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Monsanto and Smallholder Farmers: A Case-study on Corporate Accountability

Dominic Glover
January 2007

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IDS Working Paper for the DRC on Citizenship, Participation and Accountability

Dominic Glover
January 2007

Institute of Development Studies at the University of Sussex Brighton BN1 9RE UK

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Abstract

The Smallholder Programme (SHP) was an initiative undertaken by the transnational biotechnology, chemicals and seeds company, Monsanto. It had the stated purpose of providing smallholder farmers with a package of agricultural extension services, including technical advice, chemicals, seeds and other forms of support. Drawing on recent empirical research undertaken in the United States and India, this paper examines why and how the initiative was undertaken by the company, and considers its implications in terms of corporate accountability.

The accountability implications of the SHP were complex. This paper shows that the programme was created partly in response to pressure from Monsanto's critics and anti-biotechnology activists, but also rooted in the company's strategic determination to commercialise and develop the market for genetically modified (GM) crops and other products. Accordingly, the SHP was only partially oriented around the needs of resource-poor farmers (more particularly, around a set of implicit, prior assumptions about their interests). It was also a strategic market-development tool, as well as a key part of a strategy to create and promote a positive association between GM crops and smallholder farmers.

In some respects, the programme opened up new opportunities for farmers and empowered them to make demands of Monsanto's field staff, but the accountability that this allowed was limited and imperfect. The story of the SHP is also interesting because it shows that Monsanto succeeded, to some extent, in integrating Corporate Social Responsibility (CSR) and sustainability aims into its operations. Partly as a result, however, the quasi-philanthropic purposes of the programme ultimately succumbed to competing commercial pressures and the programme was closed. The case therefore provides an interesting insight into challenges involved in 'mainstreaming' CSR.

Keywords: Monsanto, agriculture, corporate accountability, GM crops, agricultural extension, smallholder.

Dominic Glover is a DPhil candidate and member of the Knowledge, Technology and Society (KNOTS) research team at IDS. Before starting his DPhil studies in October 2003, Dominic worked for three years as a Research Assistant and Research Officer at IDS, on projects examining policy and regulatory issues surrounding the commercialisation of genetically modified crops in developing countries – see www.ids.ac.uk/biotech. Dominic's research interests encompass the role of business in relation to science and technology, global governance and international development, corporate social and environmental responsibility and public participation.

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Preface

This paper has the specific purpose of exploring one case that illustrates how a particular transnational company has sought to articulate its responsibilities in relation to social and environmental issues and challenges; and how it has developed and implemented strategies and initiatives around these concepts, apparently with the aim of meeting these responsibilities and delivering its commitments in these areas.

The paper responds to previous work carried out in this area under the Investor Accountability theme of the Development Research Centre on Citizenship, Participation and Accountability (DRC). In particular, it takes up some of the ideas and concepts explored previously by Newell and Bellour (2002) and Garvey and Newell (2004) and the authors in *Rights, Resources and the Politics of Accountability* (2006) under this programme. This is a very particular starting-point, among many possible ones in an area of research and practice which is diverse and expanding. The paper also draws on original research currently being carried out by the author for the degree of PhD. The ideas and empirical data presented in this paper should therefore be understood as part of a work in progress, and as a contribution to a particular strand of ideas and themes that has emerged from the work of DRC–CPA researchers during the last few years.

Acknowledgements

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1 Introduction

The purpose of this working paper is to use an 'accountability lens' to explore a case study of a particular initiative in 'sustainability' or 'corporate social responsibility,' undertaken by a large transnational company and implemented in a number of developing countries. The case is that of the biotechnology, chemicals and seeds company Monsanto, and their 'Small Holder Program' (SHP), an initiative which ran for several years, evolving and changing over time, during the late 1990s and early 2000s. The paper draws on current empirical research that focuses on SHP projects undertaken in India.

The aim of the paper is to analyse the case in two dimensions: how Monsanto articulated or represented the SHP – the claims made about the programme, its intent, purposes and so on – and how the programme was implemented in practice. In comparing the company's stated purposes against its actual performance, the aim is not to identify flaws in the implementation or pick holes in the claims made. Rather, the intention here is to examine the implications of both the stated intent and the actual practice, as well as any discontinuity between the two, in terms of the company's accountability to external stakeholders. By drawing some specific conclusions about the accountability dimensions of the particular case, the objective of this paper is to evaluate how far it confirms or modifies conventional understandings of corporate accountability.

The accountability literature prompts one to question liberal assumptions about the appropriateness of market mechanisms as arbiters of social change and corporations as actors in international development. As a contribution to this debate, this paper seeks to look beyond the handful of high-profile philanthropic projects or public–private partnerships which attract much attention, towards the domain of companies' 'business-as-usual' operations. A key difference between these two provinces is typically marked by contrasting relations of accountability between the company and external stakeholders, including the identity of the intended/supposed beneficiaries.

The case of Monsanto's SHP is an important illustration of the efforts made by one particular company to grapple with the business implications of the sustainable development/corporate social responsibility agenda, and to effectively integrate these concerns into its business operations. As the paper shows, the effort came under pressure from the conflicting demands being placed upon it, which were difficult for the company as a whole – through the experiences of individual employees and business units – to reconcile. Some of the conflicting pressures derived directly from the accountabilities imposed upon or felt by the company and its officers.

The paper is organised as follows. In the next section, I discuss selected insights from academic and critical literatures on CSR and sustainability that raise questions about the role of private actors in relation to international development, the 'business case' for sustainable development and the accountability of companies for the impacts of their operations and activities. Then, after describing some basic details about the SHP, the remainder of the paper discusses what the case reveals about these issues in the context of agricultural and rural development. The analysis begins with a discussion about how ideas relating to social and environmental sustainability evolved within Monsanto, and an examination of how the company articulated its responsibilities in relation to these concepts, using selected examples taken from the company's publications, press releases, websites, and employees. The paper will consider how the SHP was represented by the firm in the context of these ideas, in order to explore the extent to which concepts or images of sustainability and corporate social responsibility were used to make claims about and explain the programme.

With reference to empirical data, the paper will then examine how far these ideal concepts were translated into practice, through the implementation of the SHP. The paper will focus in particular on the 'Monsanto *Meekosam*' project in Andhra Pradesh, India, and the experiences of junior employees and small farmers who experienced the SHP on the ground. Then, in the penultimate section of the paper, I will examine how far the SHP was integrated with the core business of the firm, and discuss the extent to which the practical implementation of the programme on the ground bore out the stated intentions and claims made about it. In the final section, I will explore what the implications may be for the relationships of accountability and citizenship between Monsanto and the resource-poor farmers who were the supposed beneficiaries of the SHP. In particular, I will argue that the SHP represented an effort by Monsanto to effect a strategic shift between different arenas of accountability at local and global levels, including an effort to parry the pressure of one set of stakeholders – that is, anti-biotechnology activists and consumers – through an appeal to the supposed needs and interests of a different constituency – resource-poor farmers in developing countries.

2 Corporate responsibility and accountability in international development

From its beginnings in sustainable development debates, the concept of corporate social responsibility (CSR) is increasingly recognised as important in the field of international development (Blowfield 2004; UNRISD 2004). However, attributing a prominent role to the private sector in international development is controversial because of the power that many large and multinational firms have, whereas their governance structures mean that they are not democratically accountable and are responsive primarily to the concerns and demands of their shareholders. Arguably, consumers exercising choice in the market enforce a kind of discipline on companies, but the conception of accountability which this relationship entails is rather narrow. As Cornwall and Gaventa argue, market-based mechanisms frame people as passive 'users and choosers' rather than empowered 'makers and shapers' of the services they receive (Cornwall and Gaventa 2001).

If anything, this problem is amplified by the disparity in power between large transnational companies and very poor people in developing countries. As Newell and Wheeler point out, relying on market mechanisms to secure accountability overlooks pre-existing forms of poverty and exclusion that prevent some people from accessing services and disable them from exercising market power (Newell and Wheeler 2006).

A number of factors, associated with the structural power of corporations, can effectively shelter multinational companies from demands for accountability and allow them to respond (or decline to respond) at their discretion (Garvey and Newell 2004). Key among these is the degree to which a company is vulnerable to pressure from its customers, investors and the wider public. In recent decades, modern media and communication technologies have strengthened the ability of wealthy, educated and politically empowered consumers and publics in the global North, to scrutinise and criticise the activities of transnational companies: 'This provides an important accountability check on the ability of corporations to keep from public attention their activities overseas' (Newell and Bellour 2002: 19).

However, this mechanism of accountability is imperfect, for at least two key reasons. Firstly, not all companies and sectors are equally exposed to this type of pressure. Secondly, it raises a question about the unequal capacity of stakeholder groups in North and South to exercise this kind of power. Corporate codes of conduct, for example, 'are heavily concentrated in sectors where brand-reputation and export orientation are important [and often focus on] development concerns that have a higher profile in the richer industrialized countries' (UNRISD 2004: 1; see also Bendell 2000; Murphy and Bendell 2002).

On the corporate side, the CSR agenda rapidly moved towards the mainstream and influenced the thinking of business leaders. Authors such as Elkington (1998), Zadek (2001) and Holliday *et al*. (2002) have argued that engaging with the social and environmental issues is in fact central to competing successfully in the 'new economy', because it helps firms to innovate, identify future opportunities, manage risks, recruit and retain employees and secure a 'social licence to operate' as well as gaining reputational and branding advantages among consumers. This has been termed the 'business case' for sustainable development (Holliday *et al*. 2002).

2.1 The 'business case' for CSR and its weakness

Business advocates of CSR contend that voluntary and market-based mechanisms are the most appropriate instruments for encouraging 'best practice' behaviour and good 'corporate citizenship' (Garvey and Newell 2004; Newell 2002). They argue that partnerships and *laissez-faire* approaches are more flexible and efficient than 'old style' 'command and control' forms of regulation (e.g. Holliday *et al*. 2002). For critics, however, a key weakness of the voluntarist approach is that it allows firms to define for themselves what they mean by 'social responsibility' or 'good citizenship,' to determine what standards of behaviour they will adhere to, and often to monitor themselves for compliance.

In the process, the concept of CSR has been shaped – some would say 'undermined' – by conventional norms, concepts and practices of corporate management (Blowfield 2004). For example, business champions of sustainability have reinterpreted the term 'sustainable development' using language like 'sustainable growth' and 'sustainable competitiveness' (Holliday *et al.* 2002). As Blowfield argues,

> [w]hat has been sold … is the 'business case', that is, that a company can prosper while or by having positive non-financial gains … What the business case gives no guidance on is what to do when prudential self-interest and benefits to the poor are not aligned … [I]n some instances important responsibilities have been ignored by companies because the business case cannot be made.
>
> (Blowfield 2004: 64)

In practice, therefore, CSR often has a profoundly discretionary character. On the one hand, this is reflected in the ability of companies to avoid addressing the social or environmental consequences of their operations unless they threaten the financial bottom line, perhaps through adverse publicity. On the other hand, where they do respond to the demands placed upon them, companies are criticised for interpreting their responsibilities in particular ways which do not seriously challenge their conventional practices. Consequently, critics argue that firms approach CSR and sustainability issues from the narrow perspective of risk management or public relations rather than in a sincere effort to address their responsibilities (Christian Aid 2004). Companies are criticised for drawing attention to isolated examples of 'good practice' arising out of particular projects or partnerships, while being

> generally unable to detail the overall impact of their community development and other CSR-related activities, and this fires criticism that CSR is a mere public relations exercise with a few flagship projects highlighted in corporate reports.
>
> (Blowfield 2004: 62)

The problem with focusing on a few isolated examples – no matter how encouraging they may be – is that the impact of such projects may be many times outweighed by the impact of the routine operations of other industrial plants and supply chains operated by the same company. Large and transnational businesses may have profound and far-reaching, direct and indirect impacts on development outcomes and the opportunities available for people living in the communities and countries where they operate. To whom are they accountable for the impacts of these 'business-as-usual' (BAU) operations?

2.2 Corporate 'business as usual' in international development contexts

The impact of large corporations' BAU activities is an urgent issue because international development agencies such as the United Kingdom's Department for International Development (DFID) are arguing that the resources, capabilities and dynamism of companies make them important players in achieving sustainable international development (DFID 2000; see Garvey and Newell 2004). The increased profile of companies as partners in the 'delivery' of development goals reflects embedded neoliberal trends in policy discourse, within national politics in many countries as well as international development circles. This perspective generally conceptualises the role of the state in terms of the delivery of services, and entails an openness to such policy measures as the privatisation of public service agencies, delivery of services through public–private partnerships and fostering competition among service providers. More tellingly, it entails reconfiguring the identity of citizens as 'citizen-consumers,' in line with a neoliberal world-view (Clarke 2004).[1] As we have seen, this framing of citizenship can overlook the economic disempowerment of very poor people.

