



Fostering Committed Action for Nature

Policy and action recommendations from the BIOMOT project

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The BIOMOT project was funded under FP7 as a response to call ENV.2011.2.1.4-3 that mentioned that due to the dominance of the ecosystem services concept, “alternative, non-economic arguments and strategies are sometime neglected” and requested an “analysis of alternative ways to improve biodiversity policy making and governance”. On that basis, BIOMOT set out to study the motivational strength of ecosystem services and alternative ways to express the value of biodiversity. The Project was executed by the Radboud University and Leiden University (Netherlands), Greifswald University (Germany), CIRPA (Italy), ZRC-SAZU (Slovenia), University of Manchester (UK), University of Eastern Finland (Finland) and the Université Catholique Louvain (Belgium). The project was organized in four Work Packages, with WP1 focusing on the ecosystem services debate and the visions of ecosystem service valuation practitioners, WP2 on groups in committed action for biodiversity, WP3 on committed actors for nature and other societal causes, and WP4 focusing on integration and the ‘macro’ level. The separate results of the Work Packages are available on the website or by writing to: ISIS, Faculty of Science, Radboud University, P.O. Box 9010, 6500 GL Nijmegen, the Netherlands.

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Dear policy makers,

We are often told to communicate with policy makers as if they are pure technocrats, understanding only ready-made solutions.

We are often told to communicate with policy makers as if they are not interested, not connected to their work.

For the BIOMOT project, we have interviewed biodiversity policy makers (see Annex 1). We found they are short in time but creative, interested in the sector they work in and desiring to make a difference.

Therefore in this BIOMOT report,

- we will be short*
- we will not give you a long list of ready-made prescriptions*
- instead we will give you key concepts for effective policy innovation*
- organized by policy sector to some extent.*

This report is about how to energize society (including government and business) to act for biodiversity.

A precise organization by policy program or level has been impossible, because the concepts to energize society for biodiversity are quite different from the formal policy categories. Committed actors, biodiversity action groups, desires to make a difference, nature close to home, avenues for action, languages for nature - they have a relevance for basically all cores and corners of biodiversity policy.

This report is therefore made for all of you.

We hope you will find as much pleasure in the reading as we found in the writing!

The BIOMOT team

Executive summary



How to energize biodiversity policy?

Policies can be seen as building on two pillars: rationality and energy. Biodiversity policy is well-stocked with rationality but faces a lack of energy, creating a deep policy implementation gap that keeps Europe's biodiversity in the grip of decline. **Biodiversity policy needs to focus more on raising and engaging the energies of committed action for nature in civil society, business and government.**

The European FP7 project BIOMOT has studied the question of what in fact *energizes committed action for nature*. The project looked at 200 committed individuals and 34 projects in Europe. The present booklet supplies the project's policy recommendations in a synthetic fashion.

People (in society, business, government) commit to act for nature (*i*) because nature has *hedonic value*, such as economic, health and pleasure benefits, (*ii*) because nature has *moral value* such as its intrinsic right to exist and (*iii*) because nature has *eudemonic value*. Eudemonic value is not hedonic. It is about having a meaningful life. Nature's eudemonic value makes people act for nature because they feel connected with nature and acting for it gives meaning to their life.

Out of these three, eudemonic value is the primary energizing force of committed action. **In the justification of biodiversity policies, it should be added, if not put central, that we protect nature because nature is meaningful in the lives of people and communities.**

In so doing, we create a stronger basis for what is perhaps the most central policy recommendation to energize biodiversity policies, which is to **make its implementation less rationalistic and more deliberative, allowing other languages in:** languages of connectedness with nature, languages of community, stories of commitment and meaningful lives.

It follows that the valuation of ecosystem services as a systematic policy action tends to put the money where it is not needed (rationality). Moreover, it tends to drain energies for biodiversity, because it is alien to committed action and undermines non-economic voices, depicting them as primitive.

The other key to raise and involve the voluntary energies in society is by not prescribing committed actors what to do but **to respect their desire for self-determination and reward biodiversity goal achievement**, e.g. in open programs and group contracts that can multiply and upscale the committed action of individuals and groups in society and government.

The LEADER program is one example of this style of governance. Focusing more on biodiversity, **concepts such as nature-based solutions (for society) and community-based solutions (for nature) can be starting points** for open programs and for the building of attractive avenues for action that can synergistically engage many individuals and groups in civil society, business, science and government.

Biodiversity action groups (often initiated by committed actors) can draw many people in society and business into the 'policy energizing orbit'. They can be stimulated and engaged in much the same way as individual committed actors. BIOMOT has shown that these groups can handle external incentives (e.g. from the government) without their internal eudemonic motivations being 'crowded out', provided some conditions are taken care of that safeguard the self-determination of the group and its members. Therefore with some variation, the same policy recommendations apply to them as to the individual committed actors.

Committed actors for nature cannot simply be 'bred'. Many actors interviewed in BIOMOT refer to significant others guiding and protecting them in their childhood years. But one childhood feature stands out for basically all of them: the *intense encounter of the child with nature*. This can be any kind of nature, from the wild forest to suburbia or the urban brownfield. Intense encounters with nature, sometimes felt as epiphany, by and large take place when unsupervised by parents or professional educators. **The basic rule to foster the development of commitments for nature through the relationship of children with nature therefore is: *Get them there, then leave them alone.***

This basic rule implies specific recommendations not only for biodiversity policy makers but also for agricultural and land policies close to and farther away from cities, for urban designers and managers, and for parents and educators, as further detailed in the last sections of this booklet.

Committed actions for nature will always arise seemingly spontaneously in civil society, business and government. The role of biodiversity policy then is to help these actions grow, blossom and multiply. Even then, however, energizing biodiversity policy will be work against the cultural grid of our present-day societies. Our philosophies proclaim that human and nature are separate, which makes languages of connectedness seem merely emotional. Our daily politics broadcast that economic numbers capture all that is worth pursuing. Our systemic anxieties work to reduce biology to 'life science', focusing on prolonging *our* life, not the Earth's. Our culture of fear puts our children under a permanent adult gaze.

