

## The emperor's new clothes?

### Is “Sustainability Economics” a useful alternative to “Ecological Economics” or a regression to “Environmental Economics”?

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#### **Abstract**

In a 2010 paper in Ecological Economics Baumgärtner and Quaas attempted to found a new economic field, “sustainability economics”, which they aimed to define “systematically” with respect to its normative foundation, aims, subject matter, ontology, and research agenda. Not surprisingly, other authors criticized their suggestions and came up with their own ideas. The current paper will not contribute to such new propositions but discuss the utility of the proposed new field in general. Do we actually need sustainability economics or has everything it should include already been said in ecological economics or elsewhere? Is it probably even a step back to neoclassical environmental economics? And if we don't need it, might it still be a good idea to discuss about it, because it is fruitful to put old ideas into a new focus?

## Introduction

In a recent paper in *Ecological Economics* Baumgärtner and Quaas attempted a rather huge task: the “systematic definition” of “sustainability economics”. They proclaimed to define such a new scientific branch “in terms of its normative foundation, aims, subject matter, ontology, and genuine research agenda” (Baumgärtner and Quaas 2010a: 445). A need to do so was seen by them, because the term “sustainability economics” has been mentioned over the last years by some authors without any clear definition.<sup>1</sup> To the author of the current paper, trying to set up so many details of a new science on only 3 ½ pages seems to be virtually impossible. So it’s not surprising that the dominating effect this had on the scientific community was not acceptance but critique and the start of a discussion of the own ideas of other scientist, working in the field of sustainability (Bartelmus 2010, van den Berg 2010).

The first thing that comes to mind when reading Baumgärtner and Quaas is that they are much too vague for the task they set themselves, they omit a lot of details and concepts that have been developed already within the broader discussion around sustainability, and they almost completely refrain from referring to and comparing their approach with 100 years of environmental economics, 40 years of sustainability discussion and 20 years of ecological economics.<sup>2</sup> As van den Berg puts it, “The authors write as if the topic of sustainability was proposed only recently” while the issue has been discussed so deeply that virtually everything conceivable of has already been said somewhere (van den Berg 2010: 2047).

Although one might be preoccupied with the question whether such an article can be taken seriously at all, or with the urge to come up with one own’s definition of sustainability economics, lest the field might be actually established and with the wrong content, the current paper will abstain from these issues. The main preoccupation of the current paper is the question of the consequences of such an article for the development and discussion of the related fields and concepts. This concern can be divided into several questions. 1. Do we need something like sustainability economics at all? This can only be established by having a closer look at the existing sustainability related economic discussions and branches and their possible differences with the proposed new field. Something, unfortunately, the original authors failed to do. Section 2 has a look into that question and also tries to have a look at the advantages of such a new field, even if it is only a subset or remix of existing ones. 2. What benefits or problems might result from the attempt to establish a new scientific branch in terms of the ensuing discussions? This question is about the debate such a proposition incites – not about the possible establishment of the field itself. It will be discussed in section 3. Section 4 concludes.

## 2 Do we need sustainability economics?

The sole usage of a thus far not established term like “sustainability economics” by some authors should not be a sufficient reason to generate a whole new scientific branch. Putting more emphasis on one or the other aspect than existing fields, does probably not justify the inauguration of a completely

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<sup>1</sup> Söderbaum (2007, 2008), Ayres (2008), Illge and Schwarze (2009), but also already in 1999 by Manstetten and Faber.

<sup>2</sup> Some „firsts“ in these fields being Pigou (1920), International Union for Conservation of Nature and Natural Resources, et al. (1980) and Costanza (1991).

new science. So the first thing to do – and what should have been done by Baumgärtner and Quaas (2010a) – is to think about what a further division of the environmental/ecological economics communities/journals/societies means. Do we have to be either environmental, ecological or sustainability economists from now on? And to what end? Aren't there – albeit all conceptual and ideological differences between environmental and ecological economics – a lot of commonalities when we look at the personal level of individual researchers and the methods they use?<sup>3</sup> We can also see this unclear divide in the responses to Baumgärtner and Quaas (2010a). Both van den Berg (2010) and Bartelmus (2010) proposed concepts (externality) and methods (monetary evaluation of natural assets) related more to traditional environmental economics or general economics and still considering themselves as ecological economists. And are the points enumerated by Baumgärtner and Quaas as concerns and foundations of sustainability economics really not covered by existing approaches concerned with sustainability? It is a bit disappointing that such questions have not been raised from the beginning on.

