Envisioning futures of African agriculture: representation, power, and socially constituted time

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Abstract: Concern about the future of agriculture, particularly in Africa, has mounted again in recent years. This paper reviews applications of innovative methods for planning for the future – including scenario planning, future search, search conference, appreciative inquiry, and open space technology – and notes some limitations. Pro-poor planning for the future requires contextualizing recent concerns within broader research about time, society and power, which emphasizes that visions of the future are socially constructed, and hence inseparable from contemporary politics.

Key words: Africa, agriculture, participation, planning, strategy

I Introduction

The turn of the millennium has seen mounting concern about the future of agriculture, especially in Africa (Cour and Snrech, 1998; Bélières *et al*., 2002; Owusu *et al*., 2002; Pimbert and Wakeford, 2002; Mortimore, 2003; Byceson, 2004; Interacademy Council 2004; Commission for Africa 2005; Coupe *et al*., 2005; National Intelligence Council, 2005; Rosegrant *et al*., 2005; Tan and Gueye, 2005; Toulmin and Gueye, 2005; United Nations 2005; von Braun *et al*., 2005). 'There is probably less of a consensus now', write ANRT and Wiggins (2004: 19), 'particularly amongst development agencies … on the best (in terms of impact on poverty and hunger) agricultural development strategy than at any time of the past half-century or longer … This is particularly true of Africa'. Concerned analysts point to persistent stagnation in aggregate African agricultural growth despite structural adjustment, and new challenges posed by HIV/AIDS, climate change, concentration and standardization of global commodity chains, and falling commodity prices (Maxwell, 2004). Future scenario exercises are now being conducted at local levels, in national plans, and through global projects such as the Millennium Ecosystems Analysis and the World Bank's International Assessment of Agricultural Science and Technology for Development, and more are planned. Research institutes have convened conferences of experts, and an electronic consultation on the future of small and family farms. Is there just cause for such attention (and perhaps anxiety)? Are pessimistic experts crying wolf? What are the roots of this concern with the future of African agriculture, how are the futures being envisioned, by whom, with what consequences, and what are the best ways to go about planning for the future?

In what follows, I address these questions through an analysis of the significant growth and spread during the past ten years of distinctive 'futures talk' about African

agriculture. 'Futures talk' is what I have termed an array of management consulting on techniques for planning and strategizing for the future – including scenario planning, future search, search conference, open space technology, and appreciative inquiry. This futures talk originates primarily out of consulting for medium to large-scale businesses in the United States and Europe, a consulting 'global market for advice' worth an estimated $64 billion (Collins, 2004: 554). Futures talk is increasingly used by development organizations, yet has been largely ignored by scholarly research on development.[1] With the increasing interest in new means of citizen engagement and deliberative democracy (Holmes and Scoones, 1999; Chambers, 2003), the novel methods of futures talk appear compelling (Polanyi, 2002; Pimbert and Wakeford, 2002), yet as I show below they also threaten to obscure and thereby entrench inequitable power relations at local and international levels. While there is indeed a need for concern with the future, effective planning will require emphasizing power and understanding the social constitution of time.

Although the particular form and language of this coterie of management methods is new, if we probe slightly deeper, we can see that concern with the future has long been an extensive part of development studies and African history – in five-year planning exercises by post-independence African governments, in the statements and statistics of agencies such as Food and Agriculture Organization (FAO) (1986) and the International Food Policy Research Institute (IFPRI), and in the post-structural debates about constructing alternatives (Escobar, 2000). Extending our view further, concern with the future has influenced broader society, from the work of Thomas Malthus (Ross, 1998), to anticolonial resistance (Boahen, 1990), to the agrarian utopias of A. Chayanov and Wendell Berry, and so on.[2] The final part of this paper discusses how we can understand the significance of contemporary concern and

[1] There is however a growing quasi-academic literature on management consulting in general – see Collins (2004) for a review.
[2] Wilson (2000) provides an Anglo-centric account of thinking about the future.

futures talk about African agriculture in relation to these broader currents. Indeed, as illustrated below, such an understanding is critical for pro-poor planning.

II Futures talk in contemporary African agricultural development

The range of methods used in future planning is wide (Holman and Devane, 1999).[3] This section reviews five common, illustrative types of 'futures talk': scenario planning, future search, search conference, open space technology, and appreciative inquiry. The methods vary in their goals and suitable contexts. The latter two methods are not explicitly focused on future visions, but can be used for so doing. The latter four share a common feature of being types of 'large group interventions' (LGIs) (Bunker and Alban, 1996), whereas scenario planning is usually elite-based. For each method, I give a general definition, a description of the main techniques used, background, and examples relevant to agricultural and rural development.

Scenario Planning

Though scenario planning in some form has been around for decades, Peter Schwartz (1996) popularized the method, defining it as: 'a tool for ordering one's perceptions about alternative future environments in which one's decisions might be played out' (ibid., 4). He identifies eight steps in creating scenarios: identify focal issue or decision; identify key forces in the local environment; identify driving forces; rank key factors and driving forces by importance

[3] Other methods not described in this paper include, Conference Model®, Preferred Futuring, Strategic Forum™, Real Time Strategic Change℠, Technology of Participation™, and Think Like a Genius®. The Appendix gives a brief overview of Horizon Scanning.

and uncertainty; select scenario logics; flesh out scenarios; derive implications; and select leading indicators and signposts.

Scenarios, for Swartz (1996: 3), are not predications, but rather are 'stories about the way the world might turn out tomorrow, stories that can help us recognize and adapt to changing aspects of our present environment'. Emotionally moving scenarios are more influential, and best kept to three or four in number. Three common, yet bland, scenarios used are Better, Worse, and Business-As-Usual. Other key common scenarios are zero-sum-game, challenge and response, and evolution (and technology), whilst more minor scenarios include revolution, cyclical change, infinite possibility, generation change, and 'lone ranger'.

Scenario planning, according to Schwartz and others, began with the French thinker, Pierre Wack. Wack was a contingency planner at Shell, and helped prepare for possible spikes in oil prices. Shell was ready for the 1970's oil embargos, and as a result moved from being a marginal to a major energy company. But it was Schwartz, an employee at Shell after Wack, who popularized scenario planning through Global Business Network, a consulting firm he co-founded. One of the most notable instances is the use of four scenarios about politics and economics during the transition from apartheid in South Africa. The 'Mont Fleur' scenarios included doing nothing (ostrich), reforming with unclear mandate (lame duck), reform with short-lived populist spending (Icarus), and a united democratic transition to free market economy (flight of the flamingos) (Spies, 1994).

Scores of articles and books have been published, with key journals being *Futures*, *Scenario and Strategy Planning*, *Long Range Planning,* and *Technological Forecasting and Social Change*. Key texts are Schwartz (1998), and more recently, Ringland (2002) and the work of T.J Chermack. A range of websites and e-networks and consultants proffer various scenario planning services.