Policy makers should therefore be aware that fostering committed action for nature also implies cultural work. Any policy word and action is a cultural act, because they emanate from 'the system' and with that, proclaim what is normal and worthwhile. A good dose of rhetoric will therefore broaden the impact of energizing biodiversity policies. The same goes for the policy maker himself or herself, who, being a policy maker, cannot escape from 'being the system', and 'doing culture'. Cultural work is therefore also to reflect upon one's own treadmill of assumptions, and let the energies for nature in.



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1. The BIOMOT project and its outputs

From 2011 to 2015, the BIOMOT project (www.biomotivation.eu) was executed in seven EU member states (Netherlands, Italy, UK, Slovenia, Belgium, Germany and Finland). Its major objective was to investigate why people, individually or in groups, in civil society, business or government, *commit themselves to action* for biodiversity or nature. Because ecosystem services and their economic values are often seen as the key ‘motivators’ for biodiversity protection, economic valuation was studied, both theoretically and empirically in a survey of valuation experts. Moving to a broader outlook on committed action, leaders and members of 34 successful biodiversity initiatives were studied through documents and interviews, searching for the key factors that underlie their continuing commitment to the biodiversity cause. In another work package, more than 200 committed actors (leaders for nature and other causes) participated in an in-depth interview on their underlying drives, a survey containing motivational factors and a motivational ranking exercise. The project was highly integrated across the participating countries and disciplines such as social psychology, governance science and philosophy.

All work packages produced their own final reports and scientific papers. The final report of BIOMOT as a whole contains an integrated theory of action for nature on the levels of individuals, groups and society as a whole. One part of the final report is available separately, as a booklet called “A theory of Committed Action for Nature”. The present booklet, “Fostering Committed Action for Nature”, is formatted along the same lines, designed as a practice-oriented counterpart of the theory-oriented booklet. This theory-oriented booklet is also the best first source for anyone wishing to add more depth to the policy and action recommendations.

GENERAL RECOMMENDATIONS FOR BIODIVERSITY POLICY

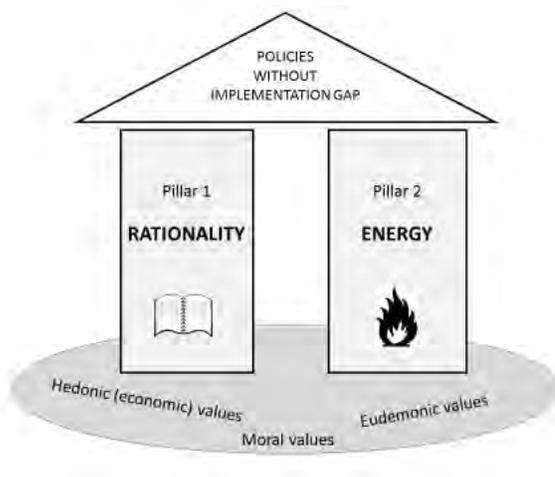
In this first and longest section, we focus on policy recommendations in relatively abstract terms. The advantage is that the recommendations are basically applicable to any corner of biodiversity policy – from local to global, from species protection to landscape development, from the strictly sectorial to the most integrated. On the other hand, the distance between recommendations and action on the ground may be felt as relatively large. For that reason in the next section, we also include some biodiversity policy recommendations that are more topical and somewhat more concrete.

2. Closing the implementation gap: two pillars of biodiversity policy

Often during their interviews with BIOMOT, biodiversity leaders remarked that “the principles and frameworks of biodiversity policies are basically fine – but where is the funding, the energy, the commitment to really implement them?” This refers to the well-known ‘implementation gap’ of biodiversity policies, *i.e.* the wide gap between rational intentions and real action by governments and society at large, resulting in the continuing decline of biodiversity in Europe.

We think that the first step to address this challenge is to represent successful policies as built on two pillars, as in Figure 1.

- Pillar 1 is the pillar of RATIONALITY. It is the pillar of good arguments, comprehensive objectives, rational derivation of actions from objectives, accountable and broad decision-making, clearly formulated rights and obligations, risk management, balanced principles (e.g. subsidiarity), detailed frameworks and workable directives.
- Pillar 2 is the pillar of ENERGY. It is the pillar of intuition and innovation, of the desire to make a difference, of feelings of connectedness, of care and curiosity and spontaneity, of voluntary commitments and leadership, and the human capacity to act in spite of the odds.



Many phenomena in society can be analyzed along this line. Innovative firms, for instance, start out in the energy pillar but fail later if not enough is added from the rationality pillar. Old corporations tend to perpetuate themselves in the rationality pillar but fail in the end through lack of innovation. New policy areas such as the admission of refugees stir a lot of energy in society which then tend to develop into chaos if not enough rationality is added quickly.

Policies have a natural tendency to appeal to and reside in the rationality pillar. This is indeed the logical position provided that enough energy is supplied by society at large. This is usually true when citizens feel deeply connected with the underlying policy objectives, such as health, education, social welfare

and national security. The rationality pillar then helps to rationally organize these energies and efficiently put them to work for the common good, and no implementation gap will be found.

Biodiversity policies are in a different situation. As the Eurobarometer consistently shows, people in Europe basically all subscribe to the principles of biodiversity conservation and acknowledge the intrinsic values of nature. But this subscription is not deep enough, on average. Most people do feel connected with nature – but not as connected as with their health, children, jobs and nations. In other words, biodiversity policies, while they can certainly count on a very broad *basis* in society, cannot count on society to spontaneously deliver enough *energy* to get the action going. As we will argue in Section 5, society as a whole even has some basic characteristics that prevent spontaneous energies for nature from blossoming.

Thus our first and most general policy recommendation:

(#1) In order to close its implementation gap, biodiversity policies need to focus more on raising and engaging the energies of connectedness with nature in society.

This is why BIOMOT has been an important project. It has focused on Pillar 2; it has studied what are the key factors that underlie committed action for nature in government, civil organizations, business and other sectors of society. Its results enable to make the first, as yet very abstract policy recommendation more detailed and concrete.

3. Key result of BIOMOT: eudemonic value

In the previous section's picture of the two pillars, we see both Rationality and Energy rising out of a set of three types of values:

1. Hedonic values, or *experiencing pleasure*. This refers to everything economic but also to health, the pleasure of working with other people, pleasures in nature, and so on.
2. Moral values, or *working for the common good*, including the good of nature or future generations.
3. Eudemonic values, or *having a meaningful life*. The eudemonic value of nature is that people experience connection with nature as prerequisite to give sense to their life and live meaningfully.

