spores (mushrooms), or general mycorrhizae, you have an additional advantage. Think big. You should also offer species for fodder banks, berries, shrubs for natural fences etc.

Points of attention. Each specie requires its own maintenance. You also need to collect (native) seeds, test the material over the years and build experience.

PLANT NURSERY		14
Commercial outlet		
Economic, Bioproducts	Profit:	🏠
	Jobs:	🏠
	Biodiversity:	🏠
	Costs to implement:	🏠

15. NUTS



In most cases nuts is the most profitable function in any agroforestry system. Most nut species will see a substantial higher income per hectare when compared to many other crops. Use the correct varieties in your region.

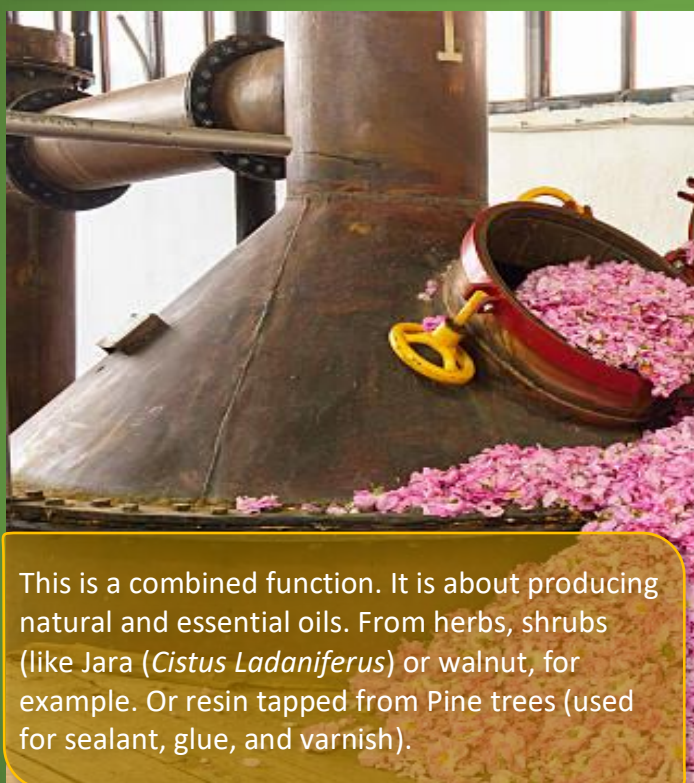
Opportunities. Select the best possible nut species and take into account the climate change. Nut trees you plant for a long time. Think about added value like dried nuts, hazelnut paste, walnut oil, chestnut flower or mixed nuts for breakfast products.

Points of attention. Each specie has its own maintenance and risks. When growing in a biological way learn how to deal with these risks. Plant more than one specie (or variety), because not every year will see a maximum harvest.



NUTS		15
Nuts from trees and shrubs		
Economic, Bioproducts	Profit:	
	Jobs:	
	Biodiversity:	
	Costs to implement:	

16. OIL & RESINS



This is a combined function. It is about producing natural and essential oils. From herbs, shrubs (like Jara (*Cistus Ladaniferus*) or walnut, for example. Or resin tapped from Pine trees (used for sealant, glue, and varnish).

Opportunities. The market for natural/essential oils is very profitable but often small. You need to carve out your own niche market. The resin market is not very profitable and you need a large amount of trees to produce volumes.

Points of attention. Producing the oils is not easy and requires investments. Sometimes it's better to subcontract the actual extraction. Resin tapping is easy, but labour intensive in the tapping season.

OILS & RESINS		16
Including latex, turpentine etc		
Economic, Bioproducts	Profit:	
	Jobs:	
	Biodiversity:	
	Costs to implement:	

17. ORNAMENTAL PLANTS



Ornamental plants are the plants you normally buy at your local garden centre. Flowering plants or plants for hedges etc (*Buxus*, *Taxus*). This includes Christmas trees. There is a whole industry behind it and more and more farmers start to grow these.

Opportunities. Certainly the *not* flowering species (for hedges etc) are easy to grow and not labour intensive. And the profit per hectare is substantial. Preferably you deliver directly to retail. Christmas trees sees a very big profit per hectare as well, and low maintenance. You can sell the trees in 5-6 years. From 10 to 25 Euro/piece.

Points of attention. Climate change issues (extremes) can affect your plants. The final plant need to be of 'garden centre' quality.

ORNAMENTAL PLANTS

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Economic, Bioproducts Profit:

Jobs:

Biodiversity:

Costs to implement:



18. BERRIES



Berries is one of the most profitable and easy to grow functions in agroforestry. It should represent a large part of any agroforestry system. Think about not-so-common berries for niche markets. You can place them in rows or patches but also in the natural fences or strips around your lands.

Opportunities. The market is profitable for almost all berries. Offcourse you can always add value and make juices, dried fruits, cider, jams, ice-cream etc. Put them in the freezer during the season and add value in off-season.

Points of attention. Every specie comes with its own maintenance. When growing biological it requires skills to produce good fruits. Some species are labour intensive, others not (harvest season in 1 week). Added value might come with extra investments.



BERRIES

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Raspberry, black-blue & red berries...



Economic, Bioproducts Profit:

Jobs:

Biodiversity:

Costs to implement:



19. TIMBER & FIREWOOD



Timber and firewood is long term thinking. We classify timber as an 'extra' product, but never the real focus. Firewood can be produced quicker from fast growing species (although the value will be less). Certainly when you already have a forest this can be an option.

Opportunities. Producing firewood, or better producing briquettes or pellets from it, is a reasonable business. Certainly when you pack them in bags, with your logo and sell directly to consumers. If they are certified with FSC or PEFC you have a good product.

Points of attention. A pelleting machine is not expensive, but nevertheless an investment. You can grow firewood in a sustainable rotation and this should always be your aim. You need have space and a forest like setting.