There is much work on agriculture and food related scenarios. For example, Penker and Wytrzens (2005) describe four scenarios for the Australian food chain in 2020: liberal market, protective policy, fast world, slow world. O'Connor *et al.* (2005) examine the Western Australian wheat-belt. The United Kingdom's (UK) Department of Environment, Food and Rural Affairs commissioned a study to develop scenarios for the British countryside (Future Foundation, 2003). It developed three scenarios for the next 20 years (consumption countryside, 21st century good life, rise of the rurbs), and four for 50 years (vibrant variety, preserved heritage, fortress and fences, gardens and guilds). Other applications of scenario planning that are notable but less studied include research on the following: biotechnology in Europe, food security coping in KwaZulu Natal, the arable sector in Argentina and Brazil, rural France, agriculture in South Africa, rural industries in Australia, and the California Central Valley.[4] Scenario planning has also been used by numerous agencies, such as in the US rural lands stewardship program, a conference at the World Summit on Sustainable Development, a 2004 workshop on the Augusta-Margaret River area of Australia, the Government of Canada's water plans, the United States Department of Agriculture's biotechnology advisory committee, the Canadian provincial government of Alberta for agriculture, food and rural development, and International Center for Improvement of Maize and Wheat for developing its strategy. It has also been mentioned by the Development Assistance Committee of the Organization for Economic Cooperation and Development, and by the Director of the Overseas Development Institute in consultations on the new agriculture strategy for the UK Department for International Development, as well as recommended in the UK House of Commons for studying effects of climate change.

[4] For the sake of space and readability, references are not provided for the listed applications of futures methods. Details can easily be found on the internet through common search engines such as www.google.com.

Search Conference

A search conference can be defined as, ‘a participative process in which a group of people develops a set of strategic goals *and* tactical action plans that it will later implement’ (Emery and Purser, 1999: 27). It consists of the following rough steps: gather views on trends in and desired futures for the external environment, analyze organization’s system (key events, current structure, desired futures), review constraints (resources, structure, culture), formulate strategies for planned adaptation, and deliberate the steps to initiate changes (ibid).

Search conferences work best with 20-35 people over two to three days. Compared to future search (see below), participants focus first on the external environment, before then looking at the particular sub-system involved. Additionally, stakeholders may be limited to ‘power holders’, or those able to implement action plans. Participants are required to confront, not ignore, conflicting views, and a much longer time is allocated to action planning. The approach is said to be distinctive in determining how best to fit oneself in existing world trends, rather than choosing a future and attempting to obtain it.

Search conferences draw on concepts developed by British social psychiatrist Eric Trist and Australian social scientist Fred Emery in 1959 while at the Tavistock Institute in London. The British government contracted them as consultants to use the search conference in 1960 to smooth a merger mandated by the Royal Air Force of two jet engine companies, which were competing with Rolls-Royce. Emery returned to Australia and continued in the 1960s and 1970s with the conferences, which numbered in the hundreds. Search conferences occurred in the US as well with the arrival of Trist in 1976 and Emery in 1982, but did not catch on until the 1990s. The definitive text on search conferences is Emery and Pursur (1996).

Search conferences have been applied to community and food security in New York, studied by Mccullum *et al.* (2003), Peltier *et al.* (2003) and McCullum *et al.* (2002). Search conferences have also been used in wildlife management in Ontario (Schusler and Decker, 2002; Schusler *et al.*, 2003). Other agriculture-related projects and activities that have used search conferences include a 2004 search conference about 'A new vision and mission in Turkish agriculture', the US Forest Service, a project on urban horticulture in Gambia, Dutch water management, New York Agricultural Education, and a dairy project between Punjab Agriculture University, Gujarat Law Society and Denmark Technical University.

Future Search

Much like the proceeding example, Future Search can be defined as a process 'to evolve a common-ground future for an organization or community and develop self-managed plans to move toward it' (Holman and Devane, 1999: 345). The process consists of workshops over two to three days with a sufficiently large number of people to represent all relevant stakeholders (30-80, but 64 people is said to be ideal (8 groups of 8). The conference includes eight strict steps. First, participants focus on the past, making timelines relating to the conference theme. Then, in stakeholder groups, they focus on present, external trends, making a large 'mind map' on paper, and voting with colored dots on prioritized trends, which are then discussed as a group. Fourth, participants say what they are sorry and proud of in relation to theme and trends. The next steps are to identify ideal future scenarios, identify common ground, and confirm common ground. The conference finishes with action planning and commitments (Weisbord and Janoff, 2000).

Key 'principles' are having stakeholders representing the entire system, working in the context of the external environment, emphasizing common ground not problem solving,

self-managing group work, publicly committing to follow up, and avoiding external experts. Future Search is said to be a process that is inclusive, consensual, and reflective, 'one of the most powerful and democratic methods' (Ander & Lindstöm Partners, 2005).

Future Search draws the emphasis on futures and group work from the Search Conference method, but also emphasizes common ground and comprehensive stakeholders, after Ronald Lippitt and Eva Schindler-Rainman's experiences with large scale community futures conferences in North America in the 1970's. Roughly 2,000 future search facilitators have been trained, with roughly 500 joining the Future Search Network. The key work is Marvin Weisbord and Sandra Janoff's (1995) book *Future Search*.

There are several studies of future search methods applied to agriculture and rural development, including Local Agenda 21 in England and Germany (Oels, 2002), fire research in the US (Saveland and Thomas, 1998), rural planning in and Devon, UK (Whittaker, 1999; Whittaker and Hutchcroft, 2002), and pesticides and agriculture in rural Minnesota (Morely and Franklin, 1998).

Future search has been used in a range of other less well-documented agriculture-related applications, including the Land and Living project in Ashtabula County, Ohio, the US Animal and Plant Health Inspection Service, Rural Development Planning in Scotland, England and Scotland Landscape Character, water management in Lower Australia, forest communities in Oregon, Whole Foods supermarket, College of Agricultural, Consumer and Environmental Sciences at University of Illinois Urbana-Champaign, Tamil Nadu Agricultural University, community food systems in New York and Pennsylvania, Heifer Project International for work on youth-food-environment nexus, disaster management in St. Kitts and Montserrat, women in rural Northern Ireland, a Cornell university program on weeds in the Philippines, the Swiss agricultural extension, planning for food and farming in the Connecticut River Valley, a workshop for the American agricultural extension system,

and a workshop for the Wildland Fire Research Station of the Forest Service of the United States. Future search has also been mentioned in an IFPRI book on African biotechnology, an FAO book on Panchayat Raj in India, and in the Inter-American Development Bank participation handbook. In addition it has been recommended by GTZ and others for the groundnut sector in Anantapur, India, and by the UK Food Group to the Development Minister.

Appreciative Inquiry

Appreciative inquiry (AI) is based on the notion that 'human systems grow in the direction of what they persistently ask questions about' (Cooperrider and Whitney, 1999). That is to say, if organizations investigate problems, they will continue encountering problems. If they focus on appreciating strong aspects, they will discover and do more good.