This set of values helps, for instance, to see the difference between 'incomes' and 'jobs' as policy goals. Incomes enable consumption. Jobs do the same, but also create meaningful lives. This distinction underlines what philosophers since Aristotle have said, that a living a good life is not the same as experiencing an endless string of pleasures.

In current practices of policy-making, economics is seen as the embodiment of rationality, and hedonic values as the key justification of policy objectives. In biodiversity policies, this is exemplified by the enormous policy attention and hopes vested in the ecosystem services and natural capital concepts and the idea that their economic valuation would bring societies to effective action for nature. The moral

(intrinsic) values of nature play a passive role in the background, and the eudemonic values of nature are not to be found in policy documents.

This may be precisely the reason why the implementation gap persists.

The BIOMOT project has studied where the 'fire for nature', the energy to enter into committed action for nature, originates. Its main findings make clear that

- although hedonic values (benefits) and moral (non-use) values of nature do play a role,
- eudemonic value is the fuel that ignites and drives committed action for nature. **Committed action for nature arises because nature is meaningful in the lives of people and communities.**

Sometimes, policies designed primarily for economic reasons are fortunate to also have a collateral eudemonic appeal. 'Regional branding', for instance, also appeals to people's pride and desire to have a good, unique story to tell about the place they live. The idea of 'nature-based solutions' do a similar thing. Even though designed primarily to bring nature inside regional-economic orbits, the concept can also work to inspire creative individuals and groups. It creates an avenue to express connectedness with nature, and therewith reinforces energies for nature in governments, business and civil society.

However, as long as biodiversity policies remain grounded in only economic and moral values, such collateral eudemonic appeal will remain a matter of luck. More often than not, economically inspired policies will have no eudemonic appeal at all. They may even, e.g. through their terminology of reducing the natural world to 'services', 'benefits', 'capital' etc., be felt as alien and to be resisted by anyone for whom nature is really meaningful.

Economically inspired biodiversity policies perhaps contain a promise to bring more non-committed actors, e.g. traditional business, into the biodiversity realm. But two decades of that kind of inspiration have not helped, apparently, to close the implementation gap. More ardor is what biodiversity policies need, more 'fire', many more really committed actors. In order to systematically enable such development, eudemonic values should become a core foundation, perhaps even the central one, of biodiversity policies.

Therefore our second general policy recommendation:

(#2) In order to close its implementation gap and stimulate committed action for nature, biodiversity policies should be grounded in not two but three foundational values. We protect nature *(i)* **because nature is meaningful in the lives of people and communities**, *(ii)* because it has its own right to exist and *(iii)* because it brings many economic and other benefits.



4. Styles of policy design and policy implementation

The archetypical ('Weberian') bureaucrat is deemed to be a radical rationalist, residing fully in Pillar 1 of our figure. Rationality is obviously necessary for effective biodiversity policies but as said, what is needed most at present is that policy design connects much more deeply with Pillar 2 – generating *commitment* for nature, not only good frameworks. How can policy designers and decision-makers do that? One step, obviously, is to broaden one's own perspective on policy-making. Policy designers and decision-makers are no different from other people in that they love nature and want to make a difference. Why then act as if other people are only in it for the money or the votes? What then am I doing in the straightjacket of economics, the treadmill of ecosystem services and frameworks? *Do I really generate energies anywhere? Do I really make a difference for people who want to make a difference?*

The second step is to make policy design less rationalistic and more deliberative. We might say that *in the end*, it is up to democratic politics to make the decisions on public goods, targets and funds. This 'primacy of politics' does not demand however that everything that happens before and after these decisions i.e. the *design and implementation* of policies, should be drenched in the traditional, instrumental-rational logic of bureaucracy. Methods of public cost-benefit analysis are an example of that logic, claiming as they do to be the basis for rational decision-making. The BIOMOT project has shown the deep limitations of this approach, even if it includes the valuation of nature.

The principle of deliberative policy design is simple. It accepts that all parties in the deliberation have their limitations, e.g. too strong a focus on political survival, or on long-term ideals, or on cost savings, regulatory obstacles, business potentials, emotional place attachment or the uniqueness of each ecosystem. A good deliberative procedure however brings the strong and justified elements and languages of all these voices in. In doing so, policy designs will automatically become more 'triple based' – more based in all three value foundations. They will capture not only the rationality of Pillar 1 but also raise and engage the energies of Pillar 2.

Thus our third general policy recommendation:

(#3) Processes and tools of policy design and implementation should become less rationalistic and more deliberative, especially including the voices of individuals, groups, business and organizations that are committed to the cause of nature.

In its investigations of successful biodiversity groups and individual committed actors for nature, BIOMOT found that a desire of *self-determination* is common to them all. Even though they often collaborate with government or have government agents as group members, they do not want government to tell them what to do. Without the self-determination – strongly connected as it is to eudemonic values – their energies disappear.

How then may governments foster these individuals and groups? How can the great potentials of volunteer work be unleashed without prescribing these actors and groups how to act and what to do? The answer to this dilemma lies in the fact that these actors and groups basically all already endorse the *goals* of biodiversity policies. Self-determination and effective responses will therefore be safeguarded if the government lays down the criteria in terms of policy goals – for instance biodiversity, sustainability and community – and rewards outcomes on these criteria.

Thus our fourth general policy recommendation:

(#4) In order to unleash the policy-energizing potential of voluntary action for nature in society, policies should be implemented in a style that does **not prescribe actions ('what to do')** but **rewards biodiversity goal attainment ('what to achieve')**.

This may look difficult to do in practice. Indeed, bureaucracies have a natural tendency to regulate and control what is happening, prescribing actions. For instance, not leaving it to (groups of) farmers how to achieve biodiversity objectives on their land but prescribing them when to mow, where to plant and so on. On the other hand, the new style of policy implementation is rapidly gaining ground and maturing at present. In the Netherlands for instance, the 'Green Deals' support citizen and business initiatives by offering networks, expertise, communication, deregulation, funding and so on. On the European level, a programme such as LEADER does basically the same thing for rural development. In BIOMOT's Deliverable 2.2 (see below), this is called 'collaborative biodiversity governance'. With a more radical tinge, it may also be called 'government participation' (in citizen action), as opposed to citizen participation (in government action).

