RESEARCH AGENDAS IN AGRICULTURAL BIOTECHNOLOGY

The Munlochy GM Vigil welcomes the inquiry presently being conducted by the AEBC into agricultural biotechnology research agendas. As a campaigning organisation representing consumers the Vigil has made wide use of a variety of research connected to GM agriculture and been involved in its dissemination to its support base, parliamentary bodies, government and its agencies, as well as to a range of other interest organisations. The Vigil has been, and continues to be, very much an active participant in the debate within the UK and beyond.

Whilst self evidently not being practising researchers in the particular field of the present inquiry (which appears soley to be addressing and drawing from this sector), we nevertheless are able to comment on this particular research issue from the unique vantage of a public interest group (an aspiration the draft paper alludes to more than once). We note that the inquiry has sketched the recent history of this area and the broader, associated research fronts, as well as the architecture of research systems. This architecture generally incorporates the main elements such as industry, government and its agencies and institutes, universities and the higher education institutions where research is carried out. These elements in turn are constituted into networks wherein the various strands of research function, and in this particular inquiry, where agricultural biotechnology in its own particular network is located. The relationships, both formal and informal, between the various bodies in the networks (and in the particular network under examination) ought to warrant a fuller reckoning. We appreciate the difficulty AEBC has had in gathering data but what does that show?

The drivers, the pushers and the pullers of the agendas behind the research, have been characterised in terms of academic drivers, science curiosity drivers, policy needs drivers and market needs drivers. This appears to be a rounded grouping used by every part of the network to justify research per se. However, we note that the industry element in this inquiry has so far not been described and the bigger picture representing the architecture of research systems today, their networks and research agenda drivers, has not a little missing. Surely, to pick but one example, investment networks

are not dispassionate or disinterested in the relationships of funding and grant awards for research?

What has agricultural biotechnology research shown? What has it done and how does it compare to other research sectors? There can of course be no tacit assumptions as the UK's GM Science Review exemplified, the Economics Review qualified and the Public Debate amplified. What kind of home has agricultural biotechnology research made for itself and how is that home used by a handful of transnational seed and agrochemical companies? Transparency is one thing, and a fine thing, but lens and light are both required to achieve a projection all can see. Furthermore, if the great generic public are to be allotted a place at the agendas table, and rise to more than a morsel or two of enlightenment tossed through a budgeted outreach programme, then all the hands on the table have to seen and clean.

Untangling the private from the public ("private faces in public places are nicer and kinder than public faces in private places" – W H Auden) has become a bane because it has become so prevalent and intrinsic, like it or not. Nevertheless, since the public elements in agricultural biotechnology research are a substantial given, whatever the private dimension and wherever it hides, then a more inclusive element drawn from the generic public would appear to be a necessity which, even a cursory glance at Lottery Funding guidelines would reinforce. And since scientists will have to work within any new kind of enlarged and more accountable framework, would it also not be amiss to involve their representatives and trade unions?

Working within the prevailing economic ethos, the whole project needs some degree of predication, which at present seems entirely lacking, the odd reference to market failure aside. Why is public money spent on science? Why is public money spent on agricultural research? What kind of research do we want to see, what kind of agriculture do we want and what food do we both need and want?

In the case of agricultural biotechnology an argument of market failure to justify any public funding is pure economic fallacy. Some of the largest corporations in the world have invested heavily and consistently in GM

research in all its guises. In fact the only market failure in this sector is due to the existence of monopoly and monopsony positions (which would have been addressed by anti-trust legislation, if there had ever been the political will to address the situation). The effective lack of demand for any of the products derived from this research is all the more remarkable given the market position of the major players, and in itself shoots down any use of the argument of "public good" to justify further public funding.

A final and most important issue whilst we are exploring the economics of the situation, is "opportunity cost". Public funding is limited, public funding for science even more so and what of that for agricultural research? All monies spent on GM research have not been spent elsewhere. This may seem obvious, but is often conveniently overlooked when its protagonists defend GM funding. The importance of opportunity cost and the appropriate allocation of resources is now surely firmly at the centre of all discussions on GM research, following the events in the UK, Europe and increasingly worldwide. Why do we have farming? What food do we need and want? What environment do we need and want? What wider benefits should public monies pay for that is not reflected in the price of food products? If agricultural biotechnology is seen as an industry in itself then market conditions apply. It is hardly in its infancy and has hardly been unprotected or financially unsupported. Should government continue to facilitate and promote its existence at the cost of using other resources and denying other opportunities?