There are four key steps. First, in discover, people discuss the organization at its best. Second, in dream, people envision an organization being at its best always. Then, in design, a small team is tasked with action planning to create the dreamed organization. Finally, in deliver, participants implement changes.

AI rests on five theoretical principles: the constructionist principle that human knowledge and organizational destiny are interwoven; the simultaneity principle that inquiry and change are simultaneous; the anticipatory principle that collective imagination about the future is the key resource for generating change; the poetic principle that human organizations can be read; the positive principle that change requires positive affect and social bonding.

Key assumptions are:

> in every society, organization or group, something works; what we focus on becomes our reality; reality is created in the moment and there are multiple realities; the act of asking questions of an organization or group influences the group in some way; people have more confidence and comfort in journeys to the future (the unknown) when they carry forward parts of the past (the known); if we carry parts of the past forward, they should be what is best about the past; it is important to value differences; the languages we use create our reality. (Hammond, 1996)

AI was developed by David Cooperrider and Suresh Srivastava in the 1980s at the Weatherhead School of Management, Case Western Reserve University. Though initially dismissed, the concept gained ground through workshops, consultancies, university research, a 1990 contract with the post-communist Romanian health care system, a contract to United States Agency for International Development (USAID), and the founding of the Taos Institute. Since 1990, AI has spread in publications and experiences, notably with the US Navy, the large telephone firm GTE, and Save the Children.

AI was detailed in Cooperrider and Srivastava's (1987) article, and elaborated in a number of articles, reports and books (Srivatstva and Cooperrider, 1990; Hammond, 1996; Cooperrider *et al.*, 2000; Elliot, 1999; Murrell, 1999; Cooperrider and Whitney, 2000; Watkins and Mohr, 2001; Whitney and Trosten-Bloom, 2003). There is also a growing literature with regard to agriculture in developing countries, including a USAID-funded project in Malawi (Msukwa and Moyo, 2003), participatory research (Braun, 2005), and projects in India and rural Canada (Ashford and Patkar, 2001a, 2001b). Appreciative Inquiry has been used in agricultural development projects in a number of contexts, including the Nepalese Department of Agriculture, a USAID-funded natural resource management project in Malawi, North Carolina's Wake County Lands Taskforce, NGO Rural Development in Kagera, Tanzania, a 2005 workshop at Kansas State Agricultural Research and Extension,

rural development in Zimbabwe, fishing in Oregon, the International Fund for Agricultural Development in India, the Christian Relief and Development Agency in Ethiopia, and a 2002 conference on land reform and human rights.

Open Space Technology

Though precise definitions are rare, open space technology (OST) can be conceived of as the use of self organization principles to hold an organizational development meeting. Compared with the other methods discussed, OST is relatively fuzzy conceptually and poorly documented.

A one to three day event, OST can involve a large number of people, ranging from 5-2,500. OST involves morning announcements, sessions of self-organization, and evening report backs. The conference begins with an event in which the convener welcomes the group, discusses possible themes/topics, and the basic self-organization methods, and the principles and law of OST. The methods for the self-organization sessions are that people write topics and post a time and place to meet to discuss them, and subsequently people meet and discuss. The conveners of the thematic groups write reports that are compiled and distributed to all participants. Then each group identifies 10 issues, and individuals vote for their priorities, with the entire group's votes tabulated.

The four principles for self organization are: whoever comes is the right people; whatever happens is the only thing that could have; whenever it starts is the right time; when it's over it's over. And the law is that of 'two feet': 'participants intensely engage up to the point that they can't stand it any more … They will walk away, cool off, and come back for more' (Owen, nd). There are four conditions required for self-organization: high levels of

complexity; high levels of diversity; high potential or actual conflict; and a decision time of yesterday.

OST is said to be useful to almost any sort of organization, any culture, and a range of issues including transitioning in new technology, morale, future planning, product development, community building, transformation, conflict resolution, learning new material, leadership, public input, and improving communication. The results are that all issues people care enough to raise will be on the table, issues are prioritized, and issues get as much discussion as people want to give. The main benefit of OST is that it can 'help people move below the surface of their personal or organizational facade by uncovering what is already in existence but unseen' (Norris, 2000). A rage of claims are made about the efficiency, speed, playfulness, productivity, inner growth, community building, creativity enhancing and so on of the process (ibid.).

OST is said to be based on experience of a ceremony in Liberia in the 1960s. It was first used at a 1985 Monterey meeting of the Third Annual International Symposium on Organizational Transformation. A few more conferences in were held in 1989, and then the method became more widely used (Norris, 2000). Key works are Owen (1997a; 1997b), Norris (2000), Saam (2002), and grey literature from a range of Open Space Institutes. OST has been used in Australian Government planning on natural resources management, an international food and society conference, a Nordic Agricultural Academy conference on food security, District Planning in Mozambique, a Danish aid conference on agriculture, the International Federation of Organic Agriculture Movement, the International Plant Genetic Resources Institute, the 2003 nineth International Drainage Workshop at Wageningen University, NGOs in southern Africa working on HIV/AIDS and agriculture, a 2000 workshop on Farmer Based Organizations in Zambia, rural villages in Burkina Faso, Save the Children, the Peace Corps, and a textbook on agricultural extension.

III Limitations of futures talk

There are relatively few independent evaluations of how these methods play out in practice (Chermack, 2005). Most of the literature consists of 'how-to' books, relatively disconnected with academic literature on development, notably the constructive critiques of participation (see Hickey and Mohan, 2004). Chermack (2005), for example, notes that there is not even adequate understanding and methodologies for evaluating whether scenario planning makes any concrete difference. The following review draws on the discussion above and the few evaluations that do exist (Bryson and Anderson, 2000; Oels, 2002; Polanyi, 2002; Whittaker and Hutchroft, 2002; Peltier *et al.*, 2003).[5]

The first inherent problem of futures talk methods is that they tend to shy away from addressing underlying problems. This may be because they seek to identify 'common ground' among participants, or because they were designed primarily for price-taking for-profit companies who respond to the broader market conditions around them. Polanyi's (2002) evaluation of a future search conference on repetitive stress injury notes that challenging recommendations were dismissed: 'Future Search encourages the adoption of an incremental and voluntary model of social change that tends to benefit those whose interests are compatible with the status quo' (364). As he describes, Future Search

> restrains participants from challenging or doubting each other … argument is avoided at Future Search conferences, and there is no opportunity or basis for exploring the

[5] Also somewhat relevant, but highly complex, is the controversy around Pimbert and Wakeford's (2002) report on a citizen jury on agricultural scenarios in Andhra Pradesh, India (see Scoones and Thompson, 2003, and the materials at http://www.prajateerpuindia.org).