5. Grid, discourse, systemic demotivation and Immanuel Kant

Biodiversity policies are not made in a cultural vacuum. Likewise, committed actors and biodiversity groups find themselves embedded in the structures and cultures of society. In the life-story interviews of BIOMOT with committed actors for nature, for instance, countless references are made to how these 'lives for nature' are shaped in a constant interplay between the actor's autonomous drives on the one hand, and the demands and 'scaffolding' by parents, schools, mentors, peers and the general rules (institutions) of society. All these aspects have a direction; they facilitate certain choices and discourage others. Therefore in BIOMOT, we called them the 'preferred directions' in society, or 'grid'.

The present-day grid of society contains some elements that encourage biodiversity policies. Systemic anxiety and the waning of the idea that God's Providence, for instance, create much interest in the health effects of nature. The current drive for innovation generates a new drive to 'find and follow one's passion' (i.e. a meaningful life). Finding your passion in nature is more acceptable these days than in the childhood periods of the committed actors interviewed by BIOMOT.

At the same time, however, much in our present-day institutions, culture and public discourse is opposing the expression of connectedness with nature. In BIOMOT, this has been called systemic demotivation. BIOMOT studied two examples.

(1) Nature obviously performs many beneficial functions for society (ecosystem services). To some extent, these services may be expressed in monetary terms. Due to the pervasive hegemony of economics in public life however, this ‘Total Economic Value’ carries the claim that this value is really everything there is to nature. It follows that if a forest brings in more money as a parking site than as a biodiversity site, the parking site is to be preferred. It’s the rational best for society.

(2) In the daily practices of the monotheistic religions such as Christianity and Islam, all focus tends to be on the relationship between humans and God, tending to neglect the co-createdness of nature that the same religions acknowledge. In the West, the whole Enlightenment has been about the emancipation of humans breaking free from nature. The divorce of humans and nature is therefore a pervasive current in Western thought. Feelings of connectedness with nature are permanently discouraged, or as we say in BIOMOT, systematically demotivated.

The result of systemic demotivation is a divorce of ratio and reason. We know we have reasons to act, but acting is not rational. Systemic demotivation puts people in a position of helplessness, impotence, even denial. Therefore, most people split what they know from how they act.

Generally, there are two phenomena counteracting this. One is that people are often greatly helped to re-connect to what they know is good by *joining existing groups* that already do what is good. Within BIOMOT, these are exemplified by the 34 biodiversity groups – see Section 8. The second and more autonomous response is what the philosopher Immanuel Kant, after all his books on pure and practical rationality, called the reflective power of judgement, which is, in final resort, to *act anyway*, and construct its justification while acting. In BIOMOT, this is what the interviewed committed actors for nature did. And what they exemplify in the stories of their lives is something repeatedly said by philosophy as well: the power to reconnect ratio and reason is not in the language of economics or science or the power of arguments; it is the power of stories. Stories of nature, stories of landscapes, stories of exemplary other people.

Therefore our fifth general policy recommendation:

(#5) In order to bring out more energies of commitment to nature, biodiversity policies should rely less on the rationality of economics, science and other arguments, and **foster alternative languages: languages of connectedness, languages of commitment, stories of nature in the lives of people and communities.**

This policy recommendation also calls for something that may be new in the personal choices of policy-makers. Policy-makers do not reside entirely in Pillar 1 (the rationality) of biodiversity policies. They are also actors speaking a language, emanating concepts and attitudes to many other people. They are eminently also *part of* the grid of society. ‘Fostering alternative languages’ therefore also pertains to the language the policy-maker speaks in his or her interactions with others.



TOPICAL RECOMMENDATIONS FOR BIODIVERSITY POLICY

In this section, we will continue to focus on biodiversity policies but on a less general level, applying the preceding section's recommendations to a number of biodiversity policy areas. This will allow the recommendation to be more concrete. The disadvantage, obviously, is that they will be meaningful to smaller branches of biodiversity policy.

6. Ecosystem services and their economic valuation

The 'ecosystem services' concept is a way of expressing the value of nature that currently dominates many areas of policy-making.

The application of the ecosystem services concept is sometimes shallow and sloppy. It is shallow in that the concept and its classification of provisioning services, regulation services etc. are only used as a starter, after which the policy or project-maker continues in any way he or she sees fitting to the situation, which may be any mixture of quantitative and narrative ('storytelling') approaches. This application of the ecosystem services concept is characteristically also sloppy in the sense that non-instrumental values are also slipped into the classification, under enigmatic headings of 'conservation service' or suchlike.

Here is much to be applauded in this way of applying the ecosystem services concept. It links up with the ideas of all those who think that policy foundations should only be rational and economic, while simultaneously creating an entry for the intrinsic and eudemonic values of nature. That way, it allows the voices in of all those for whom the economic value of nature, in the end, does not hold any energizing appeal – which is basically all those actors that biodiversity policies need to close the implementation gap, as BIOMOT and many other studies have shown.

On the other end of the scale, however, the ecosystem services concept is often used under a claim that this is the one and only proper way to capture and assess what nature is to society. At best, the results of this approach are too boring to be noticed. At worst, this way of thinking, being backed up by powerful agencies and ideology, begins to act as a 'truth' that colonizes all other visions of nature, depicting them as irrational, emotional, primitive, pre-scientific, This transforms the ecosystem services concept into an assessor of systemic demotivation, broadening the implementation gap of biodiversity policies.

Hence the policy recommendation:

(#6) Ecosystem services may sometimes be useful as a starting point for biodiversity policy or project design, but only if **evolving as rapidly as possible in a policy approach that cherishes not only economic rationality but all voices, including those of nature's intrinsic values and nature's meaningfulness in the lives of people and communities.**

It is sometimes questioned why waste dumps are invariably found in places where poor people live. The answer is often sought in public cost-benefit analysis, a welfare-economic policy tool with much authority in some EU member states. This answer is: the poor, being poor, have a lower willingness to pay not to have them. It's only logical (the optimal allocation) to put the waste dumps there.