TIMBER & FIREWOOD

19



Economic, Bioproducts Profit:
Jobs:
Biodiversity:
Costs to implement:

20. PASTURES



This function is all about pasture improvement. You should aim for a maximum level of organic matter in your soil and a rich and healthy mixture of grasses and legumes to graze or harvest. If that is not the case right now, select this function.

Opportunities. Improve your pastures and soils and you will save on many costs in the future. But besides that you will be much better prepared for climate change. Also think about rotational grazing and holistic management.

Points of attention. Don't hesitate to ask external experts to help you with seed-mixes, direct seeding machines (no ploughing), design the rotational grazing system and ways to increase organic matter.

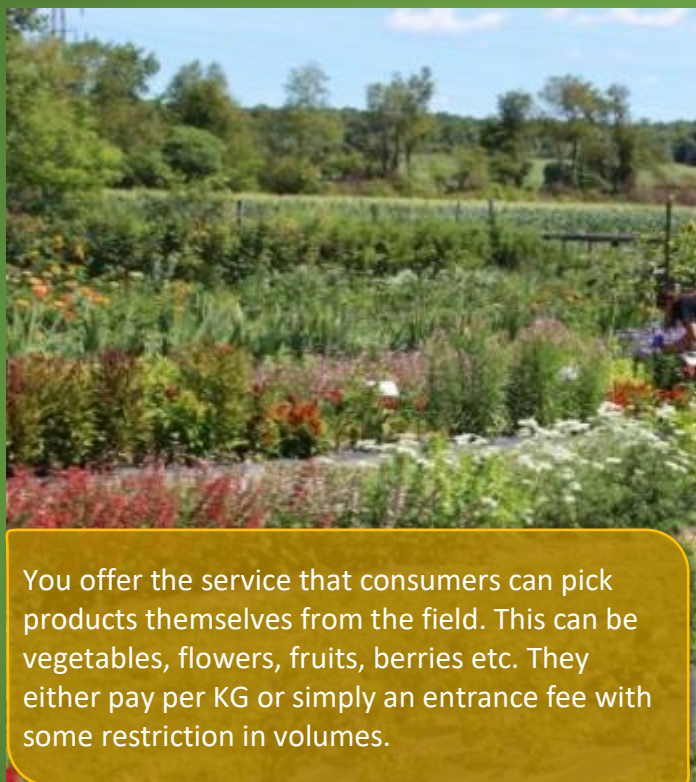
PASTURE

20



Economic, Bioproducts Profit:
Jobs:
Biodiversity:
Costs to implement:

21. PICK YOUR OWN CROPS



You offer the service that consumers can pick products themselves from the field. This can be vegetables, flowers, fruits, berries etc. They either pay per KG or simply an entrance fee with some restriction in volumes.

Opportunities. Such can be organized as a Community Supported Agriculture (CSA). But you can also have general 'open days' when people visit the farm and are allowed to harvest. Such can be profitable when combined with other services.

Points of attention. Pick yourself is not enough on its own. Combine it with a small cafe/restaurant/terrace function. Or combine it with paid excursions. And what about a small shop where people can buy your products? Each visitor should spend xx Euro's!

PICK YOUR OWN CROPS		21
& grow and deliver 'on demand'		
		
Economic:	Ecoservice:	Profit:
		Jobs:
		Biodiversity:
		Costs to implement:

22. BEE KEEPING RIGHTS



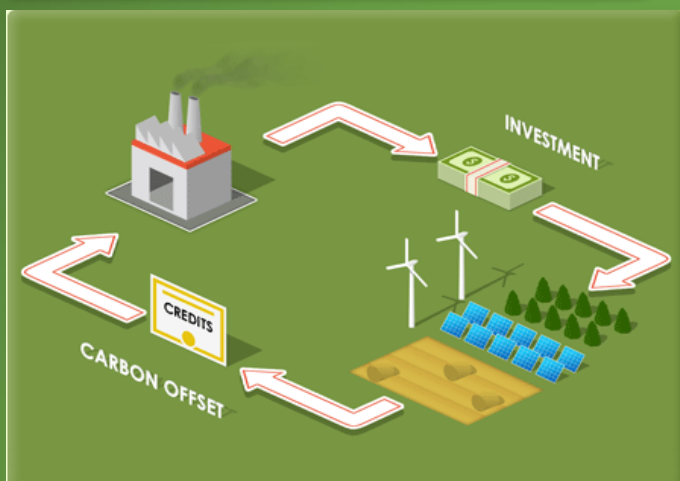
Where function 11 was about becoming a beekeeper yourself, this function is about subcontracting this. Or better: close a contract (against payment) with a beekeeper so that he will place beehives on your land.

Opportunities. This is maybe a small income source but you need bees for pollination anyway. And maybe the beekeeper can pay you in honey? And this honey, with your farm-logo you can sell yourself.

Points of attention. You will need to discuss details with the beekeeper. These colonies should not destroy the wild bee population. And there should be enough lands/vegetation to collect from. The beehives should not become a danger for hikers and visitors.

BEE KEEPING RIGHTS		22
Renting out the service.		
		
Economic:	Ecoservice:	Profit:
		Jobs:
		Biodiversity:
		Costs to implement:

23. CARBON CREDITS



A few years ago large scale voluntary carbon credit certification (VCS/ CCB) was not reachable in Europe. Both because of costs and some crucial national regulation that are (still) missing. Nowadays there are many local initiatives doing the same thing but on a smaller & informal scale.

Opportunities. Your best option is to connect to such a local initiative. Make sure to figure out if the workload/administration is in line with the potential profit. Such profit will never be much per hectare (max 100 euro, but mostly much lower).

Points of attention.. This remains a voluntary market. It can, and will not, have anything to do with the official national/EU carbon credit markets. Thus it all depends on your customer what he likes to pay for your carbon storage.



CARBON CREDITS		23
Economic:	Ecoservice:	Profit:
Jobs:	Biodiversity:	Costs to implement:

24. FOOD SELF-SUFFICIENCY



This is all about raising your own Community Supported Agriculture (CSA) organisation. You will grow products on demand for a large group of families. There is no fixed way to do this, there are many options. 150 families is break-even!