Companies do not need much encouragement to begin exploring new business opportunities in the developing world. As Prahalad (2005) has documented, many large companies are gearing up to exploit the potential in undeveloped, especially rural, markets in the South. But Prahalad's focus – and that of the firms whose experiences he describes – is primarily on the poor rural *consumer* and, at times, he seems to regard an increased capacity to consume as the primary indicator of 'development' itself. This implies the empowerment of poor rural people to be 'users and choosers' but not necessarily 'makers and shapers' – able to exercise a limited kind of accountability through the market but not much more than that.

2.2.1 CSR in agriculture and rural development: putting the case into context

These issues are pertinent in the agriculture sector in the global South. In many countries, public agricultural extension services have suffered from neglect, indifference and poor management. In search of affordable and effective ways to inject new energy and dynamism into the sector, some countries have looked at privatisation as a way forward. Pakistan is one example, documented by Davidson and Ahmad (2003). In India, a number of large agribusiness companies are exploring the market for private, fee-charging agricultural extension services; the clearest example of this type is Mahindra and Mahindra's *Shubhlabh* enterprise.[2] But many agricultural input manufacturers and suppliers also claim

1 See www.open.ac.uk/socialsciences/citizenconsumers/index.html (accessed 19 May 2006).

to offer agricultural extension advice and support alongside the products they sell. However, as staff acknowledge, this advice is inflected towards their self-interest in marketing their own brands.

To what extent can small Indian farmers hold companies to account for the advice they give? The Monsanto Smallholder Programme represents an interesting case through which to explore this question. The remainder of this paper will look at the SHP's implications for accountability, in the context of the few insights highlighted in this section. The paper will show how the SHP was more than a philanthropic gesture, because it was linked to a wider effort to grapple with the concept of sustainability and integrate it into Monsanto's business strategy and operations. To this extent, it cannot be easily dismissed as merely a tokenistic exercise for the sake of public relations. To some degree, it represents an attempt to 'mainstream' sustainability principles into corporate 'business-as-usual.'

Nevertheless, the programme was also, partly, a direct response to stakeholder pressure, and its activities – particular examples – certainly were mobilised for PR purposes. Although not wholly philanthropic in nature, having been initiated by the company independently it remained a voluntary or discretionary activity. It was shaped by Monsanto's corporate interests and informed by a particular set of ideas about the 'business case' for sustainability. As such, the programme was clearly market-oriented and entailed implicit assumptions about the interests of resource-poor farmers in developing countries and, indeed, about 'development' itself.

The case raises an interesting set of questions about Monsanto's accountability to different groups of stakeholders for the design and delivery of the programme. To put the analysis into context, the discussion begins, in next section, with a brief overview of the Monsanto Company and a short outline of the SHP.

3 Monsanto and the Smallholder Programme: a brief overview

Monsanto is a large transnational company with sales of US$4.936bn in 2002–03 (Monsanto 2003). From a history in chemicals, the company is moving decisively towards becoming a 'pure-play' biotechnology company, focusing on producing and marketing seeds and traits (*ibid.*). To this end, Monsanto currently spends around 10 per cent of sales, or US$500m per year, on biotechnology-related research and development (R&D) (www.monsanto.com). In the mid-1990s, in order to position itself as a leader in agricultural biotechnology and in

2 See www.mahindra.com/mahindras/FARM_EQUIPMENt/mssl/mssl.htm#MSSL (accessed 19 May 2006).

the international seed industry, Monsanto embarked on a rapid reorientation of its business. This process included the divestment of its bulk chemicals business and the acquisition of small biotechnology start-ups and interests in seed companies around the world. Altogether, Monsanto spent around USD $8–9bn on acquisitions between 1995 and 1998, financed through major divestments as well as a substantial unsecured debt (Simanis and Hart 2000; Tait *et al.* 2000). Today, the company is the world's leading producer and marketer of genetically modified (GM) seeds and traits. Monsanto's varieties of transgenic, insect-resistant *'Bt'* cotton are being grown by large numbers of smallholder farmers in developing countries, including China, India and South Africa.

In 1998 and 1999, the company hit a major crisis, which had several dimensions. Monsanto's proposed collaboration with the Grameen organisation in Bangladesh on a 'Technology Centre' was shelved following international protests by development activists and NGOs. A proposed 'merger of equals' between Monsanto and American Home Products was called off, leaving Monsanto in a precarious financial position. A consumer and activist backlash against GM crops, especially in Europe, threw the company's plans for commercialisation of GM crops into disarray. As I shall describe below, global hunger and international development issues helped to catalyse the adverse public reaction. Surveying the scene, analysts at Deutsche Bank issued a market analysis that declared 'GMOs are Dead' (Simanis and Hart 2000).

The crisis had a disastrous impact on perceptions of Monsanto's ability to realise profits from its huge investments in biotechnological research and development, as well as service the large debt the company had taken on. Monsanto's stock price plunged to the point where its agribusiness was practically valued at nil by Wall Street, driving the company into a merger with Pharmacia Corporation. Pharmacia wanted to get its hands on Monsanto's Searle pharmaceutical subsidiary and lost no time in announcing that the rump of Monsanto would be divested as soon as possible, as a stand-alone agricultural company. Shapiro's 'life-sciences' vision, which had seen synergistic links between agricultural, pharmaceutical and nutritional businesses linked by a common platform of biotechnology, was destroyed (Tait and Wrong 1999; Kilman and Burton 1999; Stipp 2000).

3.1 A response to crisis

As part of the company's effort to respond to the crisis, in 2000 Monsanto's new Chief Executive, Hendrik Verfaillie, unveiled 'The New Monsanto Pledge' (NMP), which committed the company to a 'new way of doing business'. The NMP contained five declarations, in the areas of 'dialogue', 'transparency', 'respect', 'sharing' and 'benefits' (Monsanto 2000). The Pledge can be understood as Monsanto's corporate code of conduct – a public statement of the values which it claimed would inform its behaviour and, crucially, the responsibilities which it regarded as applying to its activities. As with any such code, the NMP raises implicit questions of accountability, about how these responsibilities are constructed and whether the company can be effectively held to account for fulfilling them. The terms of the Pledge and its accountability implications are discussed in detail in section 4, below.

At the same time as the NMP was adopted, Verfaillie also announced the creation of the 'Technology Cooperation and Smallholder Programme' (TC&SHP), led by a Vice President. The TC&SHP brought together several disparate programmes and projects that had been undertaken by different units of the company for a number of years. Staff working on the Technology Cooperation Programme (TCP) were responsible for negotiating with external parties to license select pieces of Monsanto's proprietary technology for use in non-commercial applications. Examples of this kind of activity include Monsanto's deal, concluded in April 2000, to share its 'working draft' of the rice genome with public-sector researchers from the International Rice Genome Sequencing Project (IRGSP); and its decisions to share proprietary technology with scientists working on the development of beta carotene-enhanced 'Golden Rice' and 'Golden Mustard' a few months later (Monsanto 2000a, b, c). In fact, however, Monsanto's biotechnology-sharing activities stretch back at least to the early 1990s, when the company supported researchers in Mexico and Kenya on research and development projects aiming to incorporate Monsanto's proprietary virus-resistant traits into root and tuber crops (Austin and Barrett 2001; Charles 2001; Simanis and Hart 2000; Interviews).

Monsanto's projects with small farmers had also begun around the early 1990s, initially on a philanthropic footing, later being scaled up into a more substantial programme, with formal backing from the company (Austin and Barrett 2001). This had occurred during the tenure of Verfaillie's predecessor as CEO, the charismatic Robert Shapiro. Shapiro's leadership was instrumental in Monsanto's identification of developing country markets, and their millions of small farmers, as an important strategic opportunity for the company (Charles 2001; Magretta 1997; Simanis and Hart 2000). As will be discussed in the next chapter, this made it necessary to conceptualise and portray poor smallholders as customers, as beneficiaries and therefore, implicitly, as important stakeholders of the company and its technology.

3.2 A brief introduction to the Monsanto Smallholder Programme

According to company literature, the SHP was supposed to provide smallholder farmers with 'a package of existing commercial technologies, including improved seeds, biotechnology traits where approved and applicable, conservation tillage practices, crop protection products and other inputs, as well as training and technical assistance'. The company also claimed that the programme provided support for 'self help group formation … the creation of other income generating activities [and] access to microcredit, as well as linkages to grain traders and processors who purchase surplus crops' (Monsanto 2002a).

By 2001, the SHP was reported to encompass 21 projects in 13 countries, reaching more than 320,000 small farmers (Austin and Barrett 2001). However, a company briefing dated January 2002 indicates that Monsanto was directly involved in just a handful of smallholder projects, in Mexico, India, Indonesia, Kenya and South Africa (Monsanto 2002a).[3]

In India, the company claimed to be reaching 35,000 farmers in 415 villages.[4] Smallholder projects were implemented in four states:

- In Nadia District of West Bengal, a project focused primarily on rice.
- In Rajgarh District of Madhya Pradesh, a project focused primarily on soybeans.
- In Udaipur District of Rajasthan, the *Humsafar* [5] project focused primarily on the promotion of conventional corn hybrids.
- In several districts of Andhra Pradesh (AP), the *Meekosam* [6] project focused on cultivation practices and technologies for rice, cotton and some horti cultural crops, among others, and included some promotional activities for *Bt* cotton hybrids.

By the autumn of 2002, the SHP was scaled back dramatically at the global level and was closed in India (Interviews, Monsanto India personnel).

This section has outlined some background information about Monsanto and the SHP. In the next section, we move to the substance of the paper, with an analysis of the ways in which ideas about sustainable development challenges, and the potential for genetic modification technology in addressing these, emerged within Monsanto and were shaped into a particular form which helped to justify a specific role for the company and its products. The discussion will show how these ideas effectively constructed a relationship between the company and its external stakeholders, in which smallholder farmers in the South had a key place.

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3 Monsanto was indirectly involved in projects in a larger number of countries, through its support for projects implemented by Winrock International in 'West Africa and Indonesia' and by Sasakawa Global 2000 in 'Ghana, Ethiopia, Tanzania, Malawi and Mozambique' (Monsanto 2002a). A former 'Global Lead, Smallholder Agriculture' described this arrangement as 'more like aid' (Interview 29 June 2005).

4 www.monsantoindia.com/monsantoin/humsafar/humsafar2.html (accessed 21 May 2004).

5 *Humsafar*: Hindi: 'companion on a (long) journey.'

6 *Meekosam*: Telugu: 'for you,' as in 'Monsanto *for you*.'

4 Envisioning sustainability: a place for Monsanto, a place for small holders?

With the emergence and evolution of the environmental movement during the 1960s and 1970s, the Monsanto Company had gained an unenviable reputation for unethical and environmentally damaging practices, being implicated in the production of both dioxins (including the infamous 'Agent Orange', used by US forces during the Vietnam war) and polychlorinated biphenyls (PCBs) – both persistent pollutants posing serious risks to the environment and human health.[7] Genetically modified crops were going to be very different.

When Robert Shapiro was appointed as Monsanto's new Chief Executive Officer (CEO) in April 1995, he embarked on a programme to re-orient the company's business around the concept of sustainability: 'Shapiro challenged every Monsanto employee to turn the vision of a more sustainable world into a business opportunity and to look for ways in which Monsanto could use its expertise to tackle the world's most pressing problems' (Charles 2001: 269). In an interview published in early 1997, Shapiro said:

> At Monsanto, we're trying to invent some new businesses around the idea of sustainability. We may not yet know exactly what those businesses will look like, but we're willing to place some bets because the world cannot avoid needing sustainability [sic] in the long run.
>
> (Shapiro in Magretta 1997: 81)

Shapiro's articulation of the sustainability challenge in this interview resonates strikingly with the ideas of writers like Zadek (2001), as well as other business leaders (Holliday *et al.* 2002), when they identify sustainability questions as key issues that would be central to the competitiveness and profitability of successful businesses in the future: 'Businesses grounded in the old model will become obsolete and die' (Shapiro in Magretta 1997: 81).

Shapiro's conceptualisation of the sustainability challenge linked two distinct elements: the urgent need to grow enough food to feed a growing population and improve living standards for more people; and the ecological harm that would be entailed in trying to do so with existing technologies and agricultural practices. Shapiro and Monsanto were pretty clear about the relevance of their transgenic crop technologies to meeting the technical challenge of feeding the world. For the current discussion, it is more important to note that Shapiro located his concerns about sustainability in the context of the dire socio-economic consequences that would unfold if the challenge could not be met, predicting

7 See entries for 'Monsanto,' 'Agent Orange' and 'Polychlorinated biphenyls' at http://en.wikipedia.org/wiki/Main_Page (accessed 8 March 2006).

> a world of mass migrations and environmental degradation on an unimaginable scale. At best, it means the preservation of a few islands of privilege and prosperity in a sea of misery and violence.
>
> (Shapiro in Magretta 1997: 80)

This stark depiction indicates the way in which Shapiro positioned sustainability, and his company's part in achieving it, in the context of the problems of poverty, inequality and population growth. This conceptualisation implicitly involved the farmers and consumers of the developing world as key stakeholders and important players in fulfilling Monsanto's sustainability vision.

