Involving Entrepreneurs in Designing and Developing the EU Research Agenda: Ecopreneurs in the EU's Framework Programme

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Introduction to Documents

In 1994, Gibbons *et al.* wrote a book which has had a profound effect on policy makers worldwide and the extent to which they support and utilise academic research (Gibbons, Limoges et al. 1994). Gibbons *et al.* drew a distinction between two forms or 'modes' of research. They contrasted the traditional view of research with a new 'mode' recognisable from at least as early as the 1980s. Traditionally, research stemmed from the interests of particular individual investigators, rooted in one discipline, pursuing their own unbridled curiosity with no particular regard to economic exploitation: this they termed **Mode 1**. Set against this was an emerging genre in which research was usually performed in teams, was interdisciplinary, was defined in terms of problems arising in the real world, and where funders and other stakeholders interacted strongly with the researchers. This they described as **Mode 2**. By describing and labelling as 'Mode 2' a phenomenon which was already emergent, Gibbons *et al.* probably accelerated a process of change in the nature of academic research which was already well under way.

Given the central role of Entrepreneurship in economic development and social change which entrepreneurship researchers claim for it, and the intense interest which politicians in all countries claim to have in stimulating the entrepreneurship phenomenon – for example, as part of the EU's Lisbon Agenda and subsequent policy development – it might be expected not only that Entrepreneurship Research should strongly display Mode 2 characteristics, but that entrepreneurs should be actively sought by policymakers for their views on key policy areas which impinge upon their ability to perform effectively. However, *most* entrepreneurs are notoriously unwilling to engage in dialogue with governments and other policy makers over issues they see as usually longer term and of minimal interest to them in the here-and-now world of the owner-manager; moreover, it is by no means certain that those who *are* willing put forward their views are representative of SMEs generally.

The present paper describes an attempt to involve entrepreneurs in the development of long- term policy – specifically, research policy - in an area where the Lisbon Agenda on global competitiveness and the Gothenburg Declaration on maintaining biodiversity might be perceived to meet head-on. This is therefore, *a priori*, an area where policy formulation, and any research on which it is based, is highly likely to be problematic but - if even partially successful - extremely worthwhile. However, it is as difficult a task as one might imagine as far as involving entrepreneurs themselves is concerned.

The papers distributed (1) describe an EU project to involve SMEs in policy development in this area, and the strategy for implementation. (2) Provide concretisation of the research focus through the inclusion of a case study of an SME where the rationale of the firm is the economic exploitation and extension of biodiversity in a sympathetic manner.

Gibbons, M., C. Limoges, et al. (1994). The new production of knowledge: the dynamics of science and research in contemporary societies. London, Sage.

Does Biodiversity Hold Opportunities for SMEs?

EFMD is involved, through a project funded by the European Commission, in creating a European Platform for SMEs and other stakeholders to start building a community of interest within the biodiversity sector. A report, and proposals for a longer-term research programme are also planned.

What is Biodiversity?

Biodiversity ("Biological Diversity") is the term given to the variety of life on Earth and the natural patterns it forms. Biodiversity businesses work in areas such as forestry, farming, textiles and clothing, land rehabilitation, marine and freshwater fisheries, eco-tourism, advisory services etc.

What is the Probioprise project?

EFMD, Fauna & Flora International (FFI), and the European Bureau for Conservation and Development (EBCD) have been awarded a EU grant for a joint project focussing on the use of biodiversity by Small and Medium Enterprises (SMEs).

The **objectives** of this project are more specifically:

1. To identify the specific business opportunities and constraints for sustainable use of terrestrial, freshwater and marine biodiversity by SMEs especially in ecologically sensitive areas.

2. To propose a research programme on opportunities and constraints for sustainable use of biodiversity by SMEs through a platform of practitioners and researchers.

The "**platform**" referred to in the second objective is a group of practioners and researchers selected to contribute to specific issues in relation to SMEs working with biodiversity. The **workshops** are one way of building up and activating the platform members. The project is organised around the four major European ecosystems: forests, wetlands, grasslands, and marine & coastal for each of which there will be a workshop. There will also be 15 **case studies** of companies. These will seek to gather more detail on the issues raised at workshops and, at the same time, provide questions and themes for future workshops.

As the project develops, insights and questions raised at workshops and by the case studies, backed up by a review of the literature, will be collated and analysed in order to build an idea of the research needs for the future.

How can you be involved and why?