Opportunities. Most CSA's work with an annual subscription fee (200-400 Euro/ family). You grow the vegetables, the 'members' pick what they need *for their own use*. You can do the same with flowers, berries, meat and fruits.

Points of attention. Members share in abundance and in shortages, that is part of the deal. But what happens if you put apples in the CSA system and this year there are no apples? Then you need to have an alternative. Learn from the mistakes of other CSA's.



FOOD SELF-SUFFICIENCY		24
Economic:	Ecoservice:	Profit:
Jobs:	Biodiversity:	Costs to implement:


25. CAMPGROUND/ B&B/ TINY HOUSES



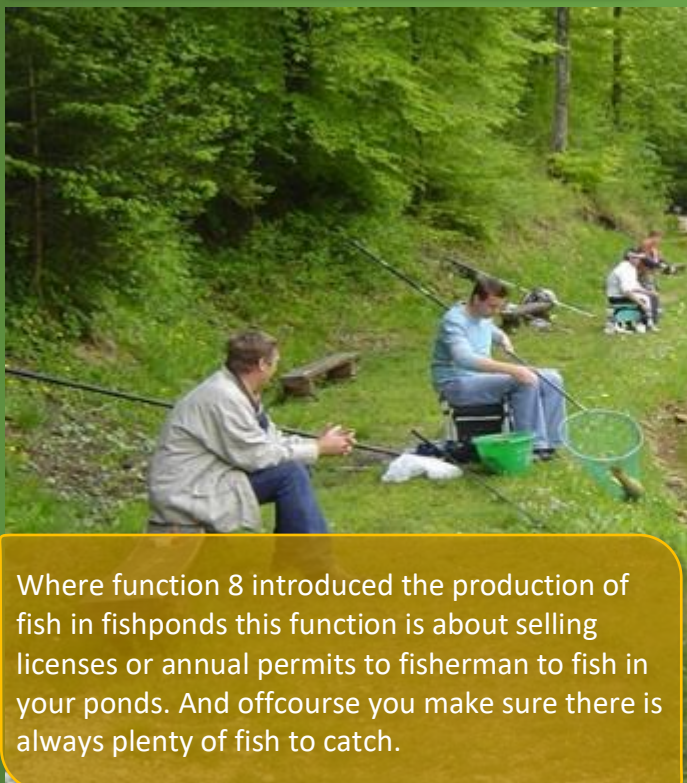
There is fast growing trends of landowners turning their land into small campgrounds, offer B&B services or placing tiny houses, in often beautiful locations, in the fields. Needless to say that this is very profitable.

Opportunities. This is not for nothing a fast growing trend. A campground is not difficult to make. Tiny houses are not that expensive. And many people love to stay in a B&B at the farm. And pay for it.

Points of attention. A mistake often made is to forget that any visitor likes to see the same luxury as they have at home. Thus things should be clean, good coffee is in place etc. And visitors always have some request...or complain. You as a person should be able to deal with that. Otherwise don't do it.

CAMPGROUND / B&B		25
Tents/cabins/B&B		
		
Economic:	Ecoservice:	Profit:
		Jobs:
		Biodiversity:
Costs to implement:		

26. RECREATIONAL FISHING



Where function 8 introduced the production of fish in fishponds this function is about selling licenses or annual permits to fisherman to fish in your ponds. And offcourse you make sure there is always plenty of fish to catch.

Opportunities. If you have a 'feeling' for fish this might me a good option. It can be done in small ponds (no huge operation needed). There is always a demand for such services. Combine it with a small café at the farm and special open-days with competitions.

Points of attention. Offcourse this requires skills. You also need to consult an expert in constructing the connected pond system with fresh and streaming water availability..

RECREATIONAL FISHING		26
Selling fishing licenses		
		
Economic:	Ecoservice:	Profit:
		Jobs:
		Biodiversity:
Costs to implement:		


27. HIKING TRAILS



The idea with hiking trails is to include such a trail on your land and then sell (annual?) permits to hike, make pictures, study wildlife etc. It is also possible to organize 'guided hikes', where you provide the expert leading the hike (see also 35).

Opportunities. Maybe this is not that profitable, but if there is a lot to see, and at the moment access is prohibited, this can be an opportunity. Compare it with an entrance fee for a national park.

Points of attention. Visitors require services. Parking space, trail markers, maybe an App/ QR code with info, some picnic sets and benches etc. And it's your land, thus everything should be safe (bridges, falling trees etc).

HIKING TRAILS		27
Selling maps, guided phone apps		
		
Economic: Ecoservice	Profit:	→
Jobs:		→
Biodiversity:		→
Costs to implement:		→

28. MTB TRAILS



The idea with MTB trails is to include such a trail on your land and then sell (annual?) permits to ride it. This works great with a café/ small terrace setting for the afterparty.

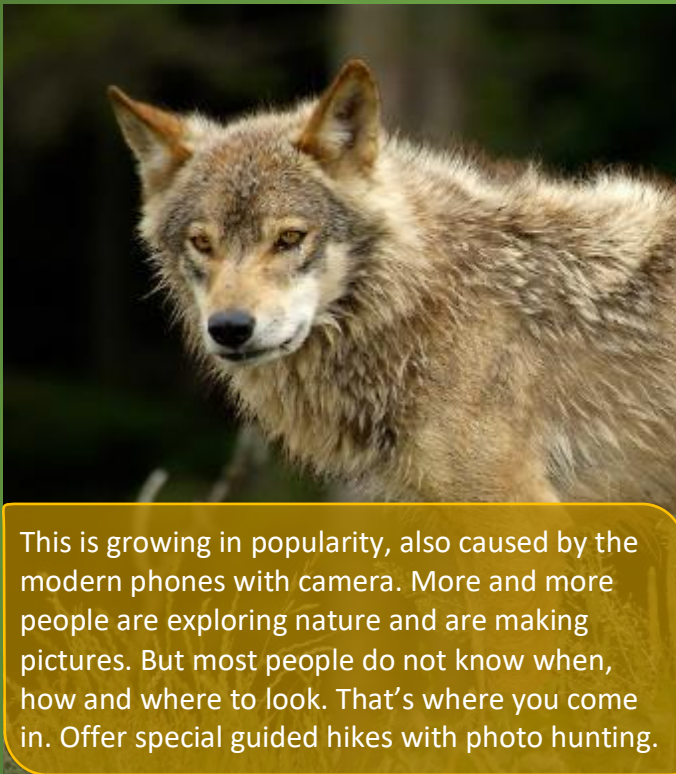
Opportunities. Maybe this is not that profitable, but if there is a lot to explore, and at the moment access is prohibited, this can be an opportunity. Compare it with an entrance fee for a national park. Make a deal with the local MTB club for trail maintenance.