4.1 The focus on developing country farmers

Shapiro's grasp of the important opportunity represented by developing country agricultural markets had already taken shape before he became CEO, when he served as head of the company's agricultural division. During this period, Shapiro had already begun steering the company, alongside other strategic targets, towards the goal of 'transforming agriculture' in a number of developing countries, a target that became known as the 'developing country goal' (interview, 20 June 2005).[8]

Developing country farmers assumed, therefore, a central place in Shapiro's vision and Monsanto's strategy for market development and competitiveness. Shapiro established seven strategic teams to explore sustainability issues and their implications for the company's future business; one of these was the 'Global Hunger Team', which studied 'how Monsanto might develop and deliver technologies to alleviate world hunger' (Magretta 1997: 86). A 'Sustainable Development Business Sector' was established to operationalise the sustainability strategy (Simanis and Hart 2000). The Sustainability Sector included a 'Smallholder Team' which was 'charged with developing products, services and partnerships to meet the needs of rural, small-scale farmers in developing countries' (Simanis and Hart 2000: A7).

The importance of the smallholder market segment was promoted following the crisis of 1998–99. Both the controversy over so-called 'terminator' sterile seed technology and the anti-biotech backlash which erupted in Europe were linked in part to issues of international development and global hunger. Activists and development campaigners raised the alarm over the possibility that terminator technology could be used to prevent Third World farmers from saving seeds and make them more dependent on the biotechnology and seed companies (Charles 2001; Simanis and Hart 2000; for an example, see Christian Aid 1999). The European backlash was triggered in part by an ill-conceived

8 My source could not recall the exact terms of the developing country goal, including the number of countries targeted for agricultural 'transformation.'

advertising campaign in which Monsanto explicitly asserted the capacity of biotechnology to feed the world:

> What enraged opponents more than anything was the assertion [in the advert] that Monsanto's venture into genetically engineered crops was a humanitarian and moral one. ('WORRYING ABOUT STARVING FUTURE GENERATIONS WON'T FEED THE WORLD. FOOD BIOTECHNOLOGY WILL') [sic]
>
> (Charles 2001: 222)

As we have seen, the developing country focus was already being elaborated as part of Monsanto's strategic positioning as a business; it was also one of the factors that triggered the crisis that engulfed the company in 1998 and 1999; and it was also mobilised as part of Monsanto's strategy for tackling the crisis. With Monsanto's progress in European markets stalled, developing country markets took on greater significance. The company urgently needed to expand the market for its GM crops internationally, in order to begin realising a financial return on its R&D investments. Activists alleged that, by establishing a market for its traits in key crops like cotton and soybean, in major producer countries in the South such as Brazil, Argentina, India and China, Monsanto hoped to make the technology a *fait accompli* and undermine consumer opposition to transgenic crops in Europe and elsewhere.

In addition, the images of smallholder farmers and poor consumers in developing countries assumed a weighty symbolic importance in global disputes about the merits and risks of GM crops. The next section considers how Monsanto invoked the interests and needs of smallholders as part of their response to the 1998–99 crisis. In doing so, they constructed a relationship between the firm and these stakeholders, which raises questions about Monsanto's accountability for the content of these claims and the delivery of the predicted benefits.

4.2 The New Monsanto Pledge: constructing corporate responsibility for smallholder agriculture

In the New Monsanto Pledge, poor farmers – like the starving future generations invoked in the company's advertisements – were constructed as prominent potential beneficiaries of agricultural biotechnology. The Pledge (as well as the ideas informing the Sustainability Sector that preceded it) effectively portrayed Monsanto as a provider of technology to resource-poor farmers and an important contributor to sustainable agriculture and food security (see Box 4.1). Three parts of the original Pledge statement are particularly relevant here.

Box 4.1 The New Monsanto Pledge [9]

The New Monsanto Pledge was announced by Chief Executive Officer Hendrik Verfaillie on 27 November 2000 (Monsanto 2000). In its original form,[10] the Pledge incorporated the following five major commitments:[11]

Dialogue: We commit to an ongoing dialogue with all interested parties to understand the issues and concerns related to this technology.

Transparency: We commit to transparency by making published scientific data and data summaries on product safety and benefits publicly available and accessible, and we commit to working within the rigorous science-based regulation as required by appropriate government agencies around the world.

Respect: We commit to respecting the religious, cultural and ethical concerns of people throughout the world …

Sharing: We commit to bring the knowledge and advantages of all forms of agriculture to resource poor farmers in the developing world to help improve food security and protect the environment.

Benefits: We commit to work for and deliver benefits for farmers commercially as well as environmentally.

Developing country farmers were expressly invoked in the 'sharing' section, which declared Monsanto's commitment to 'bring the knowledge and advantages of all forms of agriculture to resource poor farmers in the developing world' (Monsanto 2000).[12] Developing country agriculture is also evoked in one

9 Nowadays known simply as 'The Monsanto Pledge'. The Pledge was originally labelled 'new' at the time when the company's management was seeking to establish the 'new Monsanto' as a specialised agricultural business, distinct from the 'old' Monsanto Company as it had existed prior to the merger with Pharmacia Corporation in 1999. The word 'new' also recognised the fact that the document emerged from an original Monsanto Pledge, adopted in 1990, which was 'a statement of environmental responsibility' (Monsanto 2000).

10 The original wording of the Pledge has been refined, including the incorporation of two additional commitments – 'Act as owners to achieve results' and 'Create a great place to work'. The changes made merit attention in themselves, but an analysis of these is beyond the scope of this paper. For the current wording of the Pledge, see Monsanto (2005).

11 Subsidiary commitments were included, which elaborated on the five headline pledges. For the full text of the original NMP, see Monsanto (2000).

12 Later versions of this pledge more explicitly underpin the company's 'technology cooperation' agreements – as opposed to the smallholder projects – through which it licensed its proprietary technologies for non-commercial exploitation in the developing world (Monsanto 2001).

of the sub-clauses beneath the 'respect' pledge, in which the company 'underscor[ed] our commitment not to pursue technologies that result in sterile seeds' (Monsanto 2000). The inclusion of this commitment can be attributed directly to the concerns raised by international development campaigners and academics about the rights of farmers in developing countries to save seed. Finally, poor farmers were also implicitly constructed as potential beneficiaries of Monsanto's activities in the 'benefits' part of the Pledge – this time in the shape of customers of Monsanto (Monsanto 2000).

It is worth dwelling briefly on the terms of the original Pledge to see the degree to which they may be reconciled with Monsanto's pre-existing interests and strategies as a business. A number of instances are noticeable. For example, the 'transparency' section underlines Monsanto's determination to robustly defend the 'safety and benefits' of GM crops, as well as its strong advocacy of 'scientific data' and 'rigorous, science-based regulation' as the appropriate frames in which to assess these (Monsanto 2000). (The most recent version of the 'transparency' pledge lacks these heavy inflections (Monsanto 2005).)

Secondly, it is hard to avoid the conclusion that the 'benefits' pledge – 'delivering benefits to farmers' – essentially restates Monsanto's *raison d'être* as a business: producing and selling agricultural inputs. Finally, the terms of the 'sharing' pledge unmistakably endorse Monsanto's interest in marketing its products to resource poor farmers and expanding the market for its technologies in the developing world. Bearing this in mind, it is worth observing that, directly in connection with this commitment, Verfaillie's announcement of the Pledge informed the world about the establishment of the TC&SHP:

> To this end, we have created a dedicated team within Monsanto to facilitate technology sharing and agricultural development collaborations with public institutions, non-profit groups and local industry around the world.
>
> (Monsanto 2000)

4.2.1 Representing smallholders

Since the adoption of the NMP in 2000, Monsanto has published a series of Pledge Reports, documenting its progress in implementing the Pledge and describing some of the activities undertaken to deliver its commitments. In these reports, as well as a number of other booklets, presentations and websites, Monsanto has sought to represent its work with smallholders to a wide audience. The following projects have been frequently cited:

- Mexico: the 'Campo Unido' ('United Fields') project
- India: the *Humsafar* project
- Indonesia: the 'Lohjinawi' ('Prosper Together') project
- South Africa: corn and cotton projects in the Makhatini Flats area of KwaZulu Natal Province

- (less frequently) Kenya: the 'Kupanda Bila Kulima' ('Planting without Ploughing') programme (Monsanto 2002a).[13]

The first Pledge report (Monsanto 2001) explicitly situated the TC&SHP within the scope of the 'sharing' commitment of the NMP. However, Monsanto's SHP was not featured in the 'sharing' section of the report (page 9). On that page, the document highlighted the company's 'technology cooperation' initiatives – sharing its data on the rice genome and supporting research projects to develop 'golden' mustard and rice. (In all three cases, the licensing agreements actually pre-dated the adoption of the NMP – see above, p15).

Monsanto covered the smallholder projects in a special section of the report because although 'they fit very well with the spirit of the five elements of the Pledge … they were already in existence when [it] was launched' (Monsanto 2001: 14). This six-page spread, entitled 'Seeds for change' (pp.14–19), covered a number of different activities and issues, besides smallholder projects. For instance, one sub-section highlighted Monsanto's support for a project in Kenya, to develop transgenic, virus-resistant sweet potatoes. This widely-known project had already reached an advanced stage of development when the Pledge was adopted. Although it was ostensibly aimed at benefiting small farmers, its content makes it more appropriate to consider it as one of the 'technology cooperation' projects.

About half of the 'Seeds for change' segment of the report covered Monsanto's 'Smallholder Partnerships,' describing how,

> [f]or more than ten years, Monsanto has partnered with universities, corporations, foundations, and government and non-governmental organizations to facilitate the sharing of existing commercial technologies as well as new technologies with resource-poor farmers in developing countries. These partnerships provide training for small-holder farmers to use certified seeds, herbicides, fertilizers, and reduced or no-till farming practices that improve the economics of farming and enable growers to enter into the agricultural marketplace. As a result, small-holder families have seen an increase in food security and income, as well as reduced pressure to migrate, to slash and burn, and to plow marginal lands for additional food production.
>
> (Monsanto 2001: 16)

The description of the Lohjinawi project in East Java, Indonesia is worth considering in some detail (see Box 4.2). In particular, it lays out the basic elements commonly cited by Monsanto managers who were involved with the

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13 Monsanto also generally draws attention to its collaboration with Sasakawa Global 2000 and Winrock International (see footnote 5). These are not discussed here because they are beyond the scope of the PhD research on which this paper draws. My focus is on the smallholder projects implemented by Monsanto on a more autonomous footing.

SHP (interviews): the provision of training, focused on a recommended practice or package of practices; the adoption of 'improved seeds' (other inputs are often also mentioned, such as herbicides, pesticides and fertilisers); working through 'partnerships' with government agencies, non-governmental organisations and credit providers; and the creation of farmer groups, sometimes linked to group-based microcredit lending schemes.

Box 4.2 Projecting a smallholder project

The following extract is reproduced from Monsanto (2001: 16–17):

'Lohjinawi' – Prospering Together in East Java

Labor-intensive tillage of the soil has shackled small-scale farmers to their fields year-round in the province of East Java in Indonesia. The full-tillage farming practices they traditionally used took virtually all of their time and energy. At the same time, those intensive farming practices took their toll on the soil, causing steady losses of organic matter, erosion, and diminished yields. In fact, income from corn fields had dropped to a low of only $28 annually per hectare.

But in the last two years, farmers in East Java have demonstrated the potential to reduce field preparation time for planting by 50 per cent, increase corn production by 250 per cent, increase net incomes by 1,150 per cent, and at the same time reduce water consumption by 30 per cent. The farmers are part of a project called 'Lohjinawi,' which means 'Prosper Together' in Javanese.

Lohjinawi is a simple concept. It works by forming groups of farmers who come together to be instructed in conservation tillage, use of improved seeds, and other farming techniques to improve the productivity of their farming practices.

Lohjinawi is facilitated by a partnership of groups and organizations including Monsanto, the non-governmental organization (NGO) Utika Mandiri, the government ag-extension service, end users, and banks. This group provides the expertise and training for the farmers.

In addition to learning about farming techniques, Lohjinawi helps farmers get access to credit, formerly a difficult goal for small holders. Utika Mandiri, the project NGO partner, organizes farmers into groups and provides training, microcredit loans, and group-based savings systems …

The program has had a powerful impact on the lives of farmers in East Java. Those who are taking part are now able to have time to supplement their income with home-based poultry operations, honey production, and other income-generating activities.

The description is also notable for the way the small farmers of East Java are depicted: exhausted, 'shackled to their fields,' time-poor and in need of training in order to avoid damaging their soils through their 'intensive farming practices'. Monsanto and its partners stepped in with a 'simple concept' which enabled the farmers to achieve extraordinary improvements in their corn yields, incomes, quality of life and environmental impacts.

The first Pledge report also reported the benefits felt by small farmers in the Makhatini Flats, South Africa, who had adopted *Bt* cotton: 'average yields increased 27 per cent and insecticide use was reduced by an average of 80 per cent, for an overall benefit of $165 per hectare. This advantage, in one of South Africa's poorest regions, is an enormous boon to farming families' (Monsanto 2001: 19).