The welfare-economic valuation of ecosystem services transforms nature into a set of monetary values that can be taken up in public cost-benefit analysis and traded off against other interests. BIOMOT has analysed the full array of objections against this approach, of which the built-in non-equity is only one. In the empirical work of BIOMOT, focusing on its 34 biodiversity groups and 105 individual committed actors for nature, no evidence is found that the economic valuation of nature is in any way motivating (energizing) them. Actors are not against economics in its simple (and original) meaning of intelligent housekeeping. It is good to sell the apples from the biodiversity orchard on the local market, as it is that remote communities may be revived through eco-touristic incomes. It might even be good to sometimes illustrate how much benefit the forest brings to the hotel owners or good water quality to the fishermen. One creative BIOMOT actor even uses the concept to sell 'moorfutures' to citizens and firms. But the idea that this might be *all there is to nature* is deeply alien to all committed actors for nature, and deeply opposed by most. The dominance of this idea in powerful parts of society therefore does not raise but rather reduces motivations to act for biodiversity. In terms of the two pillars of biodiversity policy, the economic valuation of ecosystem services adds (quasi) rationality and drains energy, which is a tragic opposite of what is needed to close the implementation gap.

In a separate study, BIOMOT has elicited the opinions on economic valuation of ecosystem services of economic and non-economic experts in Europe. As it turned out, almost all economists strongly endorsed the idea, and all non-economists opposed it. It is through the economists, carried along by the current 'grid wave' of the economization of everything, that the idea has become popular among policy-makers.

The resulting policy recommendation is:

(#7) The economic value of nature can often be used to strengthen a well-formed set of arguments for biodiversity. It may sometimes even inspire action. But the **systematic and 'comprehensive' welfare-economic valuation** of ecosystem services, expressing as it does the idea that this is all there is to nature, **should become recognized for what it is: an employment scheme for scientists and economists that puts the money where it is least needed and drains energy from biodiversity policy.**

7. Empowering and breeding committed actors for nature

BIOMOT has carried out in-depth interviews, with added ranking and survey tools, with 105 committed actors for nature across Europe, laying the basis for its 'Theory of Committed Action for nature'. In this section, we focus on some of the policy implication of this theory.

Committed actors for nature are defined as people who devote much more energy to the cause of biodiversity than required by social or job obligations. Committed actors for nature can be found anywhere: in local up to international government, in civil society, in schools, in the conservation sector, in business. Some are highly public 'biodiversity leaders', others have more local or sectorial reputations. But jointly through their work and the inspiration they radiate to others, they are the cornerstone of Pillar 2, fueling the 'fire' of biodiversity policies and practices.

This in itself already generates a policy recommendation. Committed actors, by definition, have much autonomous energy and inspiration of their own. Yet they depend on others to bloom and multiply their effectiveness. In the stories of their youth, BIOMOT's committed actors often refer to 'mentors': adults that protected them, took an interest in their fascinations, tolerated their trespass into nature areas, opened up new options for learning and action. In later life, this role is often taken over by well, by you. By policy-makers. Through official policies, *ad hoc* quasi-policies or many kinds of informal ways, policy makers can multiply the energies of committed actors.

The general recommendation to do so is already given as policy recommendation #4: *Reward results*, not the means to get there. The more detailed recommendation is:

(#8) Multiply the energies of committed actors for nature. For instance:

- For committed actors in your own organization: protect them, be loose on their formal, rational job descriptions,
- For committed actors identified elsewhere in society: celebrate them, inform them, strengthen their network, lift rules for them, invent policies or 'policies' to fund them,
- For committed actors not yet identified: use or invent the ways to get them out, e.g. a local biodiversity prize, an open program funding the upscaling of biodiversity ideas and initiatives,
- And for all of them, create public platforms for their life stories, struggles and motivations, so that they can 'multiply themselves' too, so to speak, acting as exemplars for others to emulate. (Eudemonic values are close to virtue ethics, and virtues are transferred through the exemplary others.)

Actions such as these will cost money. The point to note however is that ‘Pillar 2 policies’, aiming as they do to multiply energies often *already existing* in society, will tend to be very cost-effective. This is not an invitation to budget cuts. It is an invitation to shift budgets from ineffective areas where people sit down to eat taxpayers money, for instance quantifying and valuing ecosystem services, to effective areas where people run to close your implementation gap.

Second in this section, we will focus on the question what policies could do to increase the *number* of committed actors for nature in society. The first thing to say then is that naturally, policies cannot simply breed committed actors. In the BIOMOT interviews, for instance, committed actors come forward out of several siblings that grew up in the same circumstances but ended up going quite different directions. To a high degree, some people appear to be born with that energy, that love, that fascination that makes the committed actor for nature.

On the basis of the interviews, however, we may also discern certain generic conditions that help childhood fascinations to develop and bloom. One has already been mentioned: the presence of supportive mentors and exemplars that protect and guide the child’s explorations. The other general condition is the most fundamental and intensely narrated in basically all of BIOMOT’s interviews: the presence of *nature inviting and allowing intense encounter*. ‘Intense encounter’ here has two meanings: it is the nature of frequent explorations and play (*nature as home*, one could say) and the nature of disclosure, the life-changing epiphany that something is really out there (*nature as depth*, one could say).

A child cannot decide that “I am now going out to have an intense encounter”. For some (e.g. urban working class) children, contacts with nature were rare, and the epiphanic depth of nature hit as something completely new. Most committed actors had frequent contacts with nature, however, and for that reason, the nature of intense encounter was often *nature close to home* even though sometimes, it was the mountains of the holidays or the grandmother’s village in Turkey where the family went every summer. In terms of what type of nature this should be, the interviews show that intense encounter with nature can be experienced anywhere, from the urban brownfields to the great ocean, from the wild forest to suburbia and the farmlands. For the majority of BIOMOT respondents, formative encounters with nature were also away from parental or professional supervision; they were free encounters, on the child’s and nature’s own terms.

The resulting policy recommendation is:

(#9) Having nature close to home may be seen as a right for every child. Quite practically too, however, frequent and free encounters with (inviting, explorable) nature are a prerequisite to ‘breed’ committed actors for nature. **Providing that nature and these encounters is therefore essential to maintain energies for biodiversity in society.**

Some more on this is in Section 13.



8. Fostering biodiversity action groups

Biodiversity action groups are present in basically all branches and levels of biodiversity policies. Many of them are small, non-political and local, e.g. doing volunteer work in natural areas or organizing biodiversity outings for schools. Others are large, vocal and international. BIOMOT has focused on the medium level between these two extremes, mainly because we intuit that the potential 'bulk' of energies to close the implementation gap of biodiversity policy can be found there.