Points of attention. Visitors require services. Parking space and trail markers. And it's your land, thus everything should be safe (bridges, falling trees etc).



MTB TRAIL		28
Selling licenses and maps		
		
Economic: Ecoservice	Profit:	→
Jobs:		→
Biodiversity:		→
Costs to implement:		→

29. PHOTO HUNTING



This is growing in popularity, also caused by the modern phones with camera. More and more people are exploring nature and are making pictures. But most people do not know when, how and where to look. That's where you come in. Offer special guided hikes with photo hunting.

Opportunities. For an average guided hike you can ask 10-15 Euro. If you can organise a group of 20 people every weekend this can become interesting. You can have a different 'theme' each weekend and a website to publish the schedule.

Points of attention. Make sure to think about your target groups and what to offer. Families with small children ask for a different (children program) approach as true nature lovers. Combine this with a café or small terrace to earn something extra.

PHOTO HUNTING

29



Economic: Ecoservice Profit:
Jobs:
Biodiversity:
Costs to implement:



30. WORKING AT THE FARM



Many young people and children have lost the connection with nature. There is a growing demand with families or young people from urban areas to work at the farm in a 'working-holiday' setting.

Opportunities. This remains a holiday or B&B setting. Thus people will pay for the stay and are allowed to help on the farm. Not only feeding the animals, but also pick their own ingredients for dinner. You offer the B&B plus various activities. Be creative!

Points of attention. In general your job is to guide these people in their 'jobs'. Do not think that this is free labour. It doesn't work like that. Some people will do some real work, others are not that 'handy' 😊.

WORKING AT THE FARM

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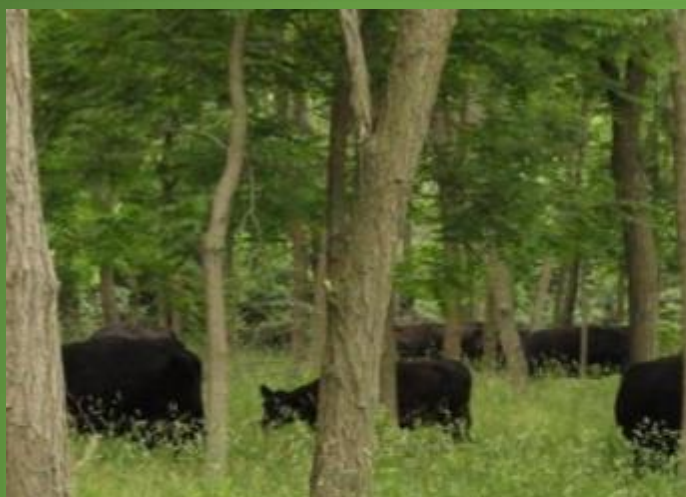
Active holidays



Economic: Ecoservice Profit:
Jobs:
Biodiversity:
Costs to implement:



31. GRAZING RIGHTS



In some situations it can be profitable to let other farmers graze their animals on your land. Goats and sheep can keep the vegetation low. Chickens keep the weeds under control. Pigs can eat the acorns of the oak trees and increase in weight. Arrange a good contract!

Opportunities. This can be very interesting because you do not need to keep the animals yourself while you still have the benefits. If you do not have an excess amount of manure this is also good for fertilisation of your soils.

Points of attention. Make proper arrangement about timing, periods, fencing and maintaining the herd or flock. If you already have too much manure, this function is not possible.



GRAZING RIGHTS		31
Renting out the service.		
		
Economic:	Ecoservice Profit:	↑
	Jobs:	↑
	Biodiversity:	↑
	Costs to implement:	↓

32. TEST AREA



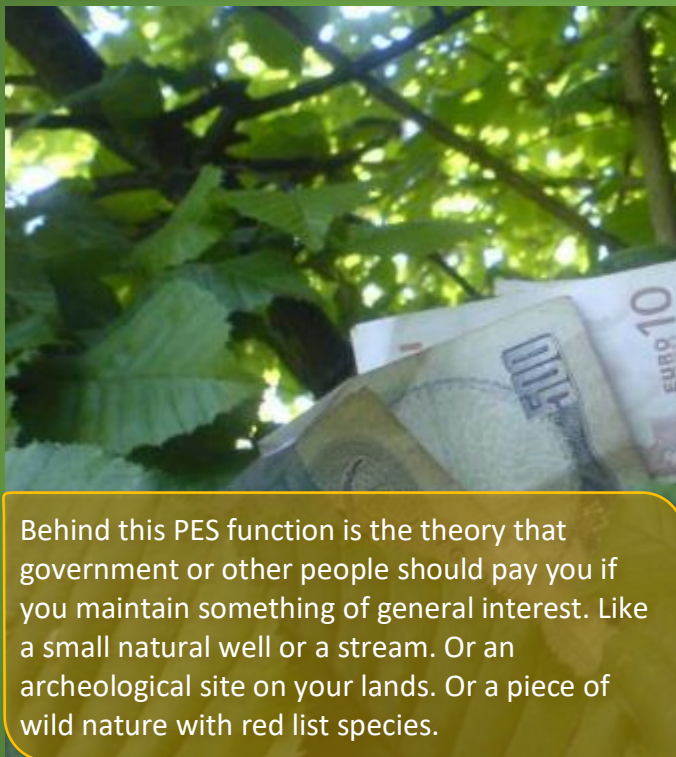
Anything you are not sure of in your own agroforestry system you can put in a special area in the field: your own test centre. Of course you can also close a contract with others that like to test on your lands, against payment.