In the second Pledge report (Monsanto 2002), Monsanto again drew attention to its smallholder activities under the 'sharing' section of the Pledge. In his foreword, the CEO – by this time, Hugh Grant – wrote,

> Over the past 10 years, we've shared our technologies with international scientists and scientists in poorer areas of the world where they have the potential to make a big difference. We continue to search for more opportunities to deliver benefits to smallholder farmers, large growers and to address environmental issues around the world.
>
> (Monsanto 2002: 2)

What's interesting about his use of language – though too much should not be read into it – is where it implicitly places smallholders in relation to the Pledge: whereas Monsanto had shared its technology with 'scientists,' it was looking to 'deliver benefits' to farmers – that is, customers, including both smallholders and large growers.

In the body of the report, the company highlighted just one smallholder project, this time choosing the *Humsafar* project, and using its example in a similar way to the Lohjinawi case the previous year (see Appendix 1). This time, however, the project description was integrated into the section of the report dealing with the 'sharing' commitment. Some familiar tropes and themes are present, but the *Humsafar* example drew attention to additional elements of the typical SHP project design. In particular: the deployment of resident project staff and the establishment of 'Farmer Service Centres' in villages; the involvement of university scientists in farmer training activities; and the inclusion of training on non-farm income-generating activities, such as soap-making.

Whereas the smallholder projects had been clearly incorporated under the 'sharing' section of the report, they also appeared in another key part of the document. A double-page spread, celebrating the benefits of *Bt* cotton, emphasised the experiences of farmers in China and South Africa (Monsanto 2002: 26–7). The report said:

> Through work with Monsanto Company, Makhatini farmers were among the first in Africa to use *Bt* cotton. Insecticide sprayings have decreased by 50 per cent, and yields have increased by 27 per cent to 48 per cent. These farmers are now realizing profitability of $25 to $50 per hectare over farmers who plant non-*Bt* cotton. By freeing up time and creating greater income, Bt cotton is helping to create better lives, more opportunity for education, and more stable family units.
>
> (Monsanto 2002: 27)

The most interesting fact about the depiction of Monsanto's smallholder activities in the second Pledge report, which covered the period 2001–2002, is that the SHP itself was effectively wound up by the end of 2002. When the next Pledge report was published, in 2004 (Monsanto 2004), smallholders reappeared in the guise of beneficiaries of *Bt* cotton, but the SHP, as such, was no longer evident.[14]

One further document gives an insight into the flow of ideas and images circulating within Monsanto, and which the company wanted to represent to others, concerning the place of smallholders. In approximately 2002, the company issued a booklet entitled *Growing Partnerships for Food and Health: Developing Country Initiatives in Agricultural Product and Technology Cooperation* (Monsanto undated).[15] This publication, written by an independent consultant on behalf of Monsanto, expands on the key elements of Monsanto's smallholder project model (emphasis added):

> *[D]emonstration plots and farmer trials* enable smallholder women and men to witness the value of *technology packages* that include *improved seeds, crop protection products, fertilizers and conservation tillage practices. Training sessions* provide the knowledge they need to use the new package safely and effectively. *Micro-loans* help them get started on their own farms, and *market access assistance* helps them sell their surplus crops to generate income for their families. Farmers who adopt the new technologies first help expand the effort by *teaching others* in their community.
>
> (Monsanto undated: 4)

The report also defined smallholder farmers – 'those who grow food on five hectares or less' (12.4 acres) (p.4) – and characterised them as

> quick to adopt new products and technologies and adapt them to local culture, agricultural practices and environmental conditions. As active

14 Monsanto's support for Sasakawa Global 2000 and Winrock International continues to date. The company's engagement with smallholders in some parts of the world was also sustained – for example, the *Bt* cotton farmers in the Makhatini Flats.

15 The document itself is undated. However, two inserts, tucked into a pocket in the fly leaf at the back of the document, are dated January 2002. The packet was given to the author by a Monsanto executive in May 2002.

> participants in global partnership programs that can enhance the quality and quantity of food they produce, these farmers are both students and teachers.
>
> (*ibid.*)

This description amounts to a significantly more positive and empowered image of the smallholder than the passive victim of circumstance that was portrayed in the first Pledge report. It also characterises developing country farmers as enthusiasts for modern agricultural technology, keen to better their economic circumstances and quality of life. For Monsanto, the idea of farmers making the transition from a subsistence mode of farming to a more commercial agriculture was in fact central to their image of what 'development' was all about.

4.2.2 Conceptualising 'development': technology transfer and market transition

The TC&SHP was conceptualised by Monsanto executives as forming an 'intermediate' or 'transitional' strand of the company's operations that fell between the core business of the firm on the one hand, and the company's philanthropic activities, represented by the Monsanto Fund, on the other. This 'three strands' idea appears to have been current within Monsanto, since it was familiar to several of the executives interviewed for this research, at different levels of management in India as well as St Louis. The notion of the 'transitional' strand, lying between philanthropy and 'business as usual', carried with it consciously articulated expectations about helping farmers to make the leap from one realm to the other – as one senior SHP executive put it, 'from the subsistence to the commercial world', 'from subsistence to market' (Interview, 29 June 2005).

This image implies a close relationship between the purpose of the SHP and the goal of market development. It also represents a particular way of conceptualising 'development' itself – what it means – and of viewing the adoption of modern farming technology and practices as a central indicator that shows development is taking place. This, rather linear and deterministic conception of what development ought to look like, entails particular implications for the company's accountability, as the self-interested bearer of the vision of development and as the organisation aiming to deliver it.

In this section, we have explored the ways in which smallholders occupied an important place in Monsanto's business, both as potential customers and as symbolic beneficiaries of the company's activities. In the next section, we will look at the ways in which the SHP was implemented on the ground. This will make it possible to see how far the stated intentions of the programme were successfully put into practice, as well as to examine how the programme was moderated by the company's commercial priorities.

5 The Smallholder Programme in practice

In the light of the way Monsanto's smallholder projects were represented by the company, this section looks at the way the SHP was designed and implemented in practice. The material in this section is drawn from the author's empirical research, which focused, at field level, on the 'Monsanto *Meekosam*' project. This project was implemented in several districts of the state of Andhra Pradesh, India (see Box 5.1).

Box 5.1 The 'Monsanto *Meekosam*' project in Vizianagram District, Andhra Pradesh

The 'Monsanto *Meekosam*' ('Monsanto for you') project was initiated in Vizianagram District of North Coastal Andhra Pradesh, India, in 2001. The project was managed by the local Territory Sales Manager (TSM), who was responsible for a sales territory consisting of three Districts – Vizianagram itself, and its immediate neighbours to North and South, Srikakulam and Vishakapatnam.

A Project Coordinator and a group of Project Officers (POs) – initially eight, and later ten workers – were recruited. The Project Coordinator was a post-graduate in agriculture. The POs were typically young, recent graduates in agriculture-related subjects. The Project Coordinator was responsible for the day-to-day running of the project. Each PO was required to live in a village; premises were rented for a residence as well as a focal point for the project at village level. The POs were responsible for implementing project activities in a group of surrounding villages. They toured the villages in their area continually, and visited local farmers' fields frequently. They provided technical advice and made recommendations about chemical inputs in response to farmers' requests for help, as well as on a pro-active basis, especially through a programme of product demonstrations, 'technology farms' and farmer training meetings.

The project was initiated with a survey of local farmers and agricultural practices in order to identify 'adoption gaps' (Interview, 14 November 2005). The project organisers then 'developed a specific package of practices for five or six specific crops' that were relevant to the local agricultural systems, including rice, maize, cotton and some horticultural crops like banana (Interview, 14 November 2005). The project promoted particular products and technologies, notably Monsanto's maize hybrid seeds – *900M*®, *Hi-Shell*® and *All-Rounder*® – and range of herbicides – *Roundup*®, *Machete*® and *Lasso*® – as well as fungicidal seed treatments. Small quantities of maize seeds and herbicides were given away as samples, after which products were sold to farmers at the regular price.

In 2001, a *Bt* cotton trial plot took place near one of the project areas. The plot was located next to a highway and, although it was not labelled, Monsanto put the word out to inform local farmers where they could see the crop growing. In the second *kharif* season of the project (2002), by which time *Bt* cotton had received commercialisation approval for Andhra Pradesh, *Bt* cotton hybrids were promoted to more prosperous farmers within as well as beyond the *Meekosam* project. However, the project was wound up in late 2002, before the season was over.

Source: Interviews with *Meekosam* project staff and local farmers, Nov–Dec 2005.

5.1 Organisational integration

Blowfield argues that:

> An indicator of how a company approaches CSR might be to look at where initiatives sit within the company structure – whether it is the responsibility of Public Affairs … or of operational divisions and is recognized and represented at board level. Many companies have made CSR the responsibility of their HR or Corporate Affairs teams, but it is highly questionable whether this is the right place to establish what some envision to be a 'transformative agenda.'
>
> (Blowfield 2004: 62)

Applying this guidance to the case of the Monsanto SHP, it is useful to examine the background and skills of the personnel charged with implementing the programme, as well as how the effort is integrated with the operational parts of the business.

At the global headquarters in St Louis, a small team of staff was brought together under the leadership of a corporate vice president. In terms of qualifications, most had graduate- or postgraduate-level qualifications in plant sciences or agronomy, often combined with business management degrees. In terms of professional experience, the team brought together staff with backgrounds in corporate and public affairs, technical departments and market development or sales. Few had formal qualifications or experience in international development, one notable exception being one of the directors of the TC&SHP, who had worked for four years in the Environment Division of the World Bank, stationed in Washington, DC.

Within the leadership group in St Louis, staff working on the SHP worked closely with colleagues responsible for market development and regulatory and commercial acceptance issues at the global level. Regular, formal meetings were held to identify priorities and agree work-plans for the following months. According to informants interviewed for this research, the SHP was fully integrated into this process, and was expected to complement the operational goals and strategies of the product development and commercial acceptance teams. A former 'Global Lead, Smallholder Agriculture' told me that 'we were guided by our marketers' to areas 'where they thought we could contribute the most' (Interview, 29 June 2005). Routine interaction also occurred on an informal level, since the officers concerned occupied a suite of offices in the same building on Monsanto's campus in Creve Coeur, St Louis.

In India, the SHP was overseen by one executive, based at the corporate national headquarters in Mumbai. Three individuals occupied this post during the few years that the programme functioned in India. Two of them were interviewed for this research. They both had formal qualifications that combined technical disciplines – one in agriculture and the other in botany – with marketing. The reporting lines of the post were split between an 'administrative' line to the National Marketing Manager of Monsanto India, and a 'functional' line direct to the Global Lead for Smallholder Agriculture, in St Louis.

The SHP manager depended rather heavily on the cooperation of senior colleagues in sales and market development. For example, the regional sales managers and product managers responsible for particular crop segments (maize, cotton etc.) played a key role in identifying a short-list of areas suitable for the smallholder projects to be carried out. Sales and market-research data were used to inform the process. Once the short-list had been selected, the SHP manager visited the areas in order to confirm the choice of particular villages, but again, the final choice was heavily influenced by State- and District-level sales staff, because of their specialised local knowledge.

At the local level, the *Meekosam* project was managed on a day-to-day basis through the sales and marketing line management. The senior officer at this level was the Territory Sales Manager (TSM). The TSM had split reporting lines. For sales, he reported to the State-level marketing manager in Hyderabad. On the *Meekosam* project, he reported to the national SHP manager in Mumbai. The boundary between his responsibilities to each of these managers was further blurred by the fact that he was given sales targets to achieve through the *Meekosam* project as well as through his marketing team. These targets were additional to the ones he was given for the *Meekosam* project itself, which were expressed in terms of numbers of meetings held or demonstrations conducted. In practice, the TSM responsible for the *Meekosam* project in Vizianagram District found that the

> company and project interests were almost on same lines … I took this project as an aid, a helping hand to my regular market development work … We met both project objectives as well as business objectives.
>
> (Interview, 14 November 2005)

At village level, it is easier to discern differences between the *Meekosam* project and regular sales and marketing operations, although there are strong commonalities as well. Living in a village on a day-to-day basis, the POs were easily accessible to the farmers and available to respond to their questions and requests for assistance, which came on a daily basis. One of the POs related how, on a weekly basis, he generally paid a couple of visits to each village in his area and conducted one major farmer meeting for the area as a whole. In addition, he generally convened one small meeting with farmers in a particular village every day, on top of a round of visits to individual farms. The level of resource commitment involved in carrying out this busy schedule of activities easily overshadowed the much more limited resources available to the TSM for regular sales operations. Whereas he was able to deploy eleven staff in Vizianagram, he had only three Market Development Officers to allocate to the other two Districts in his territory.