SMEs and academic experts working or interested in the field of Biodiversity are encouraged to contact us…

www.efmd.org/biodiversity

…For inclusion in the sector-related, Europe-wide **database** that we are preparing for the European Commission. This database will proof an important tool at a later stage, when the Commission will develop new projects in this field based on the findings from our project.

…From the SMEs introduced to us we will select a few for each **workshop** and invite them to participate, for discussing specific sector-related issues and problems. The second workshop will take place at the Nationalpark Lake Neusiedl (Neusiedler See – Seewinkel) at the Austrian-Hungarian border. Funds are available to cover travel and accommodation expenses. If you are available yourself on one of these dates (4 workshops, dates attached) and would like to be involved, please let us know.

…We want to commission a series of **case studies**. If you are interested in writing a case study, know other academics in this field or if you know an SME that could be a good subject for a case study, please let us know. Funds are available. At the same time we are also launching a case competition: more info available on the EFMD website (www.efmd.org - under Knowledge & Communication).

PROBIOPRISE workshops (upon invitation only):

3-5 April 2006: Forest-related business and services
Location: Helsinki, Finland

8-10 June 2006: Wetlands-related business and services
Location: Neusiedler See NP on the Austria-Hungarian border

5-7 October 2006: Grasslands-related business and services
Location: Zumberak--Samoborsko Gorje Nature Park, Croatia

13-15 December 2006: Marine & Coastal-related business and services
Location: Malaga, Spain

More info:

Probioprise project (EC DG Research - Contract No. 018356)

Via Liz.Hopkins@fauna-flora.org or florence.gregoire@efmd.org

Or access the PROBIOPRISE website www.efmd.org/biodiversity
with regular updates on the project development.

Imobiente: Rui Simões' Environmental Consulting and Forest Management Business

Rui Simões looked out across the hotel car park and swimming pool to yet more developments beyond. "When I was a boy there was nothing here in São Rafael at all. In fact my first job was as a shepherd on these very hills." As one drives along the coast of southern Portugal's Algarve, it is relatively easy to see the modern ecological pressures which have built up here since the mid-60s, but drive just a few kilometres inland from the tourist strip along the coastal zone, and a far older Algarve becomes visible. Here, the damage is much older than Rui himself and is far more extensive. There are clearly, extensive needs for environmental consultancy of the kind which Rui Simões and his firm, Imobiente, offer. The key challenge for Imobiente is to turn these manifest environmental needs into commercial opportunities while not compromising the strong ecological values of its owner

Rui Simões

Besides his experience as a shepherd, Rui has always been close to nature in other ways – for instance, as a keen hunter. So at university - where he trained to become a licensed engineer - it is no surprise that he specialised in forestry. Indeed, he later went on to begin a master's degree in forest management, but like many entrepreneurial characters[1], he did not finish his formal education. Instead, he couldn't wait to get out into the real world to practice his new-found skills. However, the large firm he went to work for soon ran into difficulties. Rui had always planned to start his own firm specialising in the environmental aspects of forestry, rather than the more traditional concentration on just timber recovery and hunting. In fact, he had run 'safaris' into the interior of the Algarve for tourists while a student. Redundancy brought this ambition of independence of action forward in time. The focus of the new business would be to find ecologically sensitive solutions to ecological problems such as fires, disease - particularly of the commercially important cork oak, and desertification. Although he needed to make enough to survive, the decision was not really profit driven. As he says, *"I could easily work in tourism if I wanted to just make profits."* At the time of its formation he felt that setting up his own business would be a more effective use of his expertise than, for example, working with an NGO. His way to be part of the solution was to be closer to the issues, and therefore more directly involved.

Environmental Context

Inland from the coastal strip where tourism is now the dominant industry, the terrain of the Algarve rises rapidly to a low plateau. Despite the moist Atlantic winds, most precipitation therefore falls on the coastal area with the inland Algarve being rather dry. In the transitional zone there are lush valleys. This mix of climates within a small area causes Rui to observe that: *"...the Algarve has more biodiversity than the whole of Germany!"* Vegetation inland was traditionally Mediterranean scrubland and forests of pine and cork oak. The fast-growing eucalyptus, which provides pulp for high quality paper making, is a relatively new introduction and is now found both on the coast and inland.

Imobiente

Imobiente is a clear reflection of the aims and aspirations of its founder's strong interests in environmental protection and habitat management and enhancement. It does not fit the classic economic model of profit maximisation. The objective is to grow only slowly, if at all, on a very low risk basis. Family security, a good work-life balance and long-term benefits from an improved environment seem at least as important motivators as money.