Opportunities. Research centres and agricultural test centres are always looking for lands. So there is an opportunity. And in your 'own' test centre it's good to test species that you might use in 3-5 years from now.

Points of attention. A good test takes time and measurements, also when you have a contract with others. It means your land is not available for other things.

TEST AREA		32
To test potential species		
		
Test area	Profit:	↑
	Jobs:	↑
	Biodiversity:	↑
	Costs to implement:	↓

33. PAYMENT ENVIRONMENTAL SERVICES



Behind this PES function is the theory that government or other people should pay you if you maintain something of general interest. Like a small natural well or a stream. Or an archeological site on your lands. Or a piece of wild nature with red list species.

Opportunities. Nowadays this is recognizes and there are subsidies for many of these things. Also the CAP/PAC subsidies are converted in that direction. But if there is something missing ask around in your own network what to do.

Points of attention. Receiving subsidies always come with the regulation to keep it as it is, maintain it or even improve it. This is fine to a certain point. Sometimes the paperwork is not worth the small subsidy. Just make sure you maintain it yourself as a good landowner.

PAYMENT ENVIRONMENTAL SERVICES

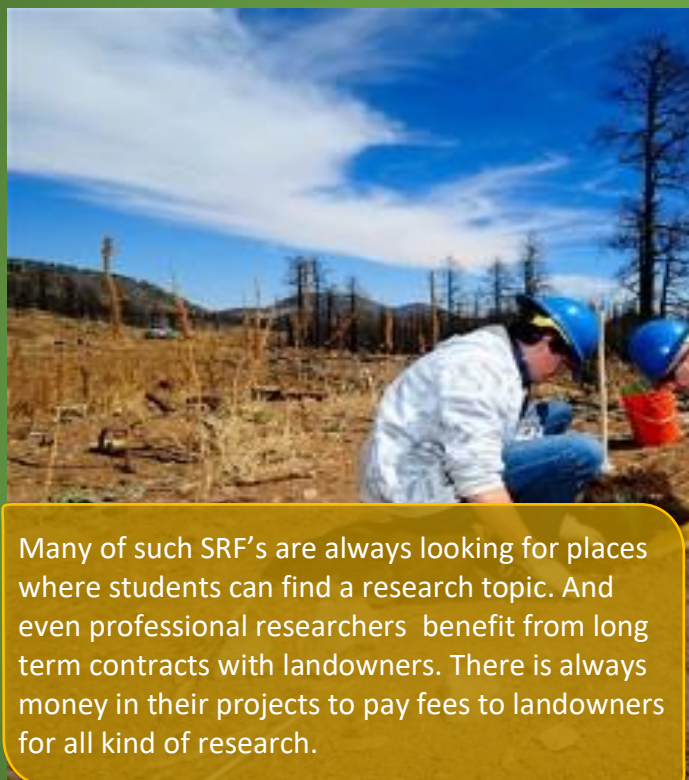
33



Economic: Ecoservice Profit:
Jobs:
Biodiversity:
Costs to implement:



34. STUDY & RESEARCH FACILITIES



Many of such SRF's are always looking for places where students can find a research topic. And even professional researchers benefit from long term contracts with landowners. There is always money in their projects to pay fees to landowners for all kind of research.

Opportunities. If you think you can facilitate such SRF's you should promote yourself. Add an extra page to your website what SRF's you have and what you offer. You can even post some potential topics for research. Then start to contact the SRF's.

Points of attention. Proper research takes time and measurements. It means your land is not available for other things. Students require assistance and time. Make sure the research topics are also in your interest and that you receive the results!

STUDY & RESEARCH FACILITIES

34



Economic: Ecoservice Profit:
Jobs:
Biodiversity:
Costs to implement:



35. STUDY & GUIDED TOURS



If there is enough to see in and around your lands then this is a good option for alternative income. Certainly when you are good is communication and like to talk, teach and explain things to groups of people.

Opportunities. For an average guided hike you can ask 10-15 Euro. If you can organise a group of 20 people every weekend this can become interesting. You can have a different 'topic' each weekend and a website to publish the schedule.

Points of attention. Make sure to think about your target groups and what to offer. Families with small children ask for a different (children program) approach as true nature lovers. Combine this with a café or small terrace to earn something extra. Maybe ask some experts to help you with some topics.

STUDY AND GUIDED TOURS

35

Scenery and bird-watching, etc.



Economic: Ecoservice Profit:

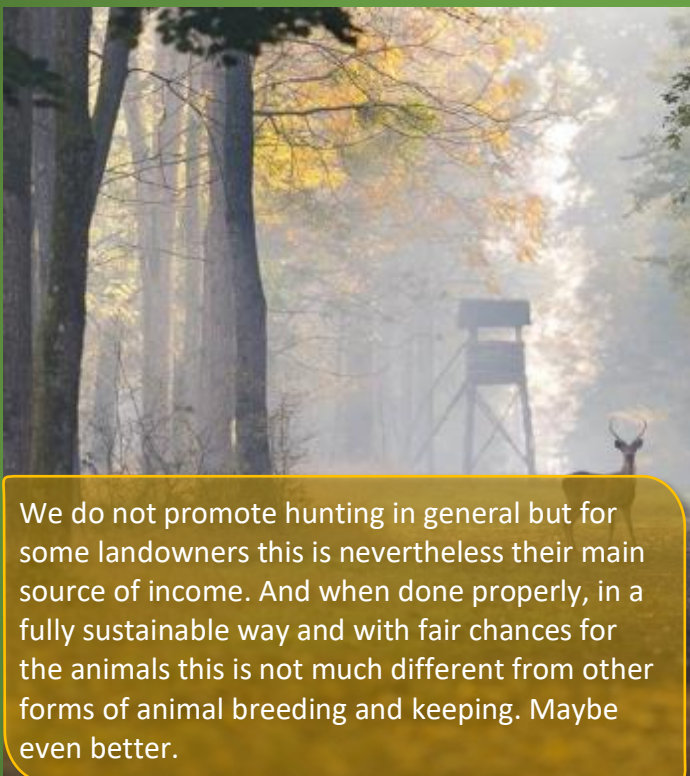
Jobs:

Biodiversity:

Costs to implement:



36. GAME HUNTING



We do not promote hunting in general but for some landowners this is nevertheless their main source of income. And when done properly, in a fully sustainable way and with fair chances for the animals this is not much different from other forms of animal breeding and keeping. Maybe even better.

Opportunities. You need to make a difference. You need to promote the fact that your animal population is a sustainable one (without too much extra feeding) and that only sick or old animals are hunted just like in nature. It is not so much about the shooting, but more about the complete package.

Points of attention. This is difficult to explain to the average EU citizen. Therefore explain the background and how it is done. Compare with cattle herds raised for consumption only, that will never live in the wild.

GAME HUNTING

36



Economic: Ecoservice Profit:

Jobs:

Biodiversity:

Costs to implement:



37. EROSION CONTROL



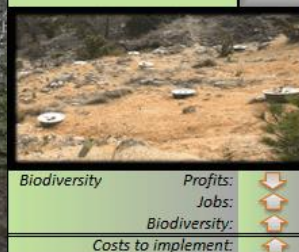
If you have erosion on your lands you need to solve it. Either by reduced (or no-tillage) or extra measures like building food-walls, dams and planting shrubs and trees around all waterways. If there is no other solution you will need to plant special grasses and shrubs to fix the soil in place.

Opportunities. In some cases you can combine erosion control with species that deliver aromatics, herbs or berries. But offcourse your most important aim is to avoid soil run-off and save costs in the future.

Points of attention. You can expect the extremes that come along with climate change to make erosion problems bigger, never smaller. Better to act right away.

EROSION CONTROL

37



Biodiversity

Profits:

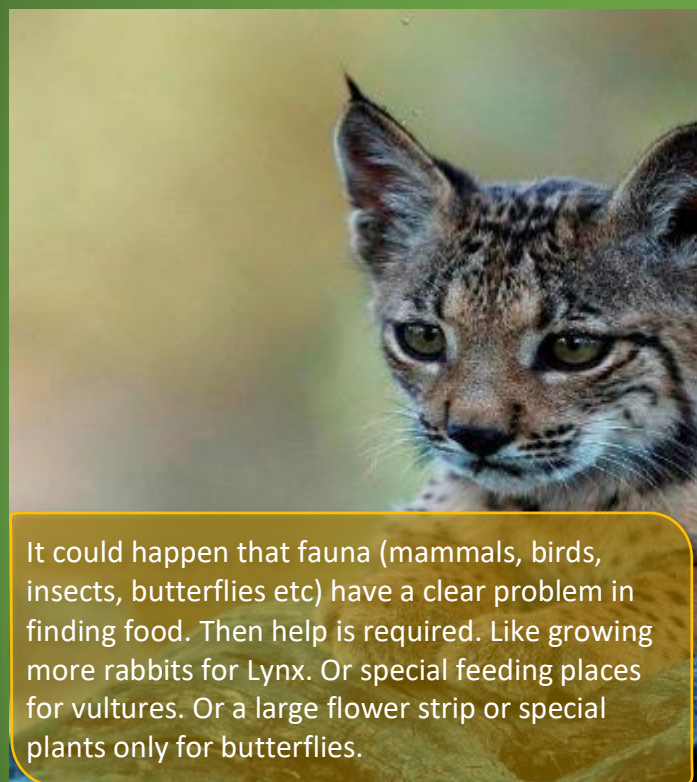
Jobs:

Biodiversity:

Costs to implement:



38. ANIMAL FEEDING PLACES



It could happen that fauna (mammals, birds, insects, butterflies etc) have a clear problem in finding food. Then help is required. Like growing more rabbits for Lynx. Or special feeding places for vultures. Or a large flower strip or special plants only for butterflies.

Opportunities. You increase the biodiversity and assist specific species. That will help you in the long term with pollination, to battle plagues and diseases etc. You will save costs. In some cases you can also use species that deliver aromatics, herbs or berries!

Points of attention. Combinations, symbioses and ecosystem connections can ask for external expertise. If you have an insect plague it's probably because you are missing a certain bird. And that bird is not in place because there is not enough nesting space!

ANIMAL FEEDING PLACES

38



Biodiversity

Profits:

Jobs:

Biodiversity:

Costs to implement:



39. WILDLIFE PROTECTION








In some cases it could be needed to protect wildlife when you have for example red list species on your land. You can close the area and place hiding places. Like making small hills from pruning material or pallets for marten.

Opportunities. You increase the biodiversity and assist specific species. That will help you in the long term with a balanced ecosystem. More wildlife will also offer you the opportunity for commercial photo hunting, excursions and research.

Points of attention. Each specie comes with its own requirements. Study their habits and needs and then build your support structures like nesting poles for bird-of-prey, or floating islands in ponds/lakes.



WILDLIFE PROTECTION & Improve wildlife populations		39
		
Biodiversity	Profits:	
	Jobs:	
	Biodiversity:	
	Costs to implement:	

40. INSECT & BIRD SHELTER








Insect and bird shelters are crucial in every agroforestry system. If there is not enough natural shelter we need to help nature a bit. Bird & bat houses, insect hotels, water-bird floating islands and nesting poles for birds-of-prey are options to include in your system.

Opportunities. When you have healthy levels of insects and birds you improve your ecosystem. That will help you in the long term with pollination, to battle plagues and diseases etc. You will save costs. It is also nice to explain during guided hikes!