By creating the TC&SHP group, Monsanto could be accused of 'parking' the sustainability and smallholder initiatives in a special team that worked on 'a few flagship projects', which were heavily milked for PR benefits through the Pledge reports, press releases and company websites. However, this discussion has shown that the SHP was integrated to some extent with operational parts of the business. Indeed, the closeness of the collaboration between SHP staff and their sales and market development colleagues leads one to raise a different concern from the one identified by Blowfield: to what extent were the quasi-philanthropic purposes and goals of the SHP able to be applied relatively independently from the commercial priorities imposed by sales and marketing imperatives? Did the closeness of the link effectively undermine the company's claims about the special character of the programme?

Another way of shedding light on these issues is to examine how effectively the senior management succeeded in translating the sustainability concept into practical actions and ensuring that these were taken up and applied at lower levels of the company. Hence, it is useful to examine the differences in perspective that were brought to bear by actors at different levels of the hierarchy. It is clear that some of the most senior leaders of the company, including successive CEOs, were instrumental in launching and driving the initiative. The fact that the SHP was driven from the centre, with a budget attached, gave the global SHP manager leverage to push the smallholder projects into Monsanto's country-level operations in different parts of the world. However, according to a former director of the SHP, who was based at Monsanto's global headquarters in St Louis, managers faced some obstacles in explaining and promoting the programme at lower levels. In his view, Monsanto's directors and senior executives took a longer-term, more strategic and global outlook on smallholder farmer issues than their colleagues in middle-management, for two reasons.

Firstly, they were more likely to appreciate the long-term importance of positioning the company to take advantage of the market opportunities opening up in the smallholder sector globally. Secondly, the senior managers were the ones being exposed to external pressures and criticisms from development activists and anti-GM campaigners at the global level. As a result, they were more inclined to recognise the value of the smallholder initiative as an intervention in the politics of GM crops at the international level. However, middle managers and managers in Monsanto's national operations in different countries were, 'more difficult ... they were more resistant' because 'they were just looking tactically ... [the SHP] is strategical ... We had to continuously sell the project' (Interview, 29 June 2005). Further down the chain, at the 'field' level, it was apparent that staff were pre-occupied by the short-term targets – primarily sales targets – set for them by their line managers. In principle, the SHP was a secondary consideration. As the TSM for the *Meekosam* Project in Vizianagram recalled,

> [the project was] only an additional job for me ... I have to do my regular work ... Even if I am successful here [i.e. on the smallholder project], but not on my regular responsibilities, I will not have my job.
>
> (Interview, 14 November 2005)

In practice, however, as we have seen, he found that the SHP projects were so successful in generating sales that he 'concentrated more on [the project] than my regular market development work' because the returns were so encouraging: '[I gave] almost 60–70 per cent of my time to this project; ... the returns were the same [i.e. in proportion to the time invested]' (Interviews, 14 and 22 November 2005). However, it was only because of the success in driving sales growth that he felt able to devote this amount of time and energy to the project. Indeed, over time, this pressure proved to have a significant impact on the nature of the SHP projects.

5.2 Shifting priorities

The focus of the SHP evolved over time. In the early days, the miscellaneous projects that had been taken up on an *ad hoc* basis by different business units and staff working on a voluntary basis, were not oriented towards marketing Monsanto's products. Similarly, a former head of the SHP in India asserted that the projects were oriented around the farmers' needs rather than promoting company sales – staff were told 'Don't link it with commercial [operations]' and 'not a single word was uttered on Monsanto products' (Interview, 11 January 2005).

In line with these claims, several senior executives agreed that the promotion of transgenic traits was not originally part of the SHP. In the early days, the company had been involved with a number of different types of projects, in a range of issue areas such as water and energy. Over time, however, these issues were seen to be 'too far outside our core competence.' The focus 'migrated to biotech' because 'the [intervention] that made sense was one that was closer to home' (Interview, 20 June 2005). Seen in this light, the shift of emphasis towards Monsanto's own technologies and products appears as a prudent and thoughtful revision of the project based on learning from experience. However, to an outside observer, it is clear that there were other pressures driving this change.

Once the smallholder projects were scaled up and institutionalised within Monsanto's organisational structure, the more 'philanthropic' aims that had motivated Monsanto staff to initiate the projects in the early days began to give way to a demand that the projects should contribute more directly to market development and the financial bottom line. At the level of management, the process of continually having to 'sell' the SHP to operational colleagues encouraged its staff to justify the programme in terms of developing experimental 'models' for future marketing efforts to the smallholder sector. At 'field' level, pressure on staff to promote sales conflicted with, and undermined, previous guidance to avoid pushing Monsanto products and focus on the needs and priorities of the farmers.

Consequently, the degree to which the SHP was integrated with Monsanto's operational arm can be seen as a source of weakness as well as strength, in the specific sense that, as time passed, business imperatives came to dominate over the quasi-philanthropic goals of the programme. The persistent pressure of having to promote the SHP as a strategic tool for market development, the constraint to collaborate with operational colleagues, and the requirement to fit the SHP projects with overall corporate strategy, caused the line between the SHP's quasi-philanthropic goals and Monsanto's regular business operations – between the 'core' and 'transitional' strands – to become increasingly blurred.

At this point, in the words of the former global manager of the SHP, the programmes became 'victims of their own commercial success' (Interview, 29 June 2005). As if to prove the validity of the 'transitional strand' concept, the SHP approach proved to be so viable as a market development model that the programme itself made a kind of transition to a more central place in Monsanto's market development strategy. This seemed to bear out the expectation that the investment of resources in the SHP would have a limited term – and that, once its goals were achieved, the programme would be wound up.

Financial and market pressures also helped to bring about the end of the programme. At the international level, Monsanto was under great pressure to begin realising a bigger return on its investments in GM technology and was going through a difficult period financially. The company's sales were hit by a drought in the US Midwest as well as the financial crisis in Argentina. The company issued a profits warning and announced a cost-cutting programme. Investor sentiment was negative and the share price fell. Meanwhile, the CEO, Hendrik Verfaillie, was putting the company through a radical restructuring process to prepare the company for flotation following the 1999 merger with Pharmacia Corporation (*The Economist* 17 August 2002; Barrett 2000, Interview, 05 July 2005).

In order to make the company attractive to investors, corporate overheads at the global headquarters had to be cut, and this included the funds for the SHP. This had a decisive impact on the programme. The global-level SHP manager described how

> [t]hey cut off the funding for my projects … They cut my budget in Asia, in Mexico… The only reason I had leverage was the budget … My leverage was

> gone, I had to go round practically begging for time with [country] managers.
>
> (Interview, 29 June 2005)

A decision was made to decentralise the budgets and decision-making authority for the SHP to the respective country managers. Responsibility for the *Humsafar* and *Meekosam* projects devolved to Monsanto India managers in Mumbai. Precise details of the decision-making process that took place at this point are still being researched, but it is clear that the costs of running the SHP would have looked very different from Mumbai compared with St Louis. As we have seen, the number of staff devoted to the *Meekosam* project in Vizianagram significantly outweighed the number of Market Development Officers in neighbouring Districts, whose salaries were similar.

At the time, things were difficult for Monsanto India as well. The first season of commercial *Bt* cotton cultivation was a difficult one for Monsanto's hybrids, especially in Andhra Pradesh. It seems that the SHP in India was cut because it was not valued highly enough to justify the extra expense involved – all the more so because the line between the SHP and regular market development had become more blurred over time. The TSM for Vizianagram related how, during 2002, his *Meekosam* budget was progressively cut and he experienced increasing pressure from his manager to concentrate on sales. Under this pressure, he transferred two of his *Meekosam* Project Officers (PO) out of the project and into market development roles in cotton areas, where *Bt* cotton was being promoted. His project budget was scaled back by 50 per cent in September 2002 and the project was closed altogether by December that year. The TSM himself was transferred to another sales role in a different territory, while all but one of the POs were laid off. One PO stayed with Monsanto, in a sales role.

Farmers in the project villages experienced the project closure as a sudden and unexplained event. In Thallapusepally village in Warangal District, the farmers actually gathered for a *Meekosam* project meeting that had been organised some time in advance. They were expecting to meet some specialists from higher up in Monsanto, who were said to be travelling from Mumbai. The visitors did not arrive until, late in the evening, the villagers received a phone call notifying them that the visitors would not be coming. Despite several appeals by the leading farmer in the village, the *Meekosam* project staff did not return.

In Kumili village, Vizianagram District, a *Meekosam* project meeting took place, during which the senior Monsanto staff visiting the village praised the work of the two POs who lived there[16] and announced that they had 'been promoted'

16 It was unusual for two Project Officers to reside in the same village. In this case, the two POs were responsible for different areas, but their core villages were close together and so they decided to live together.

and would be leaving for new posts. The farmers were told that their PO was being replaced by another worker, but the new person was not resident in the village and, in the farmers' eyes, 'couldn't do it in the same way [was not so competent]' (Interview, 16 December 2005). This representation of events disguised the fact that the *Meekosam* project in their village was essentially being terminated; depending on exactly what point during 2002 this meeting took place, the new person would have been either another *Meekosam* Project Officer, trying to handle a larger area, or a regular Market Development Officer with no specific remit to manage the *Meekosam* project.

5.3 Ambiguity and accountability: difficulties holding Monsanto to account

In *Meekosam* project villages, farmers related how company officials would arrive, convene a meeting and announce that the project was being set up and the village was being 'adopted'. Unsurprisingly, the farmers didn't have a very clear idea who the visitors were or why they had come. The project was bestowed on their villages without prior consultation, and by all accounts the content of the project was not put up for discussion. According to the farmers, only a few scanty details were given about the project, focused heavily on the technology and practices which the company wanted to promote and emphasising the benefits these were supposed to bring.

When the company later withdrew, as the experience of farmers in Thallapusepally shows, they failed to get the company to fulfil the promises it had made. In Kumili village, the very fact that the *Meekosam* project was being terminated was obscure to the farmers. The lack of transparency surrounding the project at its beginning and end illustrates the degree to which its nature and scope were vague and ambiguous to the farmers. The ambiguity surrounding Monsanto's commitments and the scope of the *Meekosam* project, notably its relationship to regular marketing activities, represented a key obstacle that faced the farmers in holding the company to account: it was difficult for them to know exactly what Monsanto's commitments were. The problems with accountability in the SHP had several broad aspects. Below, I consider three of these: the ambiguity surrounding the identification of smallholders as the target group; Monsanto's practice of working with and through partners; and the company's implicit definition of 'development' and its implications.

5.3.1 Targeting smallholders?

One dimension of the accountability problem is the ambiguity surrounding the definition of the target group who were supposedly the primary beneficiaries of the SHP. As we have seen, Monsanto's Pledge literature emphasised the company's engagement with 'smallholders,' whom the company defined as those farming 'less than five hectares of land' (12.4 acres) – which is not particularly small; in India, small and marginal farmers are commonly defined as those cultivating areas around one acre. However, a St Louis-based Monsanto marketing executive told me, 'I'm not sure we had a real clean definition' of the term 'smallholder', noting that the meaning of the concept would vary from place to place (Interview, 23 June 2005). He preferred to think in terms of a rule of thumb which took into account the 'size' and 'economics' of the farm but also – crucially – its 'long-term potential' and the 'objectives of the farmer.' In his view, the company wanted to work with farmers who were interested in achieving socio-economic and material goals, improving family wealth and welfare and expanding their livelihood opportunities, and willing to experiment with new farming technology in order to achieve these goals.

When asked to explain how Monsanto selected districts and villages to implement SHP projects, executives talked about choosing 'ignored' areas where they felt the company could 'make a difference' or 'have an impact'. For this reason, they avoided areas with very poor infrastructure or very 'backward' or 'tribal' areas,[17] where there were too many obstacles to reaching villagers and helping them to adopt new farming technology. Various Monsanto officers claimed that villages had been selected on the basis of some kind of baseline survey, used to understand the local agricultural systems, but as discussed above, sales and marketing data and knowledge appear to have dominated the process, and other considerations were implicit within it. For example, it emerged that the particular cluster of villages in Udaipur District of Rajasthan was selected for the *Humsafar* project because it was easily accessible, close to the highway and within about 45 minutes travelling time from the local airport. One is left with the sense of a strange paradox: if these villages benefited from such valuable infrastructure, how was it that they remained 'undeveloped'?

The mystery dissolves once one takes into account the fact that it was the potential market for modern agricultural technologies that was 'undeveloped.' Monsanto executives used the terms 'undeveloped areas' and 'high potential areas' interchangeably. As the former head of the SHP in India recounted, for the *Humsafar* project, the company was looking for an area that had a significant acreage of maize but where 'hybridisation' – the use of hybrids – was low. Udaipur fitted the bill because it was identified as the largest corn-growing district in India, but hybrids made up only 10–15 per cent of the market.

Vizianagram District is widely regarded in Andhra Pradesh as 'undeveloped,' and this was cited as a key reason for locating the *Meekosam* project there. However, my observation of conditions in Kumili village indicated that the village was not especially 'backward.' For example, I was told that the village benefited from 'huge water resources' through 200 borewells – one for approximately every four acres – which enabled farmers in the village to get 'three crops per year' (Interview, 16 December 2005). According to this account, the village was already well-developed, having had a *panchayat* (village council) since 1932, electricity since 1959 and a bank branch since 1998. My

17 These terms are commonly used in India, not only by Monsanto.

informant claimed that the village had been nominated as a 'model village' by the Government of Andhra Pradesh.