Authors, like van den Berg (2010), feel that there are no new aspects in the proposed definition compared to the general discussion of sustainability. I would go a small step further and argue there is nothing really new compared to ecological economics. From the beginning on it has defined itself as “the science and management of sustainability” (Costanza 1991), which Baumgärtner and Quaas even quote themselves. The claim that ecological economics is less focused, because it also encompasses “research that is not concerned with (economic) efficiency” (2010: 448, FN 12) can not convince me, because the approach of Baumgärtner and Quaas is certainly as broad as not to be centred on efficiency alone either. There is a large section on the ontological foundations of sustainability economics in which quite basic questions are posed, like, “What is the human Being?” or “What is Nature?” (2010: 448). And they propose a research field named the “Description and analysis of human-environment systems on multiple spatial scales over the long run and under uncertainty”, as one of only three research questions mentioned, which pretty much requests a complete understanding of the whole world and is as broad as one can think of.

The first three defining ideas Baumgärtner and Quaas attribute to sustainability economics are more than well known from ecological economics: a focus on human-nature interaction, acknowledgement of inherent uncertainty and the normative goal of justice.<sup>4</sup> Not mentioning that ecological economics has actually been founded on these grounds is quite a strong neglect. It is also the reason for the author of the current paper to state that ecological economics already does everything that the proposed sustainability economics attempts to do.

The only thing that actually might need more emphasis among ecological economists is the concern for efficiency – the fourth “core attribute” of Baumgärtner and Quaas. In its concentration upon the first three points and its mistrust of traditional environmental economics as being too narrowly focused on

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<sup>3</sup> Which already starts when we have a look at the departments they come from. At least in Germany, many chairs have denomination related to “environmental economics” although the scientists holding them are more inclined to what we would call ecological economics. But then, they still have to teach traditional environmental economics as well. A study on the overlap between the two fields has been conducted by Ma and Stern (2006).

<sup>4</sup> It can only be disputed whether justice to nature is included for all ecological economists. But then, it can also be disputed whether the claim is included in the core idea of a sustainable development or only requested by some, as I would say.

economic aspects, ecological economics tends to forget that it is no bad thing to reach a particular goal in the most efficient way. So it is a good thing that Baumgärtner and Quaas remind us that. But it is questionable whether that justifies a new economic specialisation, because ecological economists would certainly not disagree and a science can evolve without being substituted by a new one, just because a new idea comes up.

However, some parts in the paper of Baumgärtner and Quaas may even make us worry, whether their view on efficiency and the satisfaction of human beings might not raise new problems and constitute a regression to very narrow economic views. Baumgärtner and Quaas write that a “better satisfaction of human needs and wants”...“is the second ethical foundation of sustainability economics” (2010: 446). Note that they are talking about needs *and* “wants” and note the term “better”. What does such a statement imply?

The first thing to point out is the claim for a “better satisfaction”. As long as possible efficiency gains by a better management of nature are not exhausted, employing it in a more efficient way is a good idea and can serve to fulfil more needs and wants. But what happens once all efficiency gains are realised? A constant strive for better satisfaction, particularly if not only needs but also wants are considered, requires growth. Otherwise we would get stuck sometime. That might not be a problem per se, because growth within the bounds of sustainable development is possible, but it is still worth mentioning, because lots of ecological economist as well as people concerned with sustainability would probably not agree with such a vision. If that should actually be an integral part of a science of sustainability economics, it might alienate some possible adherents.

Such a growth incentive becomes even more problematic, if we are not only talking about subsistence and survival but also about a craving for all kinds of luxury products (which the term “wants” implies). We are quickly in even more difficult justification issues than the general requirement that everybody should have an equal opportunity to survive already generates. Baumgärtner and Quaas seem to think the efficiency criterion could solve distributional issues because we simply have to weigh the opportunity costs of different alternatives to use natural resources against each other (2010: 446). However, when we get down to the details, and seriously consider justice, we are immediately at an economically unsolvable question. In what kind of currency should we measure such opportunity costs? It is well known that market prices are a no good measure, due to unequal income and the fact that they result from an unsustainable economy (Norgaard 1989). How would we weigh the opportunity costs of a certain amount of temperature rise caused by the need of an African family to cut trees for survival against the want of a German family for a sports car? Certainly not in willingness to pay. And most likely not by only looking at the same climate result.

Summing up, as justified as an efficient use of scarce resources is, as problematic it can be to believe it to be able to solve all distributional issues.