> validity, legitimacy or sincerity of competing claims … deeper, more global analysis that participants themselves developed early in the conference was left out, and even contradicted by the common ground and action plans developed at the end of the day … The assumption of the existence of consensus and common ground among groups tends to legitimize the interests and aims of more powerful groups … By encouraging acceptance and voluntary action, Future Search may stifle anger and protest where these are justifiable. By ignoring the existence of power and conflict, and focusing discussion around sometimes marginal areas of common ground, there is a danger that Future Search can simply entrench the dominance of some groups over others. (365)

Whittaker and Hutchcrotf (2002) describe a future search conference for poor rural communities in Devon, and find very similar dynamics, as does Oels' (2002) study of two sustainability Future Search conferences in the UK and Germany (see also Pelletier *et al.*, 2003: 304S). A version of OST was used at a one-day consultation in September 2005 on the Agricultural Strategy Paper of the UK Department for International Development, yet much of the paper was already 'non-negotiable' and participants were warned implicitly that critical views about agriculture would only make donors more reluctant to fund agricultural development. The emphasis on adapting to 'external' trends can understate actors' actual capacity to change such trends. The Mont Fleur scenarios emphasized only South African governance, reifying the broader dynamics of neoliberal globalization (Hart, 2003). In Nigeria, a critic notes, 'Shell does not simply react to political and economic developments in Nigeria; it influences them to suit its own long-term interests' (Okonta, 2004). Likewise, the consultant hired to head DEFRA's futures unit and tasked with finding new ways of increasing the voice of rural communities has a long track record with major defense companies and departments that skew government budgets. This failure to include a

historically grounded analysis of power stems partly from the key selling point of futures talk methods – that they are blueprint models almost universally applicable ('You could use scenarios to plan small business, to choose an education, to look for a job, to judge an investment, or even to contemplate marriage' (Schwartz, 1996: 4)).

A second inherent problem is that these methods do not necessarily deepen democracy. Many of the methods call for a single participant from each stakeholder group, and thus prioritize breadth of representation at the cost of proportionality. The outcomes are heavily dependent upon who is invited, who is able to attend, and who asserts power during the proceedings. If carried out well, they can be complementary to, but not substitutes for, functioning bottom-up democratic systems for planning and policy making.

Yet futures talk methods are often marketed as neutral discussions or quick and easy short cuts to democratic planning. A Shell consultant, for example, described the Mont Fleur scenarios in South Africa as contributing to 'democratic discussion' (quoted in Davis-Floyd, 1998: 163), when in fact they were part of a propaganda blitz designed to garner legitimacy and thereby forestall civil war and threats to white capital (Howarth and Norval, 1998; Bond, 2000; Habib and Padayachee, 2000). And the futures methods are often difficult to conduct well. Polanyi (2002) notes difficulties in getting employers to attend, possibly because they had the most to lose. He also notes the lack of people of color, the young and old, and rural people. Some people dominated the collective and group sessions, while others did not speak – partly due to social status, partly personality. The planning of the conference was contested, as locations were seen as biased towards some groups. Whittaker and Hutchroft (2002) likewise note that councilors who felt threatened did not attend, others could not afford the time commitment, and group work was dominated by particular individuals. Pelletier *et al.* (2003) note that more interests of powerful participants were included on the final action agendas than those of usually disenfranchised, who 'either did not voice the majority of their

most salient interests/concerns during the search conference, or were not embraced by others at the search conference', or who's interests 'became increasingly similar to those of the other search conference participants' (303S). Analysis of this conference illustrates how 'power can influence agenda setting, and resulting action agendas and the shaping of perceived needs, even in a participatory process that appears fair, energizing and satisfying to the internal participants and external observers' (ibid., 304S).

Such problems seem particularly pertinent to Africa agriculture development where information is often power, differences in social status and power are great, and many 'stakeholders' may be reluctant to share information on important but illegal agriculture-related processes, such as squatting on land, defaulting on loans, using underage and underpaid labor, selling on black markets, harboring armed rebels, or harvesting timber, marijuana, or bushmeat.

Third, the methods fail to confront the difficulties of implementation, and risk being simple 'talking shops', which may cement or change a few opinions, or facilitate new contacts – both of which are important – but fail to live up to promises of significant transformation. Pelletier *et al.* (2003) found that after the conference, the working groups dropped off, due to lack of support, and there was little state or local funding or regulations to implement the goals and action plans produced at the search conference. Polanyi (2002) also notes conflicts over funding the conference, and follow up actions. Oels (2002) observed that participants were not clear about what they had agreed to participate in, and after it concluded, were not clear what they had been involved in, nor did they understand that they were expected during the course of the conference to commit themselves to 'action plans' for work after the conference. Some participants 'faked their intension to continue their work as a group, simply to please the organizers and not to expose themselves as non-committed' (ibid., 353). Whittaker and Hutchcroft (2002) observe that representatives had to first consult

with their organizations on decisions, meaning that the conference was not an unconstrained democratic forum, and rather simply a means of 'initiating dialogue and stimulating networks' (344).

The methods work differently for companies that are organized hierarchically, in which a few people at the top can think of futures and plan accordingly, in contrast to a conference of a wide range of stakeholders with very different world views. The originator of scenario planning at Shell noted, 'Our real target was the microcosm of our decision-makers' (Wack, 1985). Thus, as Oels (2002) notes 'what happens in and after a Future Search Conference must be understood in relation to the political context that nourishes or fails to nourish the Future Search process. Even a procedurally optimized Future Search Conference can only be as good as the context it is embedded in' (354). For example, the repeated scenarios in South Africa – there were six such exercises from 1977 to 1991 – made little impact before the 'success' of the Mont Fleur scenarios (Spies, 1994).

Fourth, because they are highly commercialized, futures talk lend itself to overly positive promises – for example, 'dramatic results with a moderate amount of people's time and other resources' (Holman and Devane, 1999: ix), or ' "cultural transformation" or "paradigm shift" … experienced and used to practical advantage within 48 hours' (Weisbord and Janoff, 2000: ix), or 'fast, cheap and simple' means towards 'fundamental organizational change' (Owen and Stadler, 2000). Though some efforts at evaluation have been made (Holman and Devane, 1999), many futures talk methods do not sufficiently specify suitable contexts, limits, and alternatives, nor evaluate, learn lessons from, or build upon past experiences.

In addition there are two potential dangers. First, utilization of these methods can be cited as a consultation and therefore used to claim legitimacy for decisions or strategies that were actually developed in an undemocratic fashion. Other more prosaic means of democracy

may be ignored or downplayed by flashy, superficial consultations that invoke the latest Western models, experts, and jargon. A second danger is that the methods can end up focusing on prediction, and associated issues of scientific methodology, in which expertise is claimed by dominant groups of economists, GIS modelers, statisticians, or other technical professionals, possibly restricting the range of opinions (Santleman *et al*., 2004: 369-70).

