"*Hungry for innovation: pathways from GM crops to agroecology*"

Or how to denigrate the former and praise a fiction

"*Hungry...*", is a chapter from "*Late lessons from early warnings: science, precaution, innovation"*, an enormous opus of some 750 pages produced by the European Environment Agency (EEA) [1].

The chapter was authored by a group of anti-GMO activists [2] : David Quist [3], Jack A. Heinemann [4], Anne I. Myhr, Iulie Aslaksen and Silvio Funtowicz [5].

Any rational mind who can get to the end of this gobbledigook is to be commended for her tenacity.

The first sentence of the summary already sets the tune: pseudoscience is to serve an ideology.

> "*Innovation's potential to deliver food security and solve other agriculture-related problems is high on the agenda of virtually all nations*" ?

Really? This in fact is not the case in some European countries, for instance France, where innovation is regularly treated as a dangerous path to go; but our understanding of innovation is perhaps not the same as that of the authors... Nor is it in the United States of America where innovation is an issue left to the actors thereof, and successfully so.

> "*GM crops are well suited to high-input monoculture agricultural systems...*" ?

At first sight, the genetically modified plants (GMP) are not demonized. But at first sight only. What the authors do is to express the contrary proposition: GMPs would not be adapted to other agricultural systems. Tell that to cotton growers in Burkina Faso, India, Pakistan (those who use contraband seeds), etc.; South-African maize-growing women farmers...

> "*...that are highly productive but largely unsustainable in their reliance on external, non-renewable inputs*" ?

Of course! Production-oriented agriculture is not sustainable... Yields continue to increase in most crops; soils, for instance in France, do not show any sign of fatigue or fertility decrease. The econophobic and technoclastic galaxy still has to understand that to be productive, agriculture needs inputs.

> "*Intellectual property rights granted for GM crops often close down, rather than open up further innovation potential, and stifle investment into a broader diversity of innovations allowing a greater distribution of their benefits*" ?

This is well known! Patents on transgenesis-related inventions stand in the way of investments in agroecology. Such a simplistic explanation allows the believers to forego the necessary analysis as to why their nebulous concept (which is not the "agroecology of serious agronomists) has such a hard time to get off ground.

GM seeds are only sold to privileged farmers... But they were 17.3 million, mostly poor, in 2012. Er! No! Wo do not understand: the authors' and their followers' take is that those farmers have become serfs of that company which many love to hate.

The "*push-pull*" [6] technique – an iconic example of what the ideologists call “agroecology” and

insistently call for – escaped by miracle the dictatorship of patents. It is strongly promoted and receives extensive media attention (despite the patents...). Isn't it one of those "*innovations allowing a greater distribution of their benefits*"? Think about it! It is promoted by Olivier De Schutter, a lawyer [7], Marie-Monique Robin, a journalist [8], etc. It is hard to find more prominent references... After more than twenty years efforts, 55,600 farmers [9] have already adopted it in East Africa... but they would be far more numerous had there not been these damn GMO patents. There is a little problem though: the patents are in the United States of America and Europe; to our knowledge there are none in East Africa. But patents have a long arm, haven't they?

The authors in fact cite the technique in support of the contention that the developers of solutions that are not amenable to exploitation through licence contracts would often be excluded from the innovation development and support system. Is there such a "system" any way? Yet *push-pull* is the perfect example of a non-commercial technique that has been the subject of a major extension effort, particularly in Kenya.

And have a look at the clarity of the following view:

> "...*Instead of a view of agricultural innovation focused on seed products from genetic improvement or developing external inputs, the neglected innovations are often locally adaptable practices and services related to complex and dynamic ecological processes that do not lend themselves to commodification—at least not in the way current IP instruments require—but are transferable knowledge that can undergo further innovation at the local level by the end user...*"

We may continue like that *ad nauseam*. Readers will have gathered from the above that it is a mixture of serious considerations and bitter irony.

The above comments are directed at the umptieth remake of a discourse that has made its way into many institutions. Time has come for rationalists to seriously consider how to respond to this stacking.

* * *

The chapter is also fraught with many statements that are disturbing to the rational mind.

Here is one which has the advantage of relating to a non-contentious issue:

> "*For example, industrial agricultural practices on average require 10 calories of exogenous energy (used for everything from petrochemical production, extraction, transport etc.) for every 1 calorie of food produced (Giampietro, 1993; UNEP, 2011).*"

What it means is that, in one particular sector taken as an example, biofuel production, 10 units of energy would be required to produce one unit! In other terms, entire segments of society – those who do not share the alternative views on economy and ecology – would be utterly foolish.