But now to more basic considerations. Only in the very last paragraphs Baumgärtner and Quaas admit that sustainability economics “is substantially related to both ecological economics as well as environmental economics” (Baumgärtner and Quaas 2010: 449). The roots they admit to are the normative idea of sustainability which ecological economics adheres to, and the dealing with inter- and intragenerational justice by some environmental and resource economists. For that reason they place it

at the intersection of the two and utter the hope that it might overcome the divide between them. Although it is certainly true that the authors draw ideas from both fields, I would not place the justice issue mainly within environmental- and resource economics. Resource economic intertemporal maximization of profits from natural resources is not concerned with justice or intergenerational distribution, let alone intergenerational distribution. It is concerned with maximizing present values of income streams – when- and wherever they occur. But if it is optimal to deplete a natural resource within a few years, because that generates the highest monetary income, such a path could satisfy at best a weak sustainability criterion, if Hartwicks rule was followed (Hartwick 1977). Is that what sustainability economics strives for? Unfortunately we do not know, because as van den Bergh (2010) pointed out, the authors do not mention the different forms of sustainability at all.

It would be more appropriate to acknowledge that the idea of efficiency in general is something we can learn from neoclassical and thus environmental economics. Bartelmus (2010) introduces a related argument in favour of sustainability economics which is more to the point. The mixture of positive and normative science might be a novelty, because ecological economics is primarily normative and environmental economics more positive (Bartelmus 2010: 2054). I say related, because the positive aspect borrowed from environmental economics is meant to be the efficiency argument. Otherwise I would not agree, because ecological economics encompasses large parts of positive science. It is interested in a profound understanding of ecological-economic relations and from the beginning on has suggested including knowledge from natural as well as social or psychological sciences (Costanza 1991). This is positive science, aiming to understand its subject. However, it is true that the narrower discussion on sustainability is a primarily normative one.

Thus far the arguments for the need of a new specialization seem rather weak.

However, some of the propositions by van den Bergh (2010) in his answer to Baumgärtner and Quaas (2010a) are much more centred on the specific requirements of the sustainability goal and could thus actually be taken as an argument for the establishment of such a new branch. Nonetheless, I would still argue that they are best taken as suggestions for a proper management of sustainability rather than as defining aspects of a new science. Van den Bergh rightly criticises that Baumgärtner and Quaas are “not very explicit” on sustainability policy (2010: 2047). He raises the interesting question whether it is useful to distinguish general environmental policy and specific sustainability policy at all. On the one hand it might not, because environmental policy could be seen as per se included into sustainability policy, the preservation of the environment being one of its main aims. However, on the other hand it might be useful, and I agree here with van den Bergh.

Sustainability has a particular intertemporal focus and it could be useful to think about adequate instruments to take that need into account. Van den Bergh proposes particular investment (Hartwick 1977) and compensation schemes (Howarth and Norgaard 1995) to foster a long term constancy of capital and a just distribution (2010: 2050). Although the instruments are not new themselves, it is worth recognizing what is needed to obtain sustainability with all its natural and social dimensions instead of “only” the protection of nature. And it is worth to think about van den Bergh’s proposition to interpret sustainability policy as a “transitory phase” to trigger a sustainable path, which is only afterwards followed by “optimal” policy in a sustainable world (2010: 2050). The idea of a justification of

initially sub-optimal, say, e.g., subvention schemes is intriguing if it can be shown that they are a faster or more secure way to long term sustainability. The efficiency Baumgärtner and Quaas are emphasising so much, being a very insufficient criterion or instrument for sustainability or justice.

It are thus suggestions and arguments like the afore mentioned ones by van den Bergh or Bartelmus, that may make us think about the usefulness of a new term or even branch of economics. But I would still argue that they are best understood as good suggestions to make an appropriate sustainability policy without the need to build a new community around them.

### **3 Is a debate about the usefulness of sustainability economics scientifically useful?**

There are two arguments, one in opposition and one in favour of a debate about a science the present paper states we do not really need:

The argument against the debate is that it binds forces, better used elsewhere. Once such a debate has started, researches will argue about what sustainability economics should be. Not surprisingly, largely disagreeing which incites further debate and papers. That is probably a good thing for their publication records but a minor contribution to the proclaimed end of a sustainable society. Good sustainability policy can and should be suggested without the need to subsume it under an own scientific branch.

But there is also an argument in favour of such a discussion. Even if we do not need a new science, the debate about its possible contents can be fruitful because they remind important findings and concepts that fit well with sustainability. Although the ideas discussed in this debate have already been enounced in one or the other form sometime within the last 100 years, it may still be useful to regroup some of them under the explicit aim to foster sustainability.

Environmental accounting, e.g., which Bartelmus (2010) proposes as pretty much the only sensible thing to do vis-à-vis the sustainability issue, is interesting to have been mentioned again for two reasons.