This section has reviewed recent evaluations of futures talk and illustrated some problems and dangers with the methods. Such methods do not merely aggregate and balance fixed preferences based on individual needs, nor do they allow free choice amongst objective scientific scenarios, nor are they neutral acts of exploration and preparation. That said, there are some benefits – speed, commitment, turning dissatisfaction into discussion, tapping knowledge and collective analysis, and initiating dialogue and coalitions (Bryson and Anderson 2000) – yet this is much more limited than the boosterist claims made of radical transformation. These limits and difficulties are understandable if we examine the longer history and theory about time, society and power, consideration of which is essential to improve pro-poor planning, to which I now turn.

IV Towards pro-poor planning: time, society, and power

This section examines how development planning for the future, particularly with regard to African agriculture, can be improved by examining how visions of the future are intimately related to contemporary dynamics of power, particularly in the economy and through the use of symbols.

Time, power and economy

Understanding the interrelations of time, power and economy can help with future planning by shedding light on three important issues: actors' different contextually specific perceptions of time; struggles over time in production; and contextualization of contemporary concern with the future.

In a seminal piece, E.P. Thompson (1967) argued that the industrial revolution heralded a revolution in time, in the way life was temporally organized. No longer did peasants work on tasks defined by the seasonal patterns of nature (longer days in the summer, peaks of labor at harvest time, and so on). Rather, time was increasingly regimented according to factory work. The new industrial regimentation of time was inscribed in the spread of clocks and watches, factory whistles, and quick breakfasts and defined lunch breaks. People began to distinguish more clearly between work and leisure on a daily basis, and with semi-annual 'vacations'. Thompson's account is useful in that it points to linkages between the economy and conceptions of time, and it relates time with issues of power and control. Recent work has improved Thompson's notions by going beyond the dichotomy of agricultural versus industrial time, and by examining non-economic influences on conceptions of time (Glennie and Thrift, 1996), issues that I touch upon in the next sub-section.

Recognizing Thompson's point – that people conceive of time differently in relation to their specific socio-economic and political circumstances – is critical to any ostensibly pro-poor agricultural planning exercise. Development experts may focus on, say, the 2015 Millennium Development Goal targets, or recommended annual growth rates, whereas local politicians may be more concerned with election cycles, and young people preoccupied with prospective marriages or land leases. Understanding and relating these different temporalities

is essential in order to determine and prioritize relevant topics, concepts and actions (Perry, 2000).

A second issue is that time in agricultural production is often a site of struggle. Time was a key site of resistance by industrial laborers who sought shorter working days, breaks, and vacations. The dynamics and issues of contention about time differ in agriculture because of its distinctive tie to land and reliance upon natural processes (sunlight, rainfall, temperature, time for maturation, and so on). Agrarian capitalism, and hence temporalities, therefore differ from industrial and service ones (this is known as the Mann-Dickinson thesis – see Boyd *et al*., 2001 for a review), and a large literature, dating from Karl Kautsky in the 1890s, deals with the complexities of capitalist transformation in agriculture (see Watts, 1996).

One example is Basset's (2001) description of the temporal aspects of cotton-based farming in northern Côte d'Ivoire. Due to labor bottlenecks, funerals are postponed until the dry season, religious restrictions on days of work are eased, ox plows and herbicides are used to plant quickly and overcome weeds, and maize is planted because it ripens early and hence provides food for the lean season. In the 1990s, farmers rejected a higher yielding cotton variety – which the cotton company had introduced because its distinctive seed could be re-sold as poultry feed – because it took an extra month to grow and hence had to be sown earlier. It also required more carefully timed pesticides and weeding (ibid., 149-50). Farmers organized massive nation-wide strikes, protesting these seeds (as well as low producer prices and high input costs). This example illustrates that the temporal aspects of agricultural production are highly important, and that they can become an issue over which people struggle. Gendered divisions of labor also give rise to gendered notions of and struggles for time and the future (Carney and Watts 1990; Jackson, 2000; Whitehead, 2000). It is thus

important to understand locally specific agrarian temporalities if one is to plan for pro-poor future change.

A third point is that views of the present and future are, according to Harvey (1989), shaped by the uneven nature of economic development (Smith, 1984). Not only do business cycles of boom and bust exist, but geographic diversity is continually generated as firms seek out new markets and lower labor and resource costs. Harvey examines how efforts to reduce costs and expand markets end up quickening transportation and communication, resulting in 'time-space compression'. Such compression has implications for society and culture, and Harvey argues that postmodernity – the fragmentation, uncertainty and hybridity of contemporary life – results precisely from such disjunctures and unevenness. Historically, such unevenness has conjured up a range of social reactions – from Romantic poets such as William Blake, to new age movements, to apocalyptic Christians (Kitching, 1982; Berman, 1983; Pred and Watts, 1992).

Harvey's discussion of the conditions of postmodernity allows us to situate the rise of business management fads in their broader economic context. Management speak is sold by a plethora of consultants, and to be sellable it must be convincing and palatable to busy executives. Consequently, it is often divorced from its roots in broader economic changes. It is portrayed as simply a unique gem of wisdom about human nature – discovered for instance, through an astute Frenchman, a positive thinking PhD student, or a remote village in Liberia – that now will allow managers to adapt to a chaotic changing world. Harvey's analysis, in contrast, allows us to recognize the historically specific nature of global industrial restructuring in the 1980s and 1990s, and how this has produced a broader social climate of uncertainty, of which management fads and their claim to adaptation, 'surfing the waves of change', are just one result. This is an important recognition because understanding the nature of and motivations for concern with the future allows people to better engage with

future-planning exercises. While the 'adapt to the market' platitude may work for firms, it encounters difficulties when applied to work for social justice and poverty alleviation. Understanding the specific, geo-historical character of economic change allows one to factor in those changes (whether as fixed constraints or as targets for action) in strategies for the future, rather than react blindly with the passive adaptation of futures talk, or retreats to romantic populism.

Understanding the interlinkages between economic unevenness and social uncertainty allows us to recognize a much longer history of concern with the future, and an understanding of how such concern has changed over time. Certainly neither scenario planning nor future studies are new in Africa (Elmandjra, 1984; Spies, 1994). Five year plans were common in the post-independence period of the 1960s and 1970s, due to the emphasis on concerted investment push, the modern belief in benevolent rational planners, and attempts to emulate Soviet industrialization. But stagnation by the late 1960s and early 1970s spawned perceptions of a crisis of planning, followed by recharged rounds of planning. In 1977, the United Nations organized a conference on 'Africa and the Problematique of the Future'. Two years later, the Organization African Unity's Monrovia conference again emphasized long-range planning, addressing the issue of *What Kind of Africa by the Year 2000*. So did the 1980 Lagos Plan of Action. These calls however were slightly overshadowed by the rise of structural adjustment, which emphasized liberalization and free market strategies in which there was little role for past styles of economic planning. The UN responded, with Economic Commission for Africa's (1983) *Africa's Development 1983-2008*, and its 1988 revision; other UN agencies and the African Development Bank made their own contribution, and in 1988 the Organization for Economic Cooperation and Development also published its report, the *Sahel Faces the Future: Futures Study of the Sahel Countries 1985-2010*. By the mid 1990s, the UN Development Program was organizing projects on Long Term National

Planning Strategies (Adesida *et al*., 1994). Subsequently, the World Bank has required Comprehensive Development Frameworks, and now the Poverty Reduction Strategy Papers.