Monsanto staff also recognised that they were not reaching the very smallest farms. One senior marketing officer in St Louis acknowledged that there was a residual segment of the smallholder market that would 'never' buy a product like *Bt* cotton, because the upfront costs were too high: 'eventually, you just hit a brick wall' (Interview, 27 June 2005). Farmers in the project villages also recognised that the company concentrated its initial efforts on the more prosperous 'leading' farmers. Some of the project participants interviewed for this research farmed areas 30 to 40 acres in size. All parties acknowledged that, in practice, smaller farmers were rarely among the first to adopt the new technology.

One can say conclusively that the SHP projects were not targeted exclusively at smallholders. Some smallholders certainly participated in the SHP projects, but the size of a farmer's landholding was not used as a criterion for entry to the programme. Indeed, Monsanto did not specifically select any particular class of farmers, but made an open invitation to all the farmers in the project villages to take part. For Monsanto, the key was the perceived attitude of the farmer – his willingness to experiment with new technology and to shift his farm onto a more commercial footing, including a willingness to take on loans in order to pay for more expensive inputs up front. People in the project villages confirmed that both small and large farmers participated. However, one informant in Kumili village cast doubt on whether all were treated equally. He claimed that the *Meekosam* organisers had given free samples 'not for weaker sections, only for the 'gentlemen' of the village' and noted that 'that way … the gentleman will explain to the common man' (Interview, 16 December 2005). This description puts Monsanto's claims about using 'farmer-train-farmer' techniques into an interesting new light.

5.3.2 Working with partners: diluting responsibility, obscuring accountability?

Another dimension of the accountability problem was the lack of clarity, from the farmers' perspective, on the issue of which organisation was responsible for the smallholder project. Part of this issue was Monsanto's practice of working with or through external organisations as 'partners.' For example, university scientists and officials from the state Agriculture Department participated in farmer meetings organised by the *Meekosam* project. Representatives from banks or other lending institutions were also often invited. Farmers involved in the *Meekosam* project in Thallapusepally village, Warangal District, related how these guests did most of the talking during a farmer meeting about *Bt* cotton that was held in their village; the Monsanto staff did not speak much. Thousands of miles away, in St Louis, a senior executive involved in market development frankly acknowledged the value of involving 'third parties' in Monsanto's sales and marketing effort: 'it's not us speaking … It's difficult for our people not to sound like salespeople' (Interview, 27 June 2005).[18]

The involvement of banks supplied a critical element of the project model, because the higher price of Monsanto's seeds – whether hybrid maize replacing farmers' varieties or *Bt* cotton replacing conventional hybrids – meant that the ability to obtain credit was an important hurdle for farmers to cross. Since the banks themselves were unfamiliar with, and sometimes sceptical towards, *Bt* cotton, Monsanto invested time and energy in 'educating' them about the benefits and advantages of the technology, and especially emphasising the potential to boost farmers' financial returns. In some cases, Monsanto actually supplied a line of credit to the banks, in order to encourage them to extend loans to farmers. According to one senior market development executive in St Louis, this worked well for Monsanto: 'In fact, by the end they [the banks] were even pushing their customers to buy *Bt* [cotton]' (Interview, 27 June 2005).

Another category of people frequently involved in *Meekosam* project meetings were so-called 'key important farmers' or 'lead farmers', and village officials such as the *sarpanch* (village head) or his deputy. These locally prominent citizens served a useful role as intermediaries between the company and villages, since they were likely to be trusted by the local farmers. In Thallapusepally village, the local farmers could only think of one reason for Monsanto to choose their village to be included in the *Meekosam* project: the most prominent farmer in their village, who was a senior official in the Farmers' Federation of Andhra Pradesh, and was esteemed locally for running an NGO to help improve the village.

In Vizianagram, the *Meekosam* managers attempted to organise a link with local public officials responsible for the State government's Development of Women and Children in Rural Areas (DWCRA) programme. One NGO staff-member was not surprised when I told her that Monsanto had tried to link up with DWCRA: 'Everybody goes to them, because they're terribly well-organised' (Interview, 19 November 2005). She explained that an association with the DWCRA programme gives firms access to its large network of established women's groups, which helps them to access villages and farmers, as well as benefit from the credibility and assurance that comes from being able to represent themselves as partners in a widely-known and respected government programme.

Working with partners helped Monsanto to maximise its impact while conserving its own resources. Of course, this is a reasonable and prudent strategy for any organisation, and Monsanto executives justify the involvement of external

18 The same informant also observed that Monsanto's joint venture with the Indian seed company Mahyco had a similar value during the regulatory clearance process for *Bt* cotton in India: 'It also, to be frank, puts an Indian face on what we're doing'. In fact, he considered that Mahyco 'didn't bring that much' to the partnership, neither in terms of its sales force nor its technical capacity. He acknowledged that the three Mahyco hybrids first used to commercialise the *Bt* trait in India were not very good ones but, implicitly, considered that they had served a useful purpose in getting the *Bt* trait through the Indian regulatory process for the first time (Interview 27 June 2005).

partners as a way of concentrating on its own expertise while bringing in other resources in areas where they lack competence. Any such claim has to be taken with a pinch of salt, however; Monsanto can only be regarded as the pre-eminent expert on its own products and uniquely placed to offer expertise on *Bt* cotton in particular. Instead, the partners were quite clearly enrolled in order to bolster Monsanto's credibility and trust with the farmers and to help boost sales of Monsanto's products and technologies.

This poses an important problem as far as accountability is concerned since, by the admission of its own officers, Monsanto was exploiting, coaching and even financing other agencies to help promote its own interests. However, to some extent this was transparent to the farmers, who were under no illusion about Monsanto's motives for bringing the *Meekosam* Project to their villages: 'So we'll buy all their products!' (Interview, 15 December 2005).

5.3.3 The SHP model of development: technology transfer and the 'package of practices'

The final accountability problem to be discussed here is the issue of how the content of the project was decided, and the implicit model of 'development' on which it rested. Monsanto staff are convinced that their technologies and products can help to address the problems of developing country farmers in a sustainable and economically viable manner. For example, justifying their promotion of *Bt* cotton, they frequently cite the problems caused by cotton bollworms, as well as the very high levels of pesticide use on cotton fields, in developing countries. However, they also regret that poor farmers are frequently 'slow to adopt' new technologies. Some of them cite the so-called '80:20 rule', which expresses the fact that Monsanto generally makes around 80 per cent of its sales to just 20 per cent of its customers.

The company's challenge, then, is how to get the technology into the hands of this segment. In this conception, non-adoption or slow adoption of new technology appears as a key sign of underdevelopment, and the act of adoption signifies development taking place. Targeting this segment of the market and transferring the technology into the hands of these farmers comes to appear as a development intervention as well as an indicator of development. Successful transfer of the technology, whether through specialised smallholder projects or market development programmes, represents the central project goal, and its achievement signifies the effective completion of the project.

These ideas were neatly encapsulated within the 'three strands' concept, which was discussed above. The essence of the 'transitional' strand is that it expresses the notion of farmers making a transition from non-commercial (perhaps 'pre-commercial') subsistence farming to commercial agriculture. The key event which demonstrates this transition is the farmers' adoption of new technology. At the same time, technology adoption represents the farmers' transition to a new economic mode of farming: commercial agriculture, in which the purchase of external inputs is a key element. Seen in this light, there is an essential link between technological upgrading and market development. Thus, poor farmers' dual identity as potential beneficiaries and potential customers of the company's technology were seamlessly united.

The technology transfer mode of engagement is also evident in the concept of the 'correct package of practices'. Personnel at all levels of the company had implicit confidence in the technical validity of this concept. Indeed, the key challenge was not so much to tailor the technical package to local contexts as to adapt the communication methods, so that the standard package could be effectively communicated in a standard format everywhere –getting the 'right message to the right people in the right form' (Interview, 30 March 2005). To this end, the market development division concentrated energy on educating its Indian sales force in the standard practices, and training them to use standard-ised 'farmer education kits,' consisting of visual presentation materials, for use in farmer meetings.

It is important to recognise that, from this 'technology transfer' perspective, the SHP projects would be regarded as having an inherently limited term of life. They were not expected to be long-term, and least of all open-ended commitments to support farmers and their villages across the range of their agricultural problems over an extended period of time. Once the company's project managers and market researchers had found indicators showing that a certain number of farmers had tried the new technology, been trained in its application, and had experience of using it, the project would be judged to have achieved its aims, and could be wound up. After that point, in accordance with the transitional idea encapsulated in the 'three strands', the farmers would be expected to graduate into regular users of the technology and its associated practices, and become customers rather than beneficiaries of the firm's intervention.

In this section, we have examined how Monsanto implemented the SHP in practice. In particular, we have looked at the degree to which the programme was integrated with the company's business operations and seen how the pressure to contribute to sales priorities gradually and inexorably overcame the quasi-philanthropic ideas that had been present at the inception of the programme, especially in its very early days before the initiative had been formalised into a corporate programme. This transformation can be seen as inherent in the 'three strands' concept, whereby individual projects, if not the programme as a whole, would be seen as having an inherently limited term of life. This section has also identified an accountability problem within the SHP, and explored three aspects of it.

The next section briefly summarises the discussion laid out in this paper and draws out a few key lessons about accountability. It also makes the argument that the SHP represented a key plank in Monsanto's strategic response to the demands being placed on it by external stakeholders, in which the company attempted to shift the terms of the debate and parry the demands of anti-biotechnology activists and Northern consumers by reference to the supposed interests of small farmers in developing countries.

6 Summary and discussion: the SHP and corporate accountability

As we have seen, smallholders came to occupy a crucial place in the global history and politics of GM crops. Not coincidentally, they also had a vital part to play in Monsanto's strategy for growth and commercial acceptance of the new technology. They assumed this role on a rhetorical level, through representations of biotechnology and its place in smallholder agriculture, as well as in material terms, as Monsanto sought to exploit the potential of the smallholder segment of the global market for agricultural inputs. For Monsanto, the central importance of developing country farmers was confirmed in three ways:

- 'Feeding a growing world population' was an intrinsic element of Robert Shapiro's vision of 'sustainability' as well as Monsanto's market-development strategy for its seeds and traits.
- International development issues were the spark that ignited the 'terminator' controversy and also helped to kindle the European consumer and activist backlash against GM crops.
- With European markets closed, and Monsanto under intense pressure to begin showing a financial return on its huge investments in agricultural biotechnology R&D, developing country markets assumed an even greater significance for the company's efforts to commercialise GM crops, in order to dig itself out of its immediate crisis as well as assure the long-term market for the technology.

Hence, developing country farmers were directly and indirectly implicated in Monsanto's corporate strategy. However, it is important to understand that the company's focus on resource-poor farmers was explicitly not a purely philanthropic effort. It emerged from Robert Shapiro's ideas about sustainability – ideas which, in their turn, were clearly informed by concepts from the 'mainstream,' 'liberal' strand of CSR, which saw corporate responsibility as one side of a coin that had sustained profitability, innovation and competitiveness in the 'new economy' on the other. It expressed confidence in the ability of market actors – specifically, corporations – to deliver 'win–win–win' outcomes for shareholders, stakeholders and the environment. This conceptualisation neatly linked 'sharing technology' and 'bringing benefits to farmers' with the company's interest in selling products and generating profits. In a particular sense, it also constructed smallholders as both customers and beneficiaries of the company and its technology.

Despite assertions that the SHP was intended to address the needs of small farmers, it was not targeted specifically at the smallest farmers. Indeed, as we have seen, the company prioritised the more prosperous farmers in the first instance. Nor was the programme launched from an open-minded enquiry into the needs and priorities of farmers – the supposed beneficiaries – themselves. There were no formal mechanisms through which farmers might have had an opportunity to shape the SHP, or influence Monsanto's R&D programme or product development priorities, nor any mechanism for feedback on the performance of the crop in their fields and villages, or on the SHP projects themselves.

Instead, the company operated on the basis of certain assumptions about the farmers' needs. Implicitly, this amounted to a model of development itself, encompassing a set of assumptions and expectations about the problems farmers faced and the solutions to those problems. Key among these were the conviction that farmers needed to adopt new agricultural technologies, and indeed new economic models to go with them. Monsanto executives had great confidence in the power of technology – accompanied by the 'correct package of practices' – to overcome farmers' problems, provided it could be delivered (cost-) effectively to the right people and in the 'right' way. At the same time, they were sceptical about the capacity of, and opportunities for, farmers to contribute to the technology-shaping process. Consequently, the farmers' problems were anticipated, not learned. Their role in Monsanto's implicit vision of development was essentially a passive one – to be consumers of the company's know-how and technological products, and to take their place in Monsanto's scheme for sustainable agriculture in the twenty-first century – the vision of 'transforming agriculture in developing countries.'