Sources?

The first is improperly referenced; it is not just Giampietro, but Giampietro and Pimentel, the ubiquitous Pimentel in the pseudo-environmental literature. It may be that the authors chose to limit references to the first author's name, but this is irritating.

The reference is from 1993... twenty years back already, so to speak prehistoric times...
It links to an obscure site, NPG Forum Series, NPG standing for "*negative population growth*" [10].

Not the most reputable source...

On top of it, the original text cannot be found easily [11].

But very “interesting” reading:

> "*[m]ore than 10 kcalories (kilogram-calories or 'large calories') of exosomatic energy are spent in the U.S. food system per kcalorie of food eaten by the consumer.*"

This is not the same thing! Please note also the curious definition of the kilocalorie... The jargonesque “*exosomatic*” will be left to specialists to comment on. The text that follows is equally stunning.

But what is the source of this vague "*[m]ore than 10 kcalories*"? Mystery!

There is, however, a Table 1 which tells us that in 1988/89 (almost a quarter of a century ago...) the energy output/input ratio in "*agricultural systems producing cereals*" (what is this exactly?) was 2.7 for the world and the United States of America, and 1.5 for the European Union. Source? Obscure. Calculation method? Not stated.

These 0.37 and 0.66 (the inverse of 2.7 and 1.5) are in any event far from the stated 10, even though we are assured that the first figures relate to energy input on the farm for one unit of output... But it is far better to take the 10 figure in a text which essentially criticises technological innovation...

The second source for the EEA text looks more recent: 2011, almost yesterday.

Yes but... It's at page 40 of another of these monster reports (of course printed in accordance with best environmental practices just to be pulped) which aim at getting us blush with shame at the sight of ours' torturing Mother Nature, beat our breast and convert to asceticism [12] :

> "*Conventional (industrial) agriculture is characterised by farming practices that rely on use of external farming inputs. Most of the large scale industrial farming is considered energy-intensive (using 10 calories of energy for every calorie of food produced), whose high productivity (kg/ha) relies on the extensive use of chemical fertilisers, herbicides, pesticides, fuel, water, and continuous new investment (e.g. in advanced seed varieties and machinery).*"

This is the introduction to part "*1.2 Conventional/industrial agriculture*" (note the combined adjectives). The text then reads:

> "*Industrial agriculture consumes on average 10 exosomatic energy calories (derived from fossil fuel energy resources) for every food endosomatic energy calorie (derived from human metabolism of food) that is produced and delivered to the consumer (Giampietro and Pimentel 1994).*"

Still not the same as in the original text from Giampietro et Pimentel. One may, however, object that here, the reference is from 1994, not 1993... True. But the two are the same; the later one is only derived from another obscure doomsday-preaching and apparently Malthusian site [13].

However that may be, we are being offered Russian doll references: one includes the other. Indigence clothed in abundance... to mislead the (persevering) reader.

* * *

This kind of analysis can be done on very many assertions.

Here is another example taken at random:

> "*How innovation is conceived shapes how it is promoted, and who benefits from the promotion...*"

Read in isolation, it is already flabbergasting: there is no longer free will once the philosophy underlying innovation has been defined!

> "*...The EC sees 'expensive patenting, market fragmentation, slow standard-setting and skills shortages' as barriers to innovation because they 'prevent ideas getting quickly to market' (van den Hove, 2011).*"

The reference seems more serious here since it is an article from *Nature* [14].

Access to the article is limited, but it cites the European Commission which said [15] :

> "*The Innovation Union plan contains over thirty actions points, with the aim to do three things:*
>
> *- make Europe into a world-class science performer;*
>
> *- remove obstacles to innovation – like expensive patenting, market fragmentation, slow standard-setting and skills shortages – which currently prevent ideas getting quickly to market; and*
>
> *- revolutionize the way public and private sectors work together, notably through Innovation Partnerships between the European institutions, national and regional authorities and business.*"

The obvious conclusion is that the European thinking has not been accurately reflected. It is surely a question of nuances, but also of authors: they are in particular Sybille van den Hove and Jacqueline McGlade, who authored other chapters of this 750 page monster from the European Environment Agency. And Ms. McGlade is the Executive Director of the EEA.

* * *

And what is the conclusion for all this?

According to the chapter's summary:

> "*Options are presented for how best to answer consumer calls for food quality, sustainability and social equity in a wide sense, while responding to health and environmental concerns and securing livelihoods in local small-scale agriculture. If we fail to address the governance of innovation in food, fibre and fuel production now, then current indications are that we will design agriculture to fail.*"

Options? It's hard to find any in the text!