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1 Bill Gates is perhaps the best known current example…

The firm is located in the centre of Albufeira and consists of Rui and one other technical colleague, together with a receptionist / administrator. It has been slightly bigger, and Rui has made particular efforts to recruit recent graduate specialists to train up and extend the range of services the firm can provide; but even young recruits with a strong background in environmentalism have found the work tough, and the lure of the bright city lights too strong, and have left after a year or so with the firm. However, the business also provides work for many other specialist contractors in complementary areas of biology and other disciplines, such as archaeology and geomorphology, as it assembles resources to manage a diverse range of environmental projects. In this regard it resembles small consulting and technical service firms generally, which continually network and put together temporary coalitions – 'virtual firms' – to handle specific projects. In addition, many projects provide substantial unskilled and semi-skilled employment deep in the Algarve countryside where opportunities to work on and with the land might otherwise be difficult to find.

Imobiente works directly with biodiversity, since its core business is advising on and implementing land and habitat management, mainly in forests. However, it is also interested in producing environmental benefits over and above maintaining / enhancing biodiversity *per se*, and sometimes these aspects constitute the main objective of the project. This might include environmental services such as soil conservation, carbon sequestration, watershed protection, etc. Customers include individual landowners, the Portuguese public sector or NGOs. However, at the simplest level, eighty percent of clients[2] are individual landowners.

The early days were difficult. Luckily it was possible to start the firm on the basis of Rui's redundancy money, together with a very small bank loan guaranteed by his father. No specific environmental funding bodies were approached or identified, but nor were they needed. The main outlay was on obtaining rugged vehicles and equipment. The principal constraint was in becoming known to potential customers and developing a reputation. This is a problem which faces all SMEs, but the long time-scales involved in forestry, together with a natural conservatism often found in rural areas, would have exacerbated this for Imobiente. So at first projects were relatively small-scale – for example, dealing with areas prone to hard-to-control fires. Other clients then came to the firm when they saw what Imobiente had achieved on their neighbour's land. Gradually, the projects became more interesting commercially as well as more complex in terms of biodiversity preservation and restitution. This is very important to Rui, who sees one of his roles as 'educating' his clients towards higher environmental standards and aspirations. For example, when working with landowners receiving EU grants for tree planting, he will encourage them to take into account the habitat and ecological conditions of the land, retain some of the natural vegetation, and plant a variety of species rather than a monoculture pine plantation.

Although environmental objectives such as the promotion of biodiversity figure highly in the objectives of the firm, this is not always the case with its clients. The 80% of the clients who are individual private landowners see the benefits of biodiversity not as a 'public good' but in more concrete terms related to the incomes they can derive from their landholdings – reduction in the incidence of disease, lower draught stress, greater resistance to forest fires, and so on. Indeed, although the firm favours using a wide species mix in the 3 million or so plants it places in the ground each year, it has found it can only quote on a 'volume' basis, and not introduce biological complexity into its costings - even though a more complex species mix costs more since it is more difficult to obtain bulk purchase discounts from plant suppliers.

In its early days, Imobiente spent a lot of time persuading neighbours to join together to invest in improved forest management activities. A recent change in the way the Portuguese national forestry service operates has assisted firms like Imobiente, by giving incentives for joint actions. This scheme now groups landowners into 5,000 ha. clusters. Given inheritance patterns in Portugal, it is common for individuals to own many small parcels of land spread over a wide area, as well as separated strips in the same field. This has made sensible land management extremely difficult. Now, the first intervention for improved forestry practices– say, five strips per owner – is free. Imobiente has recently won a contract to manage coordination of fire prevention through improved land management on a 5,000 ha. block under this new scheme.

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[2] Although, as we discuss below, this figure is somewhat misleading in terms of who actually pays for work to be undertaken.

Nature of the Market

Imobiente works for the most part in an 'artificial' market in that, although a majority of its clients are private, almost all the work actually undertaken is ultimately paid for by either the EU or the Portuguese government, or more rarely by not-for-profit NGOs. In particular, the business is very dependent on EU grants to landowners and is therefore potentially vulnerable to changes in priorities or policies in Brussels. In practice, many landowners do not need to make a profit from forestry in the normal way; their real business is 'growing grants' – and such grants can last for 20 years. However, this does not mean that similar grants will be available *ab initio* for another 20 years, so in some ways a future based on grant aid is less certain for Imobiente than for its clients.