Points of attention. Each specie comes with its own specifications. Study them carefully before buying or building the shelters. It could help to make an inventory to see what insect and birds are missing from your system.



INSECT AND BIRD SHELTER		40
		
Biodiversity	Profits:	
	Jobs:	
	Biodiversity:	
	Costs to implement:	


41. RE- & AFFORESTATION



In some cases it might be needed or beneficial to restore an original forest or plant an entire new forest. Such can be the case in areas that could not serve any other purpose. Or lands that should be protected. Or if you are willing to show to visitors how an original native forest looks like in your region.

Opportunities. Offcourse such re/afforestation is good for nature when native species are used. You can also make it partly a food-forest (which a native forest is anyway). Or aim for a real native forest for education, excursions and research purposes.

Points of attention. Always aim for the original species composition that belongs to your location. And think about species in every layer (tree, shrub, plant, mosses). You will need to do some study or ask an expert.

RE- & AFFORESTATION		41
With the aim to increase nature values		
		
Biodiversity	Profits:	👉
	Jobs:	👉
	Biodiversity:	👉
	Costs to implement:	👉

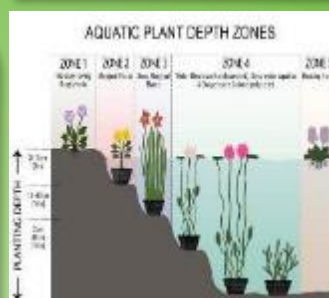
42. RIVERS & OPEN WATERS



To prepare yourself for climate change all rivers, streams, ponds and lakes need to be protected from the sun or soil erosion. In general water quality has to be improved also. And you will need to be able to collect & store all the water you can in new 'natural' ponds, or lakes.

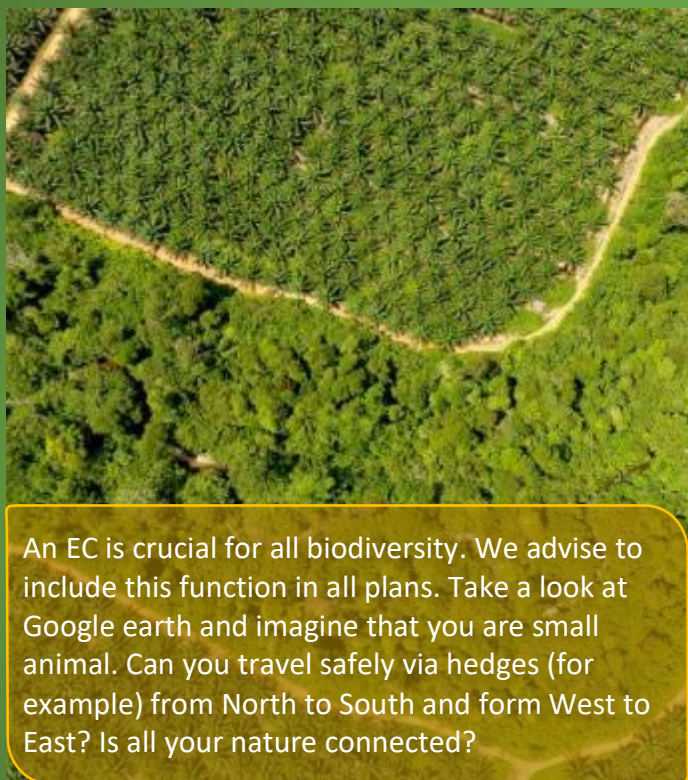
Opportunities. Water availability will be an hot issue in the future when dealing with climate change extremes. You will save costs, and improve growth and animal health when this is well organised. You will need a special 'water management' plan.

Points of attention. In such a 'plan' you aim for planting shrubs and trees along all water bodies, increase water quality with aquatic filters (adding water plants), collect and store water in 'natural' looking ponds & lakes and place dams, stone walls etc to prevent soil run-off during floods. And no-tillage!



RIVERS & OPEN WATER		42
Protection of waterways and -bodies		
		
Biodiversity	Profits:	👉
	Jobs:	👉
	Biodiversity:	👉
	Costs to implement:	👉

43. ECOLOGICAL CORRIDOR



An EC is crucial for all biodiversity. We advise to include this function in all plans. Take a look at Google earth and imagine that you are small animal. Can you travel safely via hedges (for example) from North to South and from West to East? Is all your nature connected?

Opportunities. All species benefit from connected nature. These are biodiversity highways. And if nature is connected you will save costs in the long term (less plagues and diseases).

Points of attention. Yes this is about losing land to nature. Design smartly. Many of these hedges are along the borders of your lands. Or along waterways that need protection anyway. Such strips can be multipurpose: biodiversity EC, windbreaker, fodderbank, natural fence, berry production, timber, nuts, waterway protection etc.

ECOLOGICAL CORRIDOR		43
Wildlife refuge or bufferzones		
Biodiversity	Profits:	→
	Jobs:	→
Biodiversity:		→
Costs to implement:		→

44. WASTE CONTROL



Sometimes waste can be a problem. Maybe you have an old waste dump, or maybe people are dumping trash in a remote corner of your land. This function is about cleaning such areas and preventing future issues. Maybe simply place trash cans along hiking paths.

Opportunities. Waste doesn't belong in a nature-rich environment. As a good land-owner you will need to clean this. If this is a continues problem: make a plan. Discuss with the police, local municipalities etc.

Points of attention. Some waste can be harmful. And sometimes it is not easy to clean and bring it somewhere else. Inform yourself what and how to do it. Ask help from your local government. Place signs in the field that dumping is prohibited and will be reported immediately. Place cameras.

WASTE CONTROL		44
Biodiversity	Profits:	→
	Jobs:	→
Biodiversity:		→
Costs to implement:		→

45. LANDSCAPE RESTORATION



This is about the larger infrastructural works. Re-aligning a stream to its original meandering path. Building a natural or artificial pond or lake. Restore a cultural place of interest. Clean up original terrasses, dikes, ditches, paths etc.