Readers will have gotten the point: a heavyweight report from the European Environment Agency – which inconsiderately reproduces those errors and lies, and even frauds, which have been turned

into the official truth through incessant hammering – is being used to promote a particular vision of society rooted in the belief that the apocalypse will be brought upon us in the absence of penitence and repentance. And the wild views on the health and environmental safety of GMOs are but a means for a much broader end.

This misuse of the European Environment Agency is not acceptable.

In "*Lessons learned*" we are told:

> "*The early warning, or perhaps late lesson, to be heeded here is that if one follows the top-down, usually technologically oriented, approaches to innovation,the desired outcomes for addressing food insecurity will not be achieved. Top-down approaches will most likely fail to deliver on the large promises of food security and alleviation of poverty, mainly because these approaches contribute to a feedback cycle that concentrates resources, knowledge, and influence as witnessed in the seed and agrichemicals sector (Adi, 2006; De Schutter, 2009; Fernandez-Cornejo, 2006; Howard, 2009).*"

This is the conclusion of a *petitio principii* fallacy. The *top-down approach* obviously stands here primarily for private research and development, the one that produces marketable tools and makes them available to farmers. **Free-entrepreneurship, capitalism, that is the enemy.**

But we can only agree with the conclusion's conclusion:

> "*Change the directions, distribution and diversity of innovation, and you change the world.*"

Let's implement the authors' prescriptions, and let's go for famine.

February 21, 2013

———————

[1] Downloadable from:
http://www.eea.europa.eu/publications/late-lessons-2
Anyone who has some notions of decision-making processes is bound to conclude that such a volume amounts to an extraordinary waste of money.

[2] See:
http://www.marcel-kuntz-ogm.fr/article-aee-noyaute-114755500.html

[3] The famous Quist of Quist and Chapela, who wrote in November 2001 that they had found Mexican indigenous maize to be "contaminated" by GM corn from the United States of America. Considering the broad extension of GM corn in the United States of America, the United States of Mexico should be entirely "contaminated" today.

[4] Jack A. Heinemann, Centre for Integrated Research in Biosafety, School of Biologial Sciences, University of Canterbury, Christchurch, New Zealand, is the only scientist to have written in favour of Séralini *et al.* and whose letter to the editor has been published in *Food & Chem. Toxicol.*
http://www.sciencedirect.com/science/article/pii/S0278691512008009

[5] The inventor of "post-normal science".

[6] A biological insect-control technique by growing together the crop with insect-repellent plants and surrounding the field with insect-attracting plants. This term has been more specifically coined

for a method developed for maize in East Africa.

[7] For instance in a report to the United Nations Human Rights Council:
http://www2.ohchr.org/english/issues/food/docs/A.HRC.16.49_fr.pdf
For an analysis:
http://imposteurs.over-blog.com/article-de-schutter-l-agroecologie-et-l-imposture-politique-et-mediatique-par-wackes-seppi-80320617.html
It should be recalled that in his capacity of Special Rapporteur, Mr. De Schutter is not an agent or an expert of the UN and cannot engage the UN in any way.

[8] For instance at :
http://robin.blog.arte.tv/2012/10/07/seralini-la-pyrale-du-mais-et-la-greenpride/
and in the linked video.
See also the comment from the author of this document from 8 October 2012 at 17:47:
http://robin.blog.arte.tv/2012/10/07/seralini-la-pyrale-du-mais-et-la-greenpride/#comment-18323

[9] http://www.push-pull.net/
In fact, the technique is quite demanding, and labour-intensive in the first year; the production cost is high; *Desmodium* seeds are hard to find... There are good reasons to doubt about the real efficacy of the technique:
http://www.kari.org/fileadmin/publications/10thProceedings/Volone/ControlMaizeStem.pdf

[10] http://www.npg.org/forum_series/iforums/iforum.html

[11] http://www.npg.org/forum_series/TheTighteningConflict.pdf

[12] http://www.unep.org/greeneconomy/Portals/88/documents/ger/ger_final_dec_2011/Green%20EconomyReport_Final_Dec2011.pdf

[13] The old URL is:
http://www.dieoff.com/page69.htm
The text was transferred to:
http://www.jayhanson.us/page69.htm
To learn more about Jay Hanson :
http://www.theoildrum.com/story/2006/7/13/21018/2121

[14] http://www.nature.com/nature/journal/v474/n7350/full/474161a.html

[15] http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=intro

The author is a retiree, agronomist by training, who writes under a nom de plume, Wackes Seppi.