Our sample of 34 biodiversity action groups satisfied two conditions: (i) all were broadly recognized as successful, and (ii) as a whole, they represented a wide variety of policy goals, such as agro-cultural diversity, multi-actor landscape innovation, business innovation, protected area management, agri-environmental schemes and species protection, spread over BIOMOT's seven EU states.

In a way, biodiversity action groups are committed collective actors for nature, and many characteristics of these groups may be assumed to be the same as those of the committed individual actors. And indeed, a strong desire for independence (self-determination) is found at both the individual and collective levels of committed action for nature. A policy recommendation such as #4 ("Multiply the energies") may therefore easily be expanded to also hold for biodiversity action groups. The present section focuses on some aspects that these groups have more in particular.

Internal motivations are those that work without reward by an external agent. Examples are the enjoyment of working with others, pride in the achievements for society, expression of one's talents and the growth of knowledge. Internal motivations have been found generally to be very important for collective action, and they certainly are so too in the biodiversity action groups studied by BIOMOT.

This immediately raises a well-known dilemma for policy-making. The government is obviously an external agent, therefore able only to supply external incentives. But external incentives often tend to 'crowd out' (undermine) internal motivations. In such cases, you get *less* results the more you help. One extreme example is: if pride in achievement is an important motivation, and if the government then comes along with a reward on prescribed activities, this will undermine pride. Achievements will be felt as the result of 'being a slave of the government', which undermines the group's energy, even if it subscribes to the government's objectives.

Most of the successful biodiversity action groups in BIOMOT do *not* display this pattern of 'crowding out', which may be seen as the very reason for their success. To a large extent, they are able to handle external incentives and *add* them to their internal motivations. They appear to do this because they

satisfy three conditions, which may be seen as all springing from the source of *self-determination* of both the members and the group as a whole. They are: (i) inclusive decision-making, (ii) empowerment of involved actors, and (iii) multi-stakeholder monitoring of progress and outcomes.

Therefore the policy recommendation:

(#10) In order to elicit and reinforce the energies that action groups can bring in to close the implementation gap of biodiversity policy, policies should reward the achievements of these groups, taking special care of **the inclusiveness of the groups' decision-making, member empowerment and monitoring.**

These conditions do not only protect the group from the crowding out effect (though not always fully) but also enables non-economically motivated participants to opt in even if the group is financially supported by the market or the government.

9. Avenues, for instance nature-based, community-based

Let us, for the sake of a good insight, assume that many people (especially young ones) have a good supply of energy but feel insecure regarding what to do with it. Let us further assume that these people have not only hedonic desires but also a eudemonic one: they want pleasures but also a life that forms a coherent story and makes a difference in the world. Then, in which direction will their energies flow? The marketeer's answer is simple: it will flow in any direction, any **avenue** one could say, that offers an appealing mixture of hedonic promises (low cost, good fun, togetherness,) along with eudemonic promises (a good story, a future, a reputation, a significance, a difference in the world,). An Avenue is a compelling invitation to act.

Large institutions know this very well, packaging university curricula, ICT jobs, solar cells programs etc. into integrated wholes that appeal to both hedonic and eudemonic (sometimes also moral) values. In order to capture more energies in society, biodiversity policies could have a greater awareness of this phenomenon, and **support or build attractive Avenues for involvement of society with biodiversity.** We would discover then that the valuation of ecosystem services (just to mention one example) is not likely to become an Avenue: not many energetic actors will say: "Let's all go out and do ecosystem services valuation!" But good candidates abound, too. These are especially ideas that **synergize nature with action, self-determination, regional identity, sustainability, jobs and economic development.** Many committed actors in BIOMOT have intuitively discovered this, building exactly this kind of Avenue and drawing others into their orbits.

One example of a generic biodiversity Avenue is well-known: the idea of Nature-Based Solutions tries to be exactly this, potentially drawing in and channeling investments of many societal actors. Slow and local food is another area where many actors and motivations may be synergized for the co-benefit of nature; remarkably many committed actors in BIOMOT are to be found here. Also landscape innovation

and species protection can raise and engage many energies especially if combined with local identity and cultures, as many other BIOMOT actors and action groups show.

One type of synergetic Avenue may be of special note here, which can be seen as the counterpart of nature-based solutions. Implicitly, nature-based solutions are solutions *for society*. They focus on challenges of society such as climate change, noise, water issues or regional economic decline, and then call nature in to find (efficient, sustainable) solutions, with biodiversity benefitting along the way. The counterpart of these nature-based solutions [for society] can be called **community-based solutions** [for nature]. They focus on challenges of nature, and then call in community to find solutions, with communities and local identities benefitting along the way. Several examples are found in BIOMOT. One is that communities help farmers to establish fences that separate sheep from wolves. We find a role for policy-makers here as well: the fences themselves are subsidized.



REMARKS FOR OTHER POLICY SECTORS

Biodiversity is not the only policy area where an implementation gap may be found. These policy areas might possibly do well with a degree energizing society for the good cause, e.g. through the committed actors and action groups found there working in the sector. In that sense and with a bit of translation here and there, our policy recommendations might have a relevance for pollution abatement, energy, carbon and climate, cultural integration, poverty alleviation, global development and social development, for instance.

BIOMOT has had a focus on the biodiversity policy sector. For that reason, we reserve the relatively heavy term of 'policy recommendation' for the preceding two parts of the present report. Biodiversity policies mesh with many other ones, however, which is also visible in the committed actors and biodiversity action groups studied by BIOMOT, many of whom work in connection with agricultural, urban or regional development, education, culture and science. Based on their visions and experiences, we therefore add a number of recommendations for these sectors as well, under the modest term of 'remarks'.

10. Food and agriculture

Food and agricultural policies are struggling to bootstrap themselves out of the deep-rooted paradigm that land equals a production space, that farmers are economic robots and that food equals calories. We venture a few remarks, based on the BIOMOT data.

BIOMOT's interviews show that for many committed actors, farms and rural land was the space of encounter with nature, building their connections with nature and therewith their energies to act. But then, it is essential that this **farming space does contain something real to encounter, that is, nature that is wild enough to offer diversities of species and experiences**. What sort of nature this is in physical terms is less important. Forest, marsh, wild and semi-domesticated animals etc., they all work.