Even during, and before, the colonial period, there was concern with the future in Africa. The 1940 British Colonial Welfare and Development Act, for example, sought to enable a long future of kinder, gentler imperialism (Cooper, 1997). Forty years earlier, millenarian movements were important parts of resistance to colonization – as in the Shona and Matabele Chimurengas, the Xhosa cattle killing and the Maji Maji resistance – and often connected with agriculture (rhinderpest outbreaks, forced cotton cultivation, etc) (Adas, 1979; Boahen, 1990; Carton, 2003). Discourses about the future were also key to rationales for colonization, as imperialist powers claimed that they alone could prevent tribal conflicts, battle ecological apocalypses and bring fruits of modern democracy and industry (Grove, 1998).

It is in this broader political and economic context that we ought to situate contemporary concern with the future of African agriculture. The International Food Policy Research Institute (IFPRI) – with its battalion of forecasts on global supplies of water, food, livestock, fish, cassava, and other products – was established explicitly to help deal with the the global market volatility of the 1970s (Farrar 2000). The Sahelian and Ethiopian famines prompted the United Nations Food and Agriculture Organization (FAO) to publish in 1986 a major review, *African Agriculture: the Next 25 Years*. Africa's number one Green Revolution program, Sasakawa Global 2000, drew from long-standing Malthusianism and colonial anxiety over African land degradation, but only came to life after the apocalyptic 1980 futures study *Global 2000*, commissioned by President Carter during the heyday of rising environmentalism, the Sahelian famines, the oil crisis, and Cold War concerns about access to resources.

As such scenarios, projects and plans are repeatedly torn asunder by complex political and economic dynamics, new plans are formulated. This bulging litany of reports results partly because linear, evolutionary models of agricultural intensification and rural development fail to deal with the uneven nature of development. Consequently, plans based on such models are quickly rendered ineffective, leading to renewed uncertainty over the future and another round of planning, which, more often than not, is premised once again upon persistent, ill-fated linear models, and the cycle repeats. In such models, Africa is contrasted with idealized technical exemplars of agricultural transformation – in particular, Green Revolution Asia. Most models emphasize that intensification evolves through stages according to population density, technology and markets (Neimeijer, 1996), though recently different stages of state functions have also been noted (Djurfeldt, 2005; Dorwad *et al*., 2005; IFDC, 2000). African agriculture is one example of broader thinking in development studies, and social theory in general, emphasizing linear evolution. The attraction to new methods of envisioning futures stems partly from the recognition of the possibility of different trajectories that do not fit conventional models or stages, and from the desire to understand and shape such trajectories (Batterbury *et al*., 1997; Hart, 1997; Scoones, 2001; Scoones and Wolmer, 2001).

In sum, thinking about the future is not new, and is importantly related to economic dynamics. We can improve our ability for pro-poor future planning by understanding how economies shape perceptions of time, make time an issue of struggle, and generate uncertainty and concern with the future. Considerations of the economy, however, are incomplete if we do not also consider symbolic power.

Time, power and symbolism

This sub-section argues that the formation of futures visions is political, and gives a few examples. Lest we think views of time and the future are reducible to underlying economic phenomena, it is important to recognize that representations of the future carry heavy symbolic power by shaping our understanding of the consequences of current actions, and therefore are inseparable from contemporary politics. As Wilson (2000: 33) notes, 'Whether the future is seen as a source of hope or a form of threat, an inspiration or warning, something to be embraced or resisted, it has always permeated our sense of the present'.

Time has often been used to mark social difference (Fabian, 1982). For modernization theorists, poor countries were seen as at an earlier stage of development, and would converge to modern conditions with time. Anthropologists, for their part, tended to inaccurately view 'natives' as living in non-linear time characterized by cycles of seasons and household growth, in contrast to cumulative, linear time in the rational, scientific West (Gells, 1992; Mann, 1992). These examples illustrate how time is used symbolically to produce difference, and with it, power and control (James and Mills, 2005).

In this sense, debates about people's capacity for foresight are also intimately tied to power. Symbolic constructions of time play crucial roles in representations of 'the imprudent African farmer' who is more concerned about her or his own immediate needs, and hence must be regulated for the sake of preventing deforestation, desertification, soil degradation, and so on (Mosley 2001). Such views have a long history in Western though; see, for example, the famous French philosopher Rousseau's remarks in 1754 about Caribbeans: 'In the morning he sells his bed of cotton and in the evening he returns in tears to buy it back, for want of having foreseen that he would need it that night.' (46). Andrew Natsios, the administrator of USAID, likewise justified lack of support for HIV/AIDS drugs by suggesting that Africans would not be able to keep time well enough to follow the strictly timed drug dosage regiment, telling Congress that in rural Africa, 'People do not know what

watches and clocks are … They do not use Western means for telling time. They use the sun' (quoted in Committee on International Relations, 2001: 28). Colonialists too portrayed Africans as unable to understand time properly and comprehend the future consequences of their current actions; this stereotype contributed to imperial language of oversight, benevolent trusteeship and stewardship that in practice was used by colonial powers and post-independence governments to wrest away control of land, forests and other resources (deGrassi, 2003). Contemporary agencies similarly claim to act in terms of a broader interest – international public goods – in order to secure donor funding. They contrast the careful planning for the future and investment in research (Pardey and Beintema, 2001) with the short-term visions and incapacities of poor farmers. Conversely, analysts seeking to restore rights, resources and agency (indeed, humanity) to disenfranchised rural people have highlighted farmers' careful foresight and attention to planning (Watts, 1983; Chambers and Leach, 1989; Fairhead and Leach, 1998; Reij and Waters-Bayers, 2001; see also Mkandawire and Soludo, 1999; Harvey, 2000). Consequently, debates over whether people are conceptualizing the future, or are even able to conceptualize it, are often intimately related to contemporary struggles over resources, governance, and power.

So, rather than view scenarios as purely impartial, objective accounts of statistically possible futures, and rather than view strategies as aggregations of individual preferences about desired futures, we must recognize that visions of the future are always socially constructed, and therefore reflect and contribute to contemporary politics and interests. Organizations or individuals may develop sophisticated predictions in order to prove expertise and thereby stake a claim to influence current policy. Opposition figures may seek to dislodge incumbents by pointing to imminent crises or by promising utopias. Officials may argue that their opponents' plans for the future are unpractical or inaccurate in an attempt to discredit rivals and retain power. Moreover, even seemingly democratic governments may

use informal media or political pressure and/or censorship as retribution towards those who disagree or demonstrate opposition to sensitive visions of the future – this makes safeguards and support networks essential for those individuals that seek to challenge dominant regimes' visions of the future (Pimbert and Wakeford, 2003). Faltering politicians may cite future plans as a reason for continued support. Tony Blair, for example, faced with criticisms of the Iraq invasion, formed a Commission to 'take a fresh look at Africa's past, present and future' and develop future plans to 'heal' what he called a 'scar on the conscience of the world'. Likewise, Paul Wolfowitz, the embattled former US Deputy Secretary of Defense, six days after taking office as World Bank President latched on to the image of Africa as 'a continent of hope', and subsequently announced funding for 'an agricultural export push' to realize a 'Decade of Africa'.