Opportunities. Meandering rivers and extra ponds or lakes are important for biodiversity but also for your watering storage capacity. Restoring archaeological places can also help you with guided hikes, excursions and image building.

Points of attention. In many cases this is indeed about landscape restoration. Inform yourself about subsidies. For such things there are often subsidies available, but maybe from sources you do not expect.

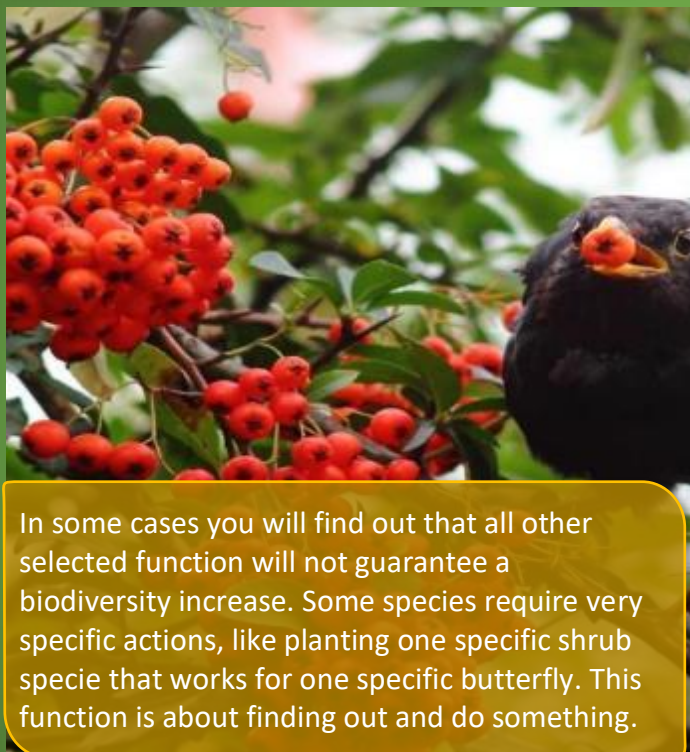
LANDSCAPE RESTORATION
Restore traditional landscapes etc.

45



Biodiversity: ☐
Jobs: ☐
Biodiversity: ☐
Costs to implement: ☐

46. BIODIVERSITY PROMOTIONAL PLANTS



In some cases you will find out that all other selected function will not guarantee a biodiversity increase. Some species require very specific actions, like planting one specific shrub specie that works for one specific butterfly. This function is about finding out and do something.

Opportunities. This requires knowledge. Don't hesitate to hire a biodiversity expert who is able to tell you which are the 'missing links' in your local ecosystem. Which species are missing and what to do to attract them, and keep them in place?

Points of attention. This is about flora and fauna. For example check the annual Flowering Arch for wild bees. Are there flowering plants in every week of the season? Select plant, shrub and tree species that are missing and start planting.

BIODIVERSITY PROMOTIONAL PLANTS

46



Biodiversity: ☐
Jobs: ☐
Biodiversity: ☐
Costs to implement: ☐

47. CREATE EMPLOYMENT



This function is automatically selected. Each Agroforestry system comes with more labour. This is not a problem because in general there is also more income per hectare. More demand for labour means more young people working in the agricultural (agroforestry) sector and building a living in the area.

Opportunities. We should avoid further loss of experience and knowledge. Older people need to pass this to new generations. It means younger people should find work and should decide to make a living, instead of moving to cities.

Points of attention. Careful agroforestry planning is needed: which income sources to aim for? The selection of proper 'functions' to guarantee indeed more income per hectare when compared to conventional agriculture. It is possible, but requires smart thinking.



CREATE EMPLOYMENT

47



Social

Profit:

Jobs:

Biodiversity:

Costs to implement:

48. WORK WITH DISABLED PEOPLE



This is not only about disabled people, but can also be about older people in general or other groups of people that have difficulties in the modern civilization. It is a clear choice to make if you see this as your role as landowner to do something extra.

Opportunities. Sometimes you will save on labour costs when working with such groups. But it also costs more of your time because such people require extra attention in all cases. Therefore it is still a choice to make.

Points of attention. There are many professional companies or organisations that supply you also with supporting staff. Such staff will guide their own people in the field. This makes things easier for you.

WORK WITH DISABLED PEOPLE

48



Social

Profit:

Jobs:

Biodiversity:

Costs to implement:

49. PROVIDE SOCIAL SERVICES



As a landowner you have certain duties to the people around you. For example it is your duty to invite school children on an annual basis to explain about nature, animals, agroforestry, history etc. Because who else will do this? An other idea might me a walking trail with resting benches at your land. Or a pick-nick area.

Opportunities. Agree with the local schools when, how and how many classes can visit you. Children also like to do something practical. Planting, placing birdhouses, counting trees, pick fruits etc. Happy children will tell an enthusiastic story at home, which is also good for you.

Points of attention. Make a clear plan with the teachers. Who will tell what? Maybe start with a small PowerPoint and some surprising stories (the learning part). Then outside (the practical & demonstration part).

PROVIDE SOCIAL SERVICES

49

recreational facilities, free excursions



Social	Profit:	→
	Jobs:	→
	Biodiversity:	→
Costs to implement:		→

Specials



Although there are 49 functions it doesn't mean that this is a limitation. Maybe you have more ideas yourself? Just add them to your list. In this page we will present some other 'ideas' that came up with landowners earlier.

Opportunities. Some new ideas:

- Making charcoal (and your own brand).
- Vegetable garden for the Chef (growing vegetables and herbs specially for one restaurant on demand).
- Meeting location (meeting+ lunch+ guided hike for bigger companies).
- Children Day-Care @ the farm.
- Compost production.
- Children farm (Petting Zoo).

Points of attention. Don't hesitate to ask for help if you are not sure how to develop such a new function

ORGANIZE !

!