The SHP projects were established by a discretionary act of Monsanto, in which the company assumed the role of benefactor and the farmers the role of beneficiaries. Under these circumstances, it is not surprising that it was difficult in practice for farmers to hold the company to account. This problem was compounded by the lack of clarity and transparency about the aims and content of the project at village level. It was also exacerbated by the company's practice of working with commercial and NGO partners and involving public agricultural officers and university scientists, as well as prominent local farmers. This served to dilute the company's responsibility and obscure its accountability for the project.

Nonetheless, the *Meekosam* project in Vizianagram shows that Monsanto did in fact open itself to an effective form of accountability. The fact that the Project Officers were resident in the village placed a kind of practical constraint on their freedom of action. The POs interviewed for this research confirmed that they would always recommend a Monsanto product first, if available. However, since they were living among the farmers full time, they were under pressure to provide effective solutions to the farmers' problems. If the recommended product or strategy failed to solve the farmer's problem, the POs would willingly recommend a competitor's product as an alternative. Even though this meant boosting sales for one of Monsanto's competitors, all those involved with the SHP were convinced that Monsanto benefited through the trust and goodwill generated. They regarded the effort as a worthwhile down-payment that would help to ensure good relations for Monsanto in the future.

There is a wider lesson to be drawn from this example. Garvey and Newell (2004) cite the mobility of capital as one of the types of structural power which enables corporations to evade accountability within particular national jurisdictions. A significant limitation on this power of capital flight is in cases where company operations are tied to resources that can only be sourced in particular locations. In Monsanto's case, the product which the company had to sell meant that it was constrained to locate close to a particular *market*. The company needed to sell its seeds in suitable agro-climatic zones, and wanted to exploit the market potential in these areas.

Consequently, the scenario discussed here is different from the typical problem, cited by Newell and Wheeler (2006: 26), that 'the very poorest, those most in need of services responsive to their needs, are of least interest to private utilities seeking to make a profit.' A combination of factors tied Monsanto to Indian farmers: the indelible link between the product Monsanto had to offer on the one hand and agricultural land and farmers on the other; the tantalising size of the potential market among smallholders; and the increasing competition between corporations to position themselves to take advantage of the rapidly emerging market opportunities in rural areas.

Ultimately, however, the case illustrates that the SHP was less accountable to farmers than it was vulnerable when the firm came under pressure from a different group of stakeholders – shareholders and the financial markets. So long as the company had resources available for these activities, they were able to continue. However, when the company faced a more difficult financial environment, the programme was abandoned. This suggests that the firm's accountability to its shareholders and creditors trumped the competing claims of other stakeholders, including those of the supposed 'beneficiaries' of the smallholder projects.

6.1 Shifting accountability arenas

As we have seen, smallholders assumed a symbolic importance in global arguments about transgenic crops. Monsanto has made great efforts to highlight positive stories about the benefits of GM technology for the small-holder segment. The company has taken up examples of small farmers' experiences from around the world and 'broadcast' them to a wider audience, including at the global level. Indeed, in 2000 Monsanto launched a specific programme to encourage and facilitate, directly and indirectly, research by independent academics into the economic and social impacts of *Bt* cotton (Monsanto 2001). By the end of 2002, the company was expecting to spend US$6m on more than 90 studies by third party researchers, who were given 'mostly unrestricted grants from Monsanto' and encouraged to publicise the findings in 'peer-reviewed scientific publications and presentations at conferences and public meetings' (Monsanto 2001: 13). The company has created a special section of its Pledge website devoted to highlighting the positive findings of such studies (the references for the studies are not provided),[19] which complements special websites promoting the advantages of agribiotechnology, such as the 'Biotech Knowledge Center'[20] and 'Conversations about Biotechnology.' [21]

By reporting the experiences of small farmers, Monsanto clearly hopes to influence the global debate about GM crops, and in particular to demonstrate or even 'prove' to the wider world the value and appropriateness of transgenic crops for developing countries. Against this background, the SHP can be seen to have had a role to play in 'winning the argument' for agricultural biotechnology at the global level. This strategy deserves further attention, because it involved an important shift between different arenas or discourses of accountability.

To a large extent, the crisis which engulfed Monsanto in 1998 and 1999 and prompted the adoption of the NMP and the creation of the TC&SHP emerged at the global level and centred on Northern – especially European – concerns. This is a common theme in the CSR field, as we have seen. In Monsanto's case, it has to be doubted whether the disquiet about GM crops in the South, which was stirred up among people in the North, would have been triggered so effectively if it weren't for the primary concern of Northern consumers about GM foods in their own diet. Accordingly, the Pledge can be seen primarily to address the anxiety of European and other concerned publics in the North, rather than stakeholders in the South. Moreover, seen in this light, the company's commitment to 'sharing' and 'bringing the benefits' can be regarded not so much as a defence against Northern criticisms, but – by reiterating the company's conviction that its technology would be valuable to resource-poor farmers and confirming its determination to commercialise GM crops in the South – more as a way of rebutting them.

Monsanto's efforts to promote positive associations between GM crops and smallholders can be regarded as an attempted strategic shift from an unfavourable discursive and political terrain – where anti-GM campaigners and consumer groups were raising concerns about the safety of GM food and the fundamental ethics of 'playing God' or the ownership of life – to a more favourable one, where GM crops could be framed as a vital tool for overcoming serious need – feeding the hungry, protecting the environment and alleviating poverty. Rhetorically, this shift also attempted to elevate a particular stakeholder group (resource-poor smallholders in developing countries) over others (for example, 'well-fed Europeans'), as the legitimate arbiters of whether or not GM crops should be judged a desirable technology. It sought to change the terms of the debate by appealing to a utilitarian metric, which placed the life-and-death interests of poor farmers and hungry Third World people in opposition to the delicate sensibilities of affluent consumers. In this field, the ethical issues and

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19 www.monsanto.com/monsanto/layout/our_pledge/socioeconomic (accessed 23 February 2006).

20 www.biotechknowledge.monsanto.com (accessed 19 May 2006).

21 www.monsanto.com/biotech-gmo/index.htm (accessed 19 May 2006).

value judgements could be represented in a more agreeable light, where the company felt more confident about making the argument.

The significance of this insight is that it shows how Monsanto invoked the interests and needs of smallholders as a way to answer the criticisms being levelled against it by a different set of stakeholders in a different arena. Viewed from an accountability perspective, this indicates that European consumers succeeded to some extent in holding the company to account, and the company's response suggests that they also succeeded, to a degree, in getting the company to attend to the interests of small farmers. However, as we have seen, Monsanto assumed that it understood the interests of farmers rather than asking them what they wanted. Farmers were mobilised more to illustrate or symbolise the benefits of biotechnology, rather than the technology being shaped around their needs. The SHP can be seen to have been designed to answer the company's business needs and the demands of its critics, rather than as a framework for relations of accountability between the firm and poor farmers.

Koefoed (2005) offers a useful framework for explaining Monsanto's attempted shift. In her case-study from the energy sector, she discusses how firms operating in new technological fields have to cope with high levels of uncertainty. They have to try and create meaningful and sensible strategies in fields where technological trajectories are uncertain, regulatory frameworks are evolving and markets are undeveloped. In such circumstances, companies seek to keep the uncertainties under control by shaping their strategic vision around the immediate resources and opportunities they have at their disposal, and attempting to shape the future around their strategic vision. This likely involves trying to enrol and persuade others to help build momentum behind the favoured strategy and outcome, which suits the capacities and resources available to the firm.

This is a good analogy for the situation Monsanto faced in relation to agricultural biotechnology in the 1990s. The company had developed significant capabilities and resources in biotechnology, but faced uncertainty in the future evolution of the technology, the regulatory environment and future markets for GM crops and foods. Robert Shapiro's vision of sustainability answered the need for a strategy that would make sense of this uncertainty. In order to succeed, Monsanto needed to convince others that the vision was right and build momentum behind the strategy. By constructing a narrative that tied together GM crops with environmental sustainability, global food security and international development, the company hoped to succeed in doing so.

The creation of 'narratives' or 'storylines,' that both diagnose problems and construct particular technical solutions to 'solve' them, involves a highly political process of ascribing roles and allocating power to the actors that are implicated in them (Keeley and Scoones 1999; Jasanoff 2005). In Monsanto's narrative about GM crops in the developing world, resource-poor farmers had a rather passive role to play. They needed to be corralled into position as consumers of the technology and also as symbolic arbiters of its utility, benefits and propriety.

In order to ring-fence uncertainty as far as possible, the company needed to ensure that farmers fell into line and did not disrupt the narrative. This necessitated making certain assumptions about the farmers' needs, priorities and preferences in ways that fitted with the company's immediate need to sell its products and its longer term vision of the future.

Garvey and Newell (2004) note Zadek's (2001) assertion that companies' freedom to respond to demands made of them at a particular point in time 'is defined by general factors such as technological opportunities, competitor strategies and public pressure as well as company-specific factors such as availability of finance, quality of leadership and overall corporate competencies' (Garvey and Newell 2004: 16). This makes it sound as though companies will react, provided they can do so, to the demands placed upon them by stake-holders. However, this case and Koefoed's (2005) framework show how vital it is to recognise that companies do not respond merely in a reactive mode: they also seek to shape narratives that fit their own preferences and capabilities, and thus preserve their continued relevance as offering solutions to the problem at hand. It is not so much a question of having 'freedom to respond' as taking the opportunity to frame sustainability or corporate responsibility to fit the 'business case.'

The consequence of this process of problem framing and narrative creation is that there may not be a logically compelling or self-evident link between the technical solution proffered by the company and the problems it claims to address. As Jasanoff notes, with characteristic insight:

> The capacity of techno-science to deliver salvation depends on highly political acts of framing that may or may not bear much relation to the felt needs of those whom science sets out to help.
>
> (Jasanoff 2005: 197)

This insight helpfully captures a key reason why the SHP was not completely satisfactory as an initiative that was supposed to help small farmers. Despite Monsanto's claims, the programme was not designed exclusively – perhaps not even primarily – to respond to their needs and concerns. It was also created and adapted to serve another set of strategic purposes and ends for the company.

6.2 Postscript: Where does this leave public accountability?

Monsanto was open about the mixture of quasi-philanthropic and self-interested motives behind its 'sharing' commitment and engagement with small farmers:

> Our motivation and commitment to share is based on a variety of factors, including philanthropic interests, humanitarian concerns, employee initiative, good public relations and new business opportunities. Through our collaborative activities, we gain valuable insights about agricultural needs and markets around the world.

> In the long term, sharing offers us other important business advantages as well. By participating in partnerships that introduce new agricultural products, technologies and training to developing countries, we are helping farmers realize tangible economic benefits. As these farmers become more able to afford the seeds and products that will maintain their newfound agricultural productivity, we hope they will remain our customers.
>
> (Monsanto undated: 10)

To some extent, Monsanto's efforts to adapt its business model in order to tap into the smallholder segment barely require explanation. As globalisation proceeds, this segment represents the next frontier for transnational agri-business companies. In an 'immature' agricultural market like India's, where not all districts are yet reached effectively by commercial agricultural technologies, expanding the market as a whole necessarily means going to less well-served areas and relatively less prosperous districts and villages. In some respects, it is easier for companies to exploit an 'undeveloped' area than to try and scrap with its competitors for a share of an already-developed one.

If Monsanto's managers had not already seen the merits of this argument, the manoeuvres of their competitors would have been enough to encourage them. As the TSM for Vizianagram commented, 'if we don't do this kind of project [in an undeveloped market like this one], we will not get the business' (Interview, 14 November 2005). Similarly, the TSM responsible for overseeing *Meekosam* in Warangal District identified the project as the key vehicle for sales expansion in his territory: 'The 22 villages of Monsanto *Meekosam* were my future, future growth for Monsanto' (Interview, 03 December 2005).

So was Monsanto doing anything that the market wasn't already driving it to do? The answer is yes – to some extent. Arguably, the SHP projects have a good claim to 'additionality' – doing work and reaching areas of the market that wouldn't ordinarily be reached. The *Meekosam* project was implemented in areas that were regarded as 'undeveloped' (but also 'high potential') markets, which wouldn't ordinarily have been targeted by sales operational staff. Thus, the difference between the SHP and regular sales operations was primarily seen in the different market segment that was targeted in each case. As the former 'Global Lead, Smallholder Agriculture' observed, the commercial operations staff 'were dealing with the low-hanging fruit; we were dealing more with the second tier' (Interview, 29 June 2005).

Furthermore, notwithstanding the caveats recorded above about whether the SHP really reached smallholders, it is worth observing that 'small farmer' is a relative term. In developing country agricultural sectors like India's, smallholders make up the majority of the market. By the standards of North America – with which Monsanto and its senior executives were most familiar before the mid-1990s – almost every farm in India would barely even qualify for the term 'small;' 'minuscule' might be a more appropriate word. In that sense, perhaps one cannot criticise St Louis-based executives for not hesitating to label their initiative the 'Smallholder Programme'.