In addition, differing visions of the future shape social mobilization by altering the expected personal and group costs and gains (short- and long-term) to collective action – witness Martin Luther King's invocations of his dream and the Promised Land. Visions of whether 'another world is possible' or 'there is no alternative' shape people's understandings of the possibility of, and directions for, productive resistance and searches for alternatives. Conversely, accretions of daily resistance can also contribute to alternative visions of the future (Wainright *et al*., 2000). For many African countries on the eve of independence, leaders' promises of a future of rapid development were critical to motivating anti-colonial resistance and securing post-independence legitimacy and national unity. Yet with the subsequent stagnation and decline of many economies, the dream of modernization, though still holding promise for some, for others seems like a cruel joke, and many have turned to spiritual means to deal with bewildering levels and conditions of poverty in a world of unprecedented wealth (Ellis and ter Haar 2004; Ferguson 2005).

Thus it is important to understand utopian and dystopian thinking, in theory and in localized histories, because it still strongly, subtly influences African agriculture. It has often caused agricultural projects and plans to fail, whether due to the totalitarianism involved in any enforced utopia (Scott, 1998; Jacoby, 2005), due to the utopianism of blind faith in new technology or free markets (Comaroff and Comaroff, 2000), or due to anti-development reactions that seek to return to romanticized utopias of the past. Despite their failings, utopian and dystopian thinking can be important avenues (if used cautiously) for critique and formulating innovative alternatives. Dystopian narratives about Africa thus range from sardonic critiques to apocalyptic tales that warn of 'failed states' (Booker, 1995; Dalby, 1996; Malik, 2001; Pordzik, 2001; Carton, 2003) and are sometimes connected with calls for redoubled Western intervention and control (Johnson, 1993; Ellis, 2005). And utopian thinkers must share the lessons of post-structuralist analyses of development, which, though useful in deconstructing dominant discourses and expertise, have at times romanticized possibilities and potential of autonomous, local alternatives 'outside' development (Watts, 1999). Such lessons are particularly relevant for Africa, and especially rural Africa, which often constitutes a significant lacunae in contemporary works on social mobilization and alternatives (Moore, 2001).

V Conclusion

Just as historians have long recognized that notions of the past are shaped by politics and contemporary social relations (Cohen, 1994; Trouillot, 1996), so too are notions of the future. There is no entirely impartial standpoint from which one can objectively assess future prospects of African agriculture. Interests, ideologies, inequalities and limited knowledges all intervene. This is no reason to stop thinking about the future, nor to dismiss those that do.

Rather it is a call to acknowledge the importance of power, the complex motivations for concern about the future, and the limits and biases of our own and others' knowledge. Only by doing so can we better comprehend whether and how 'the structure and social identity of the agrarian system [is] being called into question', and distinguish these questions from the ongoing study of how 'world political economy and local processes of access to and struggle over resources' intersect, and therein shape rural poverty (Watts, 1989: 3, 11). And only by doing so can we make planning, and indeed governance more generally, more democratic and effective.

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Appendix: Horizon Scanning

The purpose of this appendix is to give more detail on the term Horizon Scanning for those who are interested. The term Horizon Scanning has been increasingly used in the United Kingdom over the past few years, ever since it was mandated by the 2000 Guidelines of the Office of Science and Technology (OST). The Department of Environment, Food and Rural Affairs (DEFRA) provides an exemplary definition, indicative of how horizon scanning is defined extremely loosely:

> The systematic examination of potential threats, opportunities and likely future developments which are at the margins of current thinking and planning. Horizon scanning may explore novel and unexpected issues, as well as persistent problems or trends. Overall, horizon scanning is intended to improve the robustness of Defra's policies and evidence base. (Strat 2002: 3)[6]

[6] A distinct connotation defines horizon scanning in relation to health, as illustrated in this quote from the Australian and New Zealand Horizon Scanning Network: "Horizon Scanning provides, short, rapidly completed, 'state of play' documents. These provide current information on technologies to alert planners and policy makers of the advent and potential impact in terms of safety and cost, before they are introduced into the health system", http://www.horizonscanning.gov.au/about/process.htm , accessed 29 October 2005.

The term has evolved from the older concept of Environment Scanning,[7] and seems to have been coined in the 1990s in relation to health planning in Australia (e.g. Mowatt et al 1998). The background and implications of the OST Guidelines are described in ERFF (2003a):

> Departments and agencies were called upon to perform horizon scanning as a way of becoming more forward looking, and less prone to sudden crises. Unfortunately, how or why this term was chosen has been lost. Prior to 2000 it was not widely used in either government or the academic world. Academia has been using the term 'scanning' or 'environmental scanning' for some time to denote forward-looking searches for important issues. However, when or how the word 'horizon' came into play is not known. Since 2000 much time has been spent by organisations trying to understand what horizon scanning is. What has happened is that a range of fundamentally different definitions have evolved. Several groups and projects have been set up explicitly using the name "horizon scanning", and they are not all doing the same thing. In late 2002 Tom Steinberg (at the time working for Strategy Unit) ran a survey of horizon scanning activities across government. Now at Defra, he ran the ERFF horizon scanning survey. Having studied a large number of responses concerning horizon scanning, he has come to the following conclusions. **Horizon Scanning is just one subcategory of futures work**. Too often it is used as a term to denote the whole of the well-established field of future studies.

The actual OST guidelines read:[8]

> 5. Individual departments should ensure that their procedures can anticipate as early as possible those issues for which scientific advice will be needed, particularly those which are potentially sensitive. They should also ensure that research is commissioned as early as possible into what are known or likely to be key areas of uncertainty.
>
> 6. No single approach to the identification of issues is likely to be adequate. Instead, information should be drawn from a variety of sources and monitored by those responsible in the department concerned, as an 'intelligent customer' for science, engineering and technology.
>
> 7. Sources may include:
>
> a) departments' own programmes of research. It is important that departments maintain adequate support for broadly-based longer term research and undertake horizon-scanning, including the use of Foresight-type arrangements, to help them identify and/or respond to new and unexpected findings

The ambiguity surrounding the term Horizon Scanning is illustrated in the fact that many of the proposals submitted in the consultation phase were the 'same old research' topics, mostly scientists, and predominatly food and rural issues (Advisory Panel 2002).