One problem with money from public bodies is that the administrative paperwork required is burdensome. This is an opportunity for Imobiente, since one of its key skills now is in managing the complex administrative processes on behalf of their clients. Since much of Imobiente's work has been in protected areas, it now has the credibility to back up its expertise in filling out the paperwork. However, this is not *just* a paperwork issue, since funds from the EU can take up to a year to arrive. Thus clients may have to take out a bank loan in order to make the first payment to Imobiente. Initially this caused some problems, but now good banking relationships exist with officials who understand the nature of the business.

Work undertaken directly for the government or for NGOs can be more intricate and multifaceted. For example, dealing with the forestry and other environmental aspects of a dam construction project on the Portuguese-Spanish border was a particularly complex project, which has also brought in subsequent work elsewhere.

Currently, a complex project is being undertaken for a Portuguese NGO, with WWF involvement. This is a reforestation project, but one which is attempting to use state of the art knowledge to deal with longstanding environmental degradation. It is well known that before Portugal became a democracy, it had been governed by a right-wing dictatorship for most of the 20th century. One of the first acts of this regime had been to seek to increase Portuguese self-sufficiency in terms of foodstuffs, and to modernise the diet of the Portuguese people, while also preventing rural-urban drift which might make the country less easily governable. In practice this involved clearing large tracts of land for wheat production. At first this was a spectacularly successful, but within a decade much of the top soil had been totally degraded by intensive wheat production. Reforestation now is a belated attempt to combat creeping desertification and attempt to restore the top soil to the state it was in a century ago. Here Imobiente is able to use its knowledge of biodiversity to plan effective succession planting. This does not just simulate re-growth after a forest fire, but nor does it attempt to jump to a final planting. In the light of the firm's detailed knowledge gained from previous projects, Imobiente is able to construct terracing and to place plants in specially designed protective sleeves in such a way that what would normally be primary and secondary plants can shade each other and the final, hopefully commercial, tree species. Particular attention is also given at the outset to such aspects as fire breaks and spacing to encourage organic control (e.g. of caterpillars), so that the established forest will be robust. However, it is not just the plants above ground which need to be replaced, but the micro-organisms below. Imobiente pays particular attention to this; planting a variety of selected indigenous species helps to restore the micro-organisms, and eventually the micro-structure of the soil, and will produce a better end result than simply attempting to plant traditional forest species alone and from scratch since nitrogen fixation and disease resistance should be higher.

Even on this innovative demonstration project it seems that traditional gender roles persist. Rui appears to consider forestry to be largely 'man's work', because of its intrinsic physicality. Women are certainly employed as professional specialists - biologists, archaeologists and so on - in project teams, but on site heavy work such as site clearance and terracing is done by men, while the planting of the tree seedlings is usually entrusted to women, who are perceived to do this more gently.

Evaluation and Innovation

Resources do constrain some projects, since ecologically sound restoration takes more time and funds. EU funding tends to be area / volume related and is designed more for blanket tree planting, not for the much more complex processes needed to maximise biodiversity success – such as detailed surveys and plans, working in small copses with different treatments in different areas, employing specialist equipment, and multi-species planting. This both squeezes the profit margin for the contractor and also tends to mean a slower, and thus possibly lower, return for the landowner. Rui feels that within these constraints it would still be possible to do more innovative work, but that since activity inside protected areas requires special permissions and permits, this requires a less risk-averse approach from civil servants implementing schemes at the national level: at first sight the cheapest way to protect a protected area is simply to prohibit all activities, even when the expert view might be that non-intervention is not the best strategy in the longer term. There will always be contractors who prefer to work on the principle of 'keep it simple', and if national quotas can be filled on this basis, then innovative approaches may not come to the fore.

A common problem with public sector funding, including that derived from the EU, is that monitoring and evaluation rarely continue beyond the specific life of the project. This is a particular problem with environmental projects, since the ultimate outcome may only become apparent in the very long term. Rui would be keen to see longer term monitoring and evaluation instituted as an integral part of EU funding in the forestry sector. Naturally, he feels that this would validate his firm's more ecologically – friendly techniques, where some of the forestry-related benefits only appear on a longer timescale, and where the increase in biodiversity, which more subtle forestry practices encourage, is not normally monitored and evaluated. Whether he is right or not, the principle of longer term evaluation seems a sensible one. He is himself unable to devote much by way of resources in terms of monitoring and evaluating the work that he and his firm have done over the years, but he does make a special effort to take photographs at regular intervals of the sites on which he has worked. The current reforestation project for the Portuguese NGO will be independently monitored, since it is intended to be a demonstration project anyway.