Moreover, farmers in Vizianagram District credited Monsanto with doing something for them which no other agency was providing. The *Meekosam* POs were actually living among the farmers, providing advice on a day-to-day basis and supplying useful agricultural inputs on their doorstep, as well as running a regular round of training activities. To some extent, the farmers were able to get useful advice from Monsanto's Project Officers about a range of agronomic problems, including those where the company did not have a particular proprietary technology to promote. The farmers held the POs in high esteem and expressed gratitude for the work they did. According to their accounts, neither other companies nor public agricultural extension agents were doing the same for them. This goodwill towards the company was not naïve: the farmers were well aware that Monsanto was a commercial entity and had an interest in promoting its products. Accordingly, they treated the company's advice on its merits, adopting those practices they found useful and abandoning those they disliked.

For these reasons, Monsanto deserves some credit for its smallholder initiatives. In particular, the case is remarkable for the degree to which Monsanto tried to integrate its smallholder activities into its core, 'business-as-usual' operations. Yet this also proved to be a source of weakness because it undermined the quasi-philanthropic character of the SHP over time. Whichever way you look, the quasi-philanthropic aims are inextricably linked to the commercial purposes of the SHP. But what do we expect? Monsanto is a private-sector, profit-seeking enterprise. It does not hide the fact that it wants to market its products and make profits. It's just that company executives are convinced that, by making modern technologies available to farmers in developing countries, they can meet business goals and support agricultural and rural development at the same time. Indeed, the way they see it, the two things are inextricably linked. As far as they are concerned, the adoption of new technology, including the willingness to invest more money in it, is practically definitive of 'development.'

It would be intellectually vacuous to dismiss the motives of Monsanto's senior officers as if they were pantomime villains. By all accounts, Robert Shapiro himself appears to have had a passionate belief in the ideas of sustainability, enough to convince many of those around him, as well as interviewers, of the sincerity of his conviction. Indeed, he backed up his public statements with a radical reconstruction of Monsanto around the life sciences vision and, in agriculture, around the idea that the future of plant protection lay in genetic engineering, which Shapiro thought would be more environmentally sound than chemical sprays. The magnitude of the transformation which he attempted to bring about – one in which other companies were much more cautious – is hard to explain unless you concede that Shapiro's beliefs about sustainability were sincerely held. Moreover, Monsanto's scientists and executives are not alone in having implicit confidence in the power of technology to make people's lives better by solving social and economic problems.

When Monsanto stationed its officers in their villages, farmers managed to exercise a very practical, everyday form of accountability over them. However, it was accountability of an unsatisfactory and limited sort. In the absence of effective public agricultural extension services, farmers have an unmet need for independent, impartial and effective technical advice and support – and thus an accountability gap remains. In this context, perhaps the most important lessons that can be drawn from this case-study are the hitherto unspoken questions it raises about the role and accountability of the state. On the one hand, questions need to be asked about the responsibilities of the public agencies, such as agricultural extension departments and agricultural universities, which ought to be giving impartial and disinterested agronomic advice to smallholder farmers.

On the other hand, public institutions and agencies have a dual role to play – not only as service providers in their own right, but also as market regulators or sponsors of services provided by others. Companies behave in the way they do partly because of the way they are regulated and the incentives they are offered by public policy. If the private sector has a potential role to play in agricultural extension, the state has a role in establishing a framework within which companies and even individuals may provide client-focused extension services. One encouraging example may be the 'agriclinics' model developed by the Indian National Institute of Agricultural Extension Management (MANAGE) in collaboration with other agencies, which aims to encourage the growth of independent agricultural advisory centres in rural areas, where self-employed agriculture graduates would offer extension advice and services to farmers rather in the way doctors do for patients.[22] The challenge, as ever, will be to ensure that any such centres are truly independent, impartial and serve the needs of poor smallholders as well as more prosperous farmers.

22 See www.agriclinics.net (accessed 19 May 2006).

Appendix 1 Monsanto's representation of the *Humsafar* Project

The following extract is reproduced from Monsanto (2002: 17):

Humsafar – Companion On An Eternal Journey

The Udaipur District in Rajasthan is the largest corn-growing district in India but it has abysmally low yields. Entire tracts of land have been abandoned to weeds. The average farm size is one hectare; annual income is less than $190 per hectare. The district is one of the poorest in India.

But a program called *'Humsafar'* seems to be making a difference. Humsafar, which means 'companion on an eternal journey,' was started two years ago by Monsanto Company India with the help of two other organizations: Godrej Agrovet Ltd, the largest poultry-feed manufacturer in India; and Karmasheel Sansthan, [an NGO]. The program has doubled corn yields for participating farmers, from 2.5 metric tons to 5 metric tons per hectare; it has raised the sale price of the corn by about $10 per metric ton.

In April 2001, a dozen *Humsafar* personnel embarked on the experiment with 14 villages. Twelve resident field coordinators stayed in these villages and trained the chosen 700 farmers to use correct farm practices. Farmers were all trained by university experts. In addition, many farmers attended training programs at research centers and 'farmer-train-farmer' camps. Growers could also visit demonstration farms. *Humsafar* Farmer Service Centers for information and equipment rentals were also set up for every two villages.

Udaipur farmers learned about hybrid seeds, weed control, correct spacing and planting, optimal irrigation methods, and other techniques for improving profitability, such as vermicompost pits.

In addition to better yields, *Humsafar* partners worked to make sure middlemen didn't squeeze out their usual hefty margins. Group buying power was established. Farmers were able to bypass cutthroat money-lenders. These buying groups also helped establish programs for the farmers' spouses. These programs included cattle-feed making, nursery management, soap making, and other enterprises that supplement farm income.

The *Humsafar* project was deemed so successful and useful that it won the General and HR Management Award, the top honor at the Lakshya annual festival of the National Institute of Technology and Industrial Engineering.

References

Austin, J.E. and Barrett, D.B. (2001) *Monsanto. Technology Cooperation and Small Holder Farmer Projects,* Boston, MA: Harvard Business School case study, 19 November

Barrett, A. (2000) 'Rocky Ground for Monsanto?', *Business Week,* 12 June

Bendell, J. (ed.) (2000) *Terms for Endearment: Business, NGOs and Sustainable Development,* Sheffield: Greenleaf

Blowfield, M. (2004) 'CSR and Development: Is Business Appropriating Global Justice?', *Development* 47.3: 61–8

Charles, D. (2001) *Lords of the Harvest. Biotech, Big Money, and the Future of Food,* Cambridge, MA: Perseus Publishing

Christian Aid (2004) *Behind the Mask: The Real Face of Corporate Social Responsibility,* London: Christian Aid. Available from www.christianaid.org.uk/indepth/0401csr/index.htm (accessed 14 February 2006)

—— (1999) *Selling Suicide: Farming, False Promises and Genetic Engineering in Developing Countries,* London: Christian Aid. Available from www.christianaid.org.uk/indepth/9905suic/suicide1.htm (accessed 10 April 2006)

Clarke, J. (2004) 'Creating Citizen-Consumers: The Trajectory of an Identity', paper presented at the CASCA Annual Conference, London, Ontario, Canada, 5–9 May. Available from www.open.ac.uk/socialsciences/citizenconsumers/ccc-subset/cccinfopops/the_trajectory_of_an_identity.pdf (accessed 16 February 2006)

Cornwall, A. and Gaventa, J. (2001) *From Users and Choosers to Makers and Shapers: Repositioning Participation in Social Policy,* IDS Working Paper 127, Brighton: IDS

Davidson, A. and Ahmad, M. (2003) 'Privatization and the Crisis of Agricultural Extension: The Case of Pakistan', in R.W. Bradnock and K. Baker-Smith King (eds), *SOAS Studies in Development Geography,* Aldershot, UK: Ashgate

DFID (UK Department for International Development) (2000) *Eliminating World Poverty: Making Globalisation Work for the Poor,* White Paper in International Development, Cm 5006, London: DFID

Elkington, J. (1998) 'The "Triple Bottom Line" for Twenty-first-century Business', in J. Mitchell (ed.) *Companies in a World of Conflict: NGOs, Sanctions and Corporate Responsibility,* London: Earthscan

Garvey, N. and Newell, P. (2004) *Corporate Accountability to the Poor? Assessing the Effectiveness of Community-based Strategies,* IDS Working Paper 227, Brighton: IDS

Holliday, C.O., Schmidheiny, S. and Watts, P. (2002) *Walking the Talk: The Business Case for Sustainable Development,* Sheffield: Greenleaf

Jasanoff, S. (2005) '"Let Them Eat Cake": GM Foods and the Democratic Imagination', in M. Leach, I. Scoones and B. Wynne (eds) *Science and Citizens: Globalization and the Challenge of Engagement,* London: Zed Books

Keeley, J. and Scoones, I. (1999) *Understanding Environmental Policy Processes: A Review,* IDS Working Paper 89, Brighton: IDS

Kilman, S. and Burton, T.M. (1999) 'Farm and Pharma', *Wall Street Journal,* 21 December

Koefoed, A.L. (2005) 'Innovation Processes – The Hype and Hope for Cleaner Energy', paper presented at the Conference of the Society for the Social Studies of Science (4S), Pasadena, California, USA, 20–22 October

Magretta, J. (1997) 'Growth Through Sustainability: An Interview With Monsanto's CEO, Robert B. Shapiro', *Harvard Business Review,* Jan–Feb: 79–88

Monsanto (2005) *Seeding Values. 2005 Pledge Report,* St Louis, Missouri: Monsanto

—— (2004) *Growing Options: Monsanto Company 2004 Pledge Report,* St Louis, Missouri: Monsanto

—— (2003) *A Clear Focus. Monsanto Company Annual Report,* St Louis, Missouri: Monsanto

—— (2002) *Commitments to Our Stakeholders: 2001–2002 Monsanto Pledge Report,* St Louis, Missouri: Monsanto

—— (2002a) *Backgrounder: Monsanto Small Holder Program,* St. Louis, Missouri: Monsanto (dated January 2002)

—— (2001) *Fulfilling Our Pledge: 2000–2001 Report,* St Louis, Missouri: Monsanto

—— (2000) *Monsanto Chief Executive Outlines Commitments on New Agricultural Technologies in the 'New Monsanto Pledge',* press release, 27 November. Available from www.monsanto.com/monsanto/layout/media/00/11-27-00.asp (accessed 19 May 2006)

—— (2000a) *Scientists Achieve Major Breakthrough in Rice; Data to be Shared with Worldwide Research Community,* press release, 4 April. Available from www.monsanto.com/monsanto/layout/media/00/04-04-00.asp (accessed 19 May 2006)

—— (2000b) *Monsanto Adds Support for 'Golden Rice'; Opens its Genome Sequence Data to Worldwide Research Community,* press release, 4 August. Available from www.monsanto.com/monsanto/layout/media/00/08-04-00.asp (accessed 19 May 2006)

—— (2000c) *Leading Indian Research Institute Partners with Monsanto and Michigan State University to Develop 'Golden Mustard',* press release, 7 December. Available from www.monsanto.com/monsanto/layout/media/00/12-07-00b.asp (accessed 19 May 2006)

—— (undated) *Growing Partnerships for Food and Health: Developing Country Initiatives in Agricultural Product and Technology Cooperation,* St Louis, Missouri: Monsanto

Murphy, D.F. and Bendell, J. (2002) 'Towards Civil Regulation: NGOs and the Politics of Corporate Environmentalism', in P. Utting (ed.), *The Greening of Business in Developing Countries: Rhetoric, Reality and Prospects,* London: Zed Books

Newell, P. (2002) 'From Responsibility to Citizenship? Corporate Accountability for Development', *IDS Bulletin* 33.2:91–100

Newell, P. and Bellour, S. (2002) *Mapping Accountability: Origins, Contexts and Implications for Development,* IDS Working Paper 168, Brighton: IDS

Newell, P. and Wheeler, J. (2006) 'Rights, Resources and the Politics of Accountability: An Introduction', in P. Newell and J. Wheeler (eds), *Rights, Resources and the Politics of Accountability,* London: Zed Books

Prahalad, C.K. (2005) *The Fortune at the Bottom of the Pyramid. Eradicating Poverty Through Profits,* Upper Saddle River, NJ, USA: Wharton School Publishing (Pearson Education)

Simanis, E. and Hart, S. (2000) *The Monsanto Company: Quest for Sustainability,* Case Study in two parts (A) and (B) plus Teaching Note, Washington, DC: World Resources Institute Management Institute for Environment and Business

Stipp, D. (2000) 'Is Monsanto's Biotech Worth Less Than a Hill of Beans?', *Fortune* 141.4, 21 February

Tait, J., Chataway, J. and Wield, D. (2000) 'The Life Science Industry Sector: Evolution of Agro-biotechnology in Europe', *Science and Public Policy* 9.4: 253–8

Tait, N. and Wrong, M. (1999) 'Monsanto Reaps the Whirlwind', *Financial Times,* 11 November

UNRISD (2004) *Corporate Social Responsibility and Business Regulation,* UNRISD Research and Policy Brief 1, Geneva: United Nations Research Institute for Social Development

Zadek, S. (2001) *The Civil Corporation,* London: Earthscan