The benefits of Horizon Scanning are sad to be as follows:

> horizon scanning will improve Defra's capacity to assess the importance to Defra's science and policy of a wide variety of changes and trends. Defra believes that horizon scanning will not only improve our anticipatory capability, but also guide Defra in shaping "the day after tomorrow". (DEFRA 2002: 4)

[7] Environment Scanning is a market research tool deriving from Aguilar (1967); see Choo (2002); also Swart (1996) for an environmental perspective.

[8] http://www.ost.gov.uk/policy/advice/guidelines_2000/ , accessed 29 October 2005, underlining added.

> ‘lock in’ in research and policy communities; a perception of risks to larger-scale risks; a need for longer-term transition to sustainable development. A related fourth rationale is the desire in many departments to engage positively with a wider range of stakeholders in their science strategies. Horizon scanning is an opportunity for this more ‘interactive’ science policy. (Beurkhout et al. 2002: 5)

To identify whether a particular project meets its DEFRA’s approach to horizon scanning, the Department has given the following criteria (Advisory Panel 2002: 5):

- Does the project aim to identify and assess possible future threats and opportunities, including radical alternatives?
- Does the project explore socio-economic trends and their potential impacts on Defra’s areas of responsibility?
- Does the project challenge existing scientific assumptions and evidence?
- Does the project question assumptions underlying current policies?
- Does the project pioneer or employ methodologies appropriate to horizon scanning?
- Does the project aim to develop more integrated assessments of policy
- problems?

Some have also distinguished between “incremental” horizon scanning (“scoping and providing initial research support for issues on the boundaries of current science”) and “radical” (“researching issues which are entirely new, or which entail a radical break from current science”) (DEFRA 2003: 2). The table below page gives a bit more detail on possible aspects of Horizon Scanning.

A key person in DEFRA’s Horizon Scanning Unit has been Rohit Talwar, a motivational consultant, futurist, and founder of Fast Future – The Center for Business Transformation, who has previously worked as a consultant to UK Ministry of Defense, US Department of Defense, Shell, BAE Systems, the Defence Manufacturers Association, Halliburton, among others. Talwar appears to have replaced the Canadian Beth Power, who herself was previously with Azimuth, a Canadian environmental consulting firm.

Table A1: Horizon Scanning Methods and Characteristics

Scanning model/method	Examples	Advantages	Disadvantages
360 ° scan: Scans systematically across the remit of an organisation without focussing effort on pre-defining topics of importance.	❑ National Horizon Scanning Centre (NHS) ❑ National Coordinating Centre for Health Technology Assessment ❑ Strategic Audit (Strategy Unit)	❑ Thoroughness ❑ Not driven by prior concerns	❑ Complex ❑ Perceived as expensive ❑ Not good for focussing heavy resources on few problems.
Directed scan: Scanning is shaped by an explicit list of critical business priorities (i.e. maintaining food supply, keeping schools open).	❑ Civil Contingencies Secretariat (Cabinet Office) ❑ Joint Doctrines and Concepts Centre (MOD).	❑ Priority focussed ❑ Good for emergency planning	❑ Narrow focus ❑ Poor at spotting 'left field' issues
Episodic and directed: Scan shaped by topics deemed to be of high potential importance in the future (i.e. genomics, nanotechnology).	❑ DTI Foresight	❑ Allows focus and concentration of resources.	❑ Closer to forecasting than scanning. ❑ Subjective
Submissions based: Scanning performed by public & stakeholders (i.e. through consultation or workshops)	❑ Defra horizon scanning consultation	❑ Simple and inexpensive ❑ 'Democratic' - inclusive	❑ Skewed by trends and bodies seeking funding. ❑ Passive system
Scan the scanners: Scanning consists of gathering and distilling the outputs of other scanning organisations (e.g. Science Advisory Councils, Research Councils).	❑ Many organisations without their own horizon scanning capacity	❑ Low effort ❑ Best as a component of wider programme	❑ Not focussed on the needs of the client organisation. ❑ Hostage to poor methodology elsewhere.
Embedded in business: Areas scanned are determined by questions raised by previous research and policy (i.e. policy on prevention of exotic diseases leads to scanning and research of potentially new exotic diseases, perhaps arising as a result of climate change)	❑ SLOs at Defra ❑ Environment Agency -HS approach ❑ Food Standards Agency ❑ Health and Safety Executive ❑ Most government research	❑ Simple to run ❑ Tightly integrated with existing operations.	❑ Driven by existing priorities. ❑ Susceptible to distortions by organisations and individuals trying to preserve their funding streams.

Source: DEFRA (2003:5)

The 1993 Whitepaper on Science and Technology initiated rounds of funding for foresight research managed by the Office of Science and Technology – first (1993-9), second (1999-2002, £30m), and third (2002-).[9] As specified in its Science and Innovation Investment Framework 2004-2014, in March 2005, the UK government launched a Center of Excellence in Horizon Scanning, headed by Rupert Lewis, and based in the Foresight directorate of the Office of Science and Technology.

According to the website,[10] the Centre's aims are:

- To inform departmental and cross-departmental decision-making
- To support horizon scanning carried out by others inside and outside government
- To spot the implications of emerging science and technology and enable others to act on them

The three work-streams of the Centre are:

- Regular cross-Government strategy horizon scans, to underpin existing horizon scanning and inform cross-Government priorities
- Project work with stakeholders: demand-led opportunities for joint working on specific issues with stakeholders (departments or groups of departments)
- Provision of tools and support to spread good practice in departmental horizon scanning, including providing advice, brokering agreements and creating synergies that make the best use of resources and facilitate capacity-building.

Current themes include:

- Obesity
- Horizon scanning centre
- Infectious diseases
- Brain science, addiction and drugs
- Electromagnetic spectrum
- Flood and Coastal Defence
- Cognitive Systems
- Cyber Trust & Crime Prevention

DEFRA's calls for HS-related proposals for funding include:[11]

- Appraisal Of Su stainable R ural P olicy And L and Us e (Surplus): Scoping Study CTHS0301 Aug 2003
- Alternative Future Scenarios for Marine Ecosystems CTHS0302 Sept 2003
- Review of potential impacts of future energy policy on UK biodiversity CR0295 Oct 2003
- Scoping study for research programme on stabilisation CPEG8 Oct 2003
- The Future of Healthy Ecosystems CTHS0303 Oct 2003
- Integrated Knowledge Management for Future Environmental Analysis CTHS0304 Oct 2003
- Future Export of Biodiversity Impacts from the UK CTHS0305 Oct 2003

[9] http://www.foresight.gov.uk/About_Foresight/The_Previous_Foresight_Rounds_A_Brief_History.html, accessed 29 October 2005
[10] http://www.foresight.gov.uk/HORIZON_SCANNING_CENTRE/, accessed 29 October 2005
[11] http://www.defra.gov.uk/science/funding/historical.htm, accessed 29 October 2005

- Future Environmental Effects of Non-Synthetic Chemical Use CTHS0306 Oct 2003 The Future of the UK Food Chain CTHS0307 Feb 2004
- Sustainable Consumption and Production - Development of an Evidence Base CTHS0401 Oct 2004

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