Diversification

Rui is well aware that the basis of the business is subject to political risk. He already had experience of public sector evaluation work, and has now also become a FSC evaluator. This has so far entailed evaluating two plantation companies growing eucalyptus for the paper industry. This latter work is wholly in the private sector, as is some forest management intended to improve hunting. Otherwise, all the effective demand for Imobiente's services relies to a greater or lesser extent on subsidy.

Rui himself has considered the possibility of working in Mozambique or Angola where he would love to test out his ideas in a different kind of forest environment. However, this would be a costly hobby, and in the absence of large subsidies is unlikely to be a source of income for the firm, Imobiente. A more likely and logical foreign diversification would be into Spain. Some of the projects Imobiente has participated in have involved cross-border co-ordination, and good relations have been developed with both Portuguese and Spanish universities. Imobiente has already formally co-operated with Portuguese universities through the EU LIFE programme in a scheme designed to link landowners with university expertise (although the fact that the funding took 3-4 years to finally come through makes this not ideally suited to the reality of SME life...). Good personal and professional relations with WWF are likely to enhance these opportunities.

In the future Rui sees an opportunity to set up a nursery to supply some of the 3m saplings and other plants he sets out each year. He is keen to use genetically guaranteed plants wherever possible, so this move towards vertical integration would ensure quality control as well as yielding economies of scale. However, it would also increase the risks, since most of the stock would be targeted towards fulfilling reforestation projects that might not go ahead in the absence of EU or other non-commercial funding. Rui is keeping a close eye on the current EU funding cycles to try to assess whether the risk of making this long-term investment is worth taking. Portugal has benefited greatly from EU funding since it

acceded to the Union, but with the EU's expansion into Central and Eastern Europe the future is less certain - and may not be as bright.

Research Issues

We have seen above that inheritance patterns in Portugal have led to fragmented land ownership, and consequently to sub-optimal land management. The relatively minor alterations to the way in which the state forestry service interfaces with landowners has made it much easier for SMEs like Imobiente to deliver the land management services that the national government and the EU, which co-finances many of them, wish to see implemented. This is unlikely to be only a Portuguese issue. The influence of inheritance laws and consequent ownership patterns on the delivery of policies and programmes for biodiversity support, at both the European and national levels, is something which seems to warrant further, detailed investigation.

Sensible policy depends crucially on the quality of the information which informs the process of policy formulation, development and choice. This case revealed that relatively little monitoring and evaluation of projects took place beyond the timescale of the project itself. There are clearly sensible reasons why this should be so for many EU projects, but in the environmental field, and particularly with biodiversity conservation and development, the timescales involved are such that it is possible to envisage serious errors being made if no follow-up evaluations are done on a longer-term basis.

It may be that some of the most interesting pro-biodiversity businesses are inherently risk averse, small, and do not consider 'growth' to be a major objective. However, if each such firm could be encouraged to take on just one more professional employee, the multiplier effects might be substantial both in respect of Lisbon and Gothenburg. Imobiente has found HRM issues a brake on expansion, but there are also issues of motivation and support which warrant further research.

One of the key services which Imobiente provides to its clients is to take on the burden of completing the paperwork that is necessary to enable landowners to receive funding from the Portuguese government and from the EU. Even so, and somewhat against his own interests, the owner-manager of the firm questions whether the documentation needs to be *quite* as comprehensive as it is currently. Again, this is unlikely to be an issue which is restricted to the Portuguese situation. The owner of the firm described, for example, how for one scheme there was a 16 page, A4 document simply explaining *how* to fill out the invoice in order to recoup the grant funding from the European Union. The EU has made some steps to reduce the amount of paperwork that SMEs, in particular, need to complete in order to qualify for its financial support. However, this seems to be a continuing issue, which warrants further investigation at the detailed level.

It may be that, for many schemes, eligible and capable SMEs would be able to deliver European and national policies for biodiversity support, but are unable to do so because suitable intermediaries do not exist in their area that are able to interface with national governments and the EU on their behalf. This is more likely to be the case in the most rural of areas. Work on the relative existence and competence of intermediaries, including their training and support, in different environmentally sensitive areas, across a range of member states, could help to optimise the take-up of existing EU schemes and to ease the introduction of new ones.

It was disconcerting to be told, on an unprompted basis, that LIFE funding took 3-4 years to trickle down to participating SMEs. This was not investigated in detail since LIFE was not a focus of the study, and may have been only a small final payment, but taken together with strong statements about the need to take on commercial bank loans to bridge incoming EU funds on standard schemes, it seems there is still work to be done at Union level on the mechanism for involving and remunerating SMEs in EU programmes, and reducing the risks and costs of their participation.