First, it is by far no new idea, but it has often been discussed under different signs at the time of its hype. Leipert's concept of defensive costs which should be included into national accounts, e.g., was mainly directed at showing how much of GDP is not actually production but just fixing damages caused (Leipert 1983, 1986, 1995). The "System of Integrated Economic an Environmental Accounting" was aimed at including natural capital and production (as well as other forms of work like household production in developing countries) into the national accounts (United Nations 1993). The main incentive of these and numerous other suggestions was to create a better indicator of national production, including thus far neglected activities and deducing thus far omitted damages (not only of nature but also, e.g., of human health). Having said all this, it is probably a good idea to remind that such an indicator could also be a good indicator for sustainability.<sup>5</sup>

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<sup>5</sup> Although, obviously, the idea that an account of natural capital and services could foster sustainability and be taken as an indicator is not so new either. In a study for the German environmental agency and the ministry for the environment in 1998 we were concerned with just that question (Geisendorf et al. 1998).

Second, it might be a good idea, because it reminds us to think about the feasibility of our exigencies. Although the example is not unambiguous itself. Bartelmus points out the need to find “practical” solutions and argues that social goals are too difficult to establish from an economic point of view. He votes thus in favour of “sustainable economic performance and growth” (2010: 2053), measured by establishing environmental accounting with monetary values for environmental services. However true it is that an abstract claim for some unspecified and un-measurable kind of justice does not help anyone, this suggestion is presented as being more “operational” than it actually has been found out to be. Basically, the attempts to create an ecological domestic product got stuck and somewhat frustrated and ended in satellite systems of physical data, because of the huge problems to agree on monetary measures for environmental services and damages and produced goods.

Van den Bergh (2010), in contrast, puts forward the externalities concept. As Baumgärtner and Quaas (2010b) argue in their reply to the critique, his paper reads as if he would like to suggest the foundation of “externalities economics” instead of “sustainability economics”. Although that would be an argument for the first point in this section, showing how helpless and potentially never-ending the discussion of a new science would be, that is not why I mentioned it here. It was mentioned because it is another interesting thought the debate generated or put forward again. It is actually worth discussing if and to what extent the concept of externalities is able to encompass sustainability. Van den Bergh argues that a proper optimization of externalities would be sustainable at the same time. I agree if externalities are understood in the broad sense van den Bergh suggests. Externalities point at links between elements of a systems and can thus be interpreted as the introduction of a systems perspective. They can also be regarded over time and in their dynamic (2010: 2048).

The problem I have with such an approach is that externalities are usually understood in a much narrower sense. Very often they are treated in partial-analytical models and regardless of time. And externalities are usually to be expressed in monetary terms (which, as we have seen above is difficult in itself) and internalized by some instrument (taxes, certificates or other) designed to incite the economy to reach an optimal equilibrium between economic activity and damage caused. Again, we are faced with the problem of an unequal income being taken as the basis for further allocation and distribution. And it will not be discussed whether other political measures might be more appropriate to reach a sustainable path. Ecological economics has long since recognized that human beings are only bounded rational. Acknowledging such a fact also means that we have to design instruments taking bounded rationality into account because people will probably not react to financial incentives the way neoclassical environmental economics suggests (Waring 2010).

#### **4 Conclusions**

Last year, Baumgärtner and Quaas (2010) came up with the notion of “sustainability economics”, which they mainly described in terms Ecological Economists would agree with, but also introduced a strong notion of efficiency. Unfortunately, they did not refer much to existing scientific branches concerned

with sustainability and did not make clear where exactly their approach differed from ecological economics, environmental economics, or the discussion on a sustainable development.

The current paper refrained from joining the discussion on the proper contents such a new branch should have. That has started to be done by others, like van den Bergh and Bartelmus. Instead two questions were raised.

1. Do we need something like sustainability economics at all? To answer that question the paper looked into the fields that might already have covered the required issues of sustainability economics. It came to the conclusion that nothing virtually new has been proposed and almost everything the authors want is already part of ecological economics. A notable exception might be the requirement of efficiency, which would certainly not be rejected by ecological economists – at least not if only the most efficient realization of a goal they support anyway is meant. However, it has to be admitted that it has not been regarded explicitly by them. It has to be said, though, that Baumgärtner and Quaas seem to attribute more power to the concept than it actually has. It needs to be clarified how efficiency comparisons between different situations could actually be carried out without compromising the also required justice issues. The overall answer to the question was that we do not need a new science, because ecological economics is well equipped to tackle all relevant questions and could certainly include and respect some new arguments.

2. It was investigated whether the debate incited by the proposition of sustainability economics might be harmful or useful. On the contra side we have the problem that people will feel inclined to argue over the importance of one or the other content of this field and use time and effort that may better be employed elsewhere. But there is also a pro. In the answers and critiques to Baumgärtner and Quaas' paper concepts and ideas that are not actually new but probably forgotten or just not related to the sustainability discussion have and can be brought up again and related to the issue. It is possible that such a focus on the particular aim of sustainability will help to ransack concepts and instruments like environmental accounting or particular investment rules that may help to come up with an adequate sustainability policy.



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