This finding can be expanded to include more people and broader policy terms. BIOMOT has shown that frequency of encounter, and through that, nature close to home, is important to build energies for nature. In terms of the choice between 'land sharing' and 'land sparing', this generates a clear-cut recommendation. *(i) In areas of high population densities, e.g. close to urban centers, do both*. In other words, have substantial areas of 'real nature' but also nature mixed-in on the farmland, maximizing the frequencies of encounter with nature. *(ii) In areas where encounters with nature for many people are more confined to holiday periods, do whatever is most effective for biodiversity and agriculture directly*. Often, this will be land sparing, but (in view of the preceding paragraph), with a minimum of real nature on the farm as well.

Many BIOMOT actors and action groups show that slow and local food offer attractive avenues to act. Slow and local food synergize all triple values: hedonic values (better taste, good friends, better income, opportunities to learn), moral values (more biodiversity, more sustainability) and eudemonic values (meaningful action, meaningful landscape, local cultural identity, community). With that, **slow and local food synergize citizens, farmers and business into action for biodiversity, agriculture and region**. In other words, irrespective of their 'objective' merits (higher or lower productivity, higher or lower health, higher or lower ecosystem services etc.), slow and local food deserve to be treated with this 'extra plus' in agriculture and land use policies.

A final word on farmers and agri-environment schemes. Farmers are not economic robots. Like all of us, they also want to serve moral values and have a meaningful life, a meaningful farm. As BIOMOT and other recent research has shown, this has implications for the success and failure of agri-environment schemes (and Payment for Ecosystem Services in general). Eudemonic desires imply that actors want to be independent, *self-determining what to do* when serving more general (public, governmental) aims. Even when subscribing to government aims such as biodiversity, they don't want to 'work for the government'. Therefore, **agri-environment schemes should not prescribe and reward means (where to plant, where to fertilize, when to mow,) but prescribe and reward results (e.g. biodiversity produced)**. This will be strengthened if farmers are allowed to do so on the **group level**, so that on that level, they can decide who will do what to serve the group-level requirement. Farmers treated as professionals comply and add voluntary action; farmers treated as robots may comply half-heartedly, or spend their energies on resistance as the only way left to show independence.



11. Urban development

Strange as it may seem, urban developers have a special responsibility for biodiversity. First of all, because most people live in cities and 'nature close to home', which as BIOMOT has shown is one of the key prerequisites for biodiversity action, has become urban or peri-urban nature. And second, cities have often become refuge areas for nature, making urban biodiversity often higher than in the surrounding agricultural areas.

Basically all urban developers have been quick picking up ideas of green infrastructure, nature-based solutions and synergizing science with citizens and business. The results of BIOMOT, both in theoretical outcome and in the experience of many actors interviewed BIOMOT, add one request to this remarkable performance, a request springing from the need to also have committed actors for nature not only now but also in the future. It is that **green infrastructure in cities, in fact any urban and suburban green, be**

not just green but also places of encounter with nature, for people in general but for the children in particular.

Overall, urban developers, allied as they are with architects and other design-oriented disciplines, will know what to do with this general recommendation. Therefore we give only one example here. What could be a good green wall? Obviously, one with good characteristics in terms of urban heat reduction, noise reduction and so on. But it may also be one with a strange lowest part, with a technically superfluous thickness of two of sometimes even four meters, with superfluously many flowers and plant species, with insects and stones and soft earth, water spots and dark spots. This is where biodiversity will be. And the children, just outside the gaze of their parents, doing their things, building their things, and encountering nature. The foot of this green wall will be a place of happiness, and a place where future committed actors for nature are made.

Brownfields are often kept brown (and fenced) as a result of regulations, e.g. saying that once an endangered animal is spotted there, development stops. Such regulations can be lifted, allowing nature to be explicitly temporary. This will enable brownfields and any other left-over corners in the city, however temporarily, to become green and unfenced, and regain a function described by many urban-born committed actors for nature in BIOMOT: “The freedom land started right behind our street”. **Brownfields and other neglected areas can be green freedom land too, breeding happiness and play, independence and committed actors for nature.** Why not try? Why not request contractors to leave the land open and unfenced and fit for nature and people to enter without too great dangers? And then patrol the land only very lightly? (In view of the present-day culture of fear and parental supervision – see section 13 – it might be good to put up a small sign saying: “Open for anyone above age 8. Younger children with parents accompanying”.)

12. Regions, jobs and economic development

In BIOMOT’s interviews with committed actors for nature, economic considerations pop up at a few points. Moreover, BIOMOT’s biodiversity action groups are often proud to also operate on markets. Yet their prime drivers, i.e. where they have grown out of and what they are really interested in, are far removed from economic concerns. Then, how does committed action for nature relate to economic development?

The answer is that not in their drives but in their *results*, committed actors for nature are an integral *part of* regional economic development. Regional economic development needs good generic policies and some luck in economic contexts, but will not work in any case without a region that lives, so to speak, without a regional foundation of inspired, innovative work, which is the sum-total of all the region’s committed actions of *any* kind: for sustainable energy and farming, for social security networks, for human rights, for more or greener infrastructure, for the arts, for youth employment, for nature-based solutions, for community-based solutions, for regional food branding, for nature as part of cultural identity. It’s difficult to get too much of any of those. The recommendation is: cherish and

reinforce them all, e.g. offering open programs and synergistic avenues that combine youth, nature, identity, energy and food with jobs and economy.

The LEADER program is an invention of regional development that does much of what we recommend here and in the preceding policy recommendations. It should be emulated to the biodiversity field.



13. Education policies and action

As said in Section 7, BIOMOT's life-story interviews with committed actors for nature strongly affirm an old wisdom in environmental education: committed actors are made by intense encounters with nature. Attitudes for nature are shaped by *positive experiences* in nature (any nature), not by teaching or showing the problems of nature or environmental problems in general.