Choices have to be made, and those making these choices in some way have to be held responsible so as once and for all to remove the underlying suspicion of vested interests from the arena. Individuals and institutions holding patents and having influence either politically or through funding processes is indicative of a state of affairs open to if not scarily prone to abuse. Suspicion that public monies are used to subsidise GM agricultural corporations who are now unable to cover their initial investments due to the applied products being rejected by consumers, is further confounded by the perception that government not only facilitates funding but also promotes an ailing sector of the industry. The state of agricultural subsidies in the Northern Hemisphere, not least of all in the USA, and the conflation of this hot topic with public finances, aggravates these

perceptions when there are no lack of private investment streams for the industry. Or is it that no longer the case?

Commercial products to be marketed, if they are to be acceptable, require certain standards to be applicable. Research and development on safety should be enforced by government, driven by consumers and paid for by companies. Liability issues related to commercial, landscape scale production also raise questions that revolve around unconfined releases in the open air and contained releases in enclosed conditions of laboratory research. If science and technology in the name of the public is to engender trust and pervasive cultural drivers are to generate genuinely shared excitement and expectations in the programmes and the public goods produced, then a lot has to fundamentally change in the agricultural biotechnology research area. As the AEBC inquiry notes in a quote from government: "We will encourage BBSRC to ensure that sun setting be an explicit element in future consultations." The next big thing has had a tantalising dominance for some and created a breed apart of science fashionistas. Carried forward by a momentum that is pushed by technology, a near obsessive reliance on a particularly narrow area (transgenics are older and separate from other forms of agricultural biotechnology like marker assisted breeding) is a precarious emphasis to adopt and one that appears to put a section of science under a spell of enchantment rather than enlightenment. Opportunity knocks and opportunity costs.

In closing this short submission we would like to briefly refer to two examples of publicly funded research in order to highlight the contradictions revealed in this area and the questions they pose. The controversy over the Putzai and Ewen research commissioned by the Scottish Office in 1995 is well documented (e.g. see Rowell - *Don't Worry (It's Safe To Eat*) – Earthscan, 2003, Chapters 5 and 6). £1.6 million of public funds were allotted to a multi-centre research programme over three years. The subsequent controversy that erupted very publicly in 1998, and which has in many guises run and run to this day, often neglects to mention that the research was never properly finished. If this was itself not bad enough, the scandal involved in the orchestrated undermining and innuendo surrounding the modest peer reviewed publication that was salvaged from this research (the programme had effectively been closed

down and the leading researcher locked out) implicated the very architecture of the whole agricultural biotechnology network. Its critics have never repeated the research in order to support their position. This episode catalysed public distrust in agricultural biotechnology and still demands to be strictly reviewed. It could be argued, as some historian might, that the work of the AEBC, and indeed its current examination, is attributable to this shabby episode.

When public funding is used for science, and then that science is used in the media, it should be equally available to all (at least to all sections of the media) and all results and data simultaneously available to the public (with no exclusives or private views). The Botanical and Rotational Implications of Genetically Modified Herbicide Tolerance (BRIGHT) project was carried out by a group of research and industrial partners and even before the report was published (on the web, November 2004) was being cherry picked and flagged up through one mass media outlet as an exclusive. To gain air time in this way smacks of corporate selling techniques (an obvious glow was given to GM herbicide tolerant varieties in contradistinction to the UK governments own published and far more extensive project, the Farm Scale Evaluations of October 2003) and shows that the commercial sponsors of this particular project obviously held sway over the public interest and independent research stations who carried through the work. If public money is to be involved then publication should be done in the public interest and equitably and fairly with full access to results on publication, and this should be stipulated as part of the whole agreement.

120 seconds on television put the lights out on one hesitant man and a £1.6 million multi-centre publicly funded research programme in 1998. In 2004 an industry led multi-centre research programme using public resources obtained more coverage on television and expected the public to keep the lights on. Scanning the horizon suggests that the public has already got the joke about how many agricultural biotechnologists it takes to get on TV and change a light bulb.

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