Frequency of contact with nature is important, increasing as it does the likelihood of intense (sometimes epiphanic) encounter. But even more so is the child's *freedom* in nature. Parents (sometimes also clubs and schools) are often praised by BIOMOT's actors, for two reasons. The first is obvious: for the opportunities they provided to encounter nature and the guidance given there. The second reason to praise parents and clubs is for their tolerance of, even their disinterest in, the free-roaming child or youngsters group, doing their own things in, with (and sometimes to) nature. The job of parents and educators is clear: **Get them there, then leave them alone.**

This job is more difficult than it used to be. Children, being strongly hedonic, have difficulty getting away from the screens and games and media. Nature is often farther away than in the less urban past, requiring more work (travel, holidays, scouts, camps) for getting them there. Maybe even more importantly, leaving them alone has become shrouded with disapproval and fear. Children left alone in the forest has become equated with parental neglect (without asking the children, who might well call it the best of quality times). And constant parental or professional vigilance has become the norm in our cultures of fear and systemic anxiety (irrespective of increasing prosperity and decreasing crime rates). In other words, the job of 'get them there, then leave them alone' requires creativity and commitment of all educational actors, from parents to schools, clubs and government.

New media and technologies may become allies in fostering direct contacts with nature. Citizen science (children-based bird inventory?) and geocaching (find the old fox den?) are tools that activate exploration and encounter. Other mobile apps allow children to be alone and yet traceable if needed.

14. Science policy

The sciences, especially biology, are at the heart of biodiversity protection. Also on the personal level, many biologists did and still play a key role in shaping and driving biodiversity policies and action. This is visible too in BIOMOT, where many committed actors for nature told their stories of being drawn to biology, and ecology more in particular, as a study and a profession – even though sometimes dropping out because it forced them to the lab instead of the forest, to ecosystem services instead of real nature.

Under the weight of direct applicability and Cartesian reductionism, biology studies have become ever-more analytical and molecular. Biology tends to degrade into only ‘life sciences’, i.e. the science-based designs for us to live longer, alleviating our fear of death. The older role of biology, which was to help *nature* to live longer, tends to become ever more under-funded. **Universities should maintain or re-open programs of real ecology**, where students loving nature can satisfy their fascinations with it.

In the meantime, the remaining ecologists also have a job to do for society. Ecology is not only a science of theories and lab work. It is also a science that can help “bring nature to presence” in society, shaped in **stories of nature**: stories of evolution, stories of wonderful intricacies and discovery, stories of landscapes and human-nature relationships. This role helps maintain the broad basis for biodiversity conservation, and also helps breed new committed actors, new leaders for biodiversity.

Stories of nature help energize society for nature. So do what have been called ‘avenues’ in this report, which are inspiring ideas and examples of what actors can do to help biodiversity. Ecologists could spend more time on the **science-based design of what is good to do with and for nature**, in particular solutions synergized with societal needs (e.g. jobs) and actor needs (e.g. a meaningful lives).

As said, biology has a great track record in biodiversity conservation. Its zeal for the environment does not always preclude *social* policy recommendations that do more harm than good, however. One day, biologist Hardin convinced all other biologists that either a draconic state or a total privatization of the environment is needed to have sustainability. Another day, biologist Costanza convinced all other biologists that the total value of the Earth can be grasped in monetary terms. At present, many biologists still naively think that modelling ecosystem services is the best way forward.

Policy makers cannot take for granted, therefore, that biologists on their own will be able to see through the complexities of society and steer their discipline into effective directions for biodiversity. Also biodiversity policy makers have role to play. The key to playing that role is that, like all sciences, biology will go where the money is. Therefore, put your money on field biology and ecology that makes nature present in society, and on the science-based design of solutions with and for nature.



ANNEX 1: Meeting biodiversity policy makers

Early in 2015, one partner in BIOMOT staged a small study on the science-policy interaction and the responses of policy-makers to the first results of BIOMOT. The sample consisted of 11 policy makers in the Netherlands, working on the national and provincial levels, in positions titled director, senior policy maker, project leader, strategic officer, senior advisor etc. in sectors named 'biodiversity', 'biodiversity and agriculture', 'nature management', 'recreation, nature and agriculture' and so on.

In this small Annex we will elucidate some elements out of these interviews, with a special view on why the present booklet on policy recommendations has been shaped the way it is.

In the discussions on **science-policy interactions**, it appeared that to the policy-makers without exception, "science" meant natural science, and ecology in particular. This science then was used primarily to adjudicate with objective information between competing policy options. For us in BIOMOT, this implied that we would be making something relatively new. It would obviously be social-scientific, and moreover we were not set to adjudicate between anything but to generate ideas for policy innovation – "perspectives for policy action", as one policy-maker put it. Yet, we took heed of several general complaints and remarks of the policy makers. One, for instance, was that scientists love to wallow in uncertainties and invariably end up saying more research is needed. You won't find that here. A second complaint was that scientific concepts need tiresome translations before they can be communicated with society. In the present booklet, we have not been able to escape from some new concepts such as "eudemonic" or "extrinsic", but we supply the translations and kept their number very low.

Another complaint was that communications from science were generally "too scientific". For the bulk of BIOMOT's outputs, we could not help them being scientific, BIOMOT having been a scientific project. But we did take care that of the two broad-audience key outputs from BIOMOT – the scientific Theory booklet #1 and the present Recommendations booklet #2, the latter is the longest.

The policy makers advised to be candid and direct, and certainly not underestimate the interest and intelligence of policy makers. We have intended to live fully up to that.

In their **responses to the first results of BIOMOT**, the policy makers voiced much recognition and some new wisdom, e.g. that governments may indeed tend to remain stuck in Pillar 1 (policy rationality) but citizens often do not want to connect their passions with the government, remaining stuck in Pillar 2 (policy energy).

A major difficulty faced by the policy makers was to distinguish between hedonic and eudemonic value of nature. They tended to be lumped in one ("social" or "soft" values), with the hedonic one predominating because this experiential and recreational "fun value" of nature is already well-known to all policy makers. BIOMOT's results do not speak against the "fun value" of nature at all. On the contrary, it is good as such and also instrumental to bring eudemonic value about. At the same time, we felt that a lack of distinction between pleasures and eudemonia undermined BIOMOT's major messages and unique policy relevance. Policy makers felt the "fun value" to be relatively superficial, for instance, creating a need for ecosystem services valuation as a more fundamental approach. Notably, this stays within the same hedonic values family (benefits and pleasures). Eudemonic values (nature meaningful in meaningful lives) are different, and fundamental. Thus, the policy makers' difficulty helped us to be as clear as possible on this issue in the present policy recommendations booklet.