



## **New Accountability Systems**

# **Accountability Policy and Practice for Mundane Technologies**

## **Policy Report**

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# 1. Introduction

The ResIST project's objective is to understand processes that contribute to increases in inequalities *through* the role of Science and Technology, but also to understand processes that mitigate inequalities *through* Science and Technology. The enhanced role of Science and Technology in the global knowledge economy gives such understanding urgency.

The role of Work Package 3 is to identify and analyse the emergence and workings of accountability systems that provide for the explicit stating and framing of distributional issues related to the design, development and social appropriation of scientific and technological resources. Systems of accountability are the means by which the potential distributional consequences of science and policy and practices can be recognised and assessed — and potentially incorporated — by formal elements of the political system. Accountability systems attuned to the needs of the disadvantaged are thus the prerequisite for reorienting scientific governance towards greater social inclusion in building science and technology priorities and in distributing its products.

This report will operate in two sections. First, it will outline the importance and operation of accountability practices. Second, it will introduce three case-studies researched by the work package (malaria, electronic waste and fair trade clothing) and set out the accountability implications of these cases. The report will then conclude with recommendations on policies of accountability.

## 2. Accountability

### Introduction

This section will introduce and interrogate alternative approaches to accountability. Engaging with accountability requires a detailed scrutiny of the concepts and approaches that the different areas of relevant scholarship have proposed and developed.

In order to emphasise these distinct vocabularies of accountability, rather than search for a single, authoritative version of accountability, this section will be organised into four parts focusing on face to face accountability, directive accountability, demonstrative accountability and participatory accountability. These four areas often overlap in instances of accountability, but they have been separated out here for ease of presentation.

### Face to face accountability

*Face to face* forms of accountability relate to the sense in which forms of interaction are occasions of accountability. For example, conversations might involve one speaker providing an utterance to be held to account by a second speaker whose subsequent response is then available to be held to account by the first speaker (Garfinkel, 1967; Luff and Heath, 1993). This approach treats accountability as a pervasive phenomenon,

constitutive of everyday forms of interaction (constitutive in that through holding each other to account, more or less mutual intelligibility is accomplished). However, the form of accountability outlined can be characteristic of professional as well as everyday settings (Lynch, 1998; Suchman, 1993). In professional settings, the ways in which face to face interactions operate as moments of accountability are tied into organisational structures (for example, meetings are held as opportunities for parties to hold each other to account and those meetings form part of the structure of the organisation as they are timetabled, minuted and their existence becomes an expectation amongst organisational members). Face to face forms of accountability are characterised by more ad hoc, less systematic forms of interaction than other areas of accountability. This can be both advantageous (in that problems with, for example, directive forms of accountability are easier to avoid) and disadvantageous (accountability of this form can sometimes appear less organised or rigorous). An important principle of face-to-face forms of interaction is mutual accountability – each gets to hold the other to account. This is less apparent in other modes of accountability.

### **Directive accountability**

*Directive* forms of accountability relate to those systems of assessment where an organisation is measured according to certain principles, expectations, standardised measures, benchmarks, performance indicators and so on (see Power, 1997; Baxter and Chua, 2002). The metrics, for example, provide a directive which forms the focus for accountability. The metrics draw together the aspects of the organisation to be measured and operate as principal ways in which the organisation steers itself and through which its members come to prioritise certain types of activities and organisational goals (Miller, 1992; Miller and O’Leary, 1994; Rose, 1999). Such measures are often tied into further forms of accountability such as external auditing whereby organisations are expected to be able to demonstrate that they have adhered to certain measurement standards and practices. A drawback of this approach to accountability can be that the areas of activity to be measured do not remain as measures, but instead become targets to aim toward. In this way, directives can be consequential for the types of activity that the organisation carries out (see, for example, Strathern, 1999; 2000; 2002). Such an approach to accountability can operate successfully for as long as the directives are considered appropriate and their potentially narrowing consequences are considered manageable.

### **Demonstrative accountability**

*Demonstrative* accountability refers to those actions understood as carried out, usually by an organisation (public or private), on behalf of an often unspecified mass audience. This includes, for example, company accounts made available for the public good or in the public interest. In effect these ‘publics’ tend to be fairly narrow and specialised (those who are interested in and have the time and skill to read reports, accounts and other ephemera made available by organisations; that is they are not, in practice, often noted as members of the general public). This form of accountability includes calls for organisations to make certain types of information available and for (sometimes publicly funded) organisations to demonstrate their value for money, responsibility (social, corporate) and ethical standards. This mode of accountability is most closely

associated with demands for transparency<sup>1</sup>. These demands are made in relation to, amongst other things, the media (Media Transparency, 2003), global political campaigning (Transparency International, 2003) and corporate organisations (Shaw and Plapinger, 2001). Like directive approaches, demonstrative accountability forms a set of organisational principles as organisations are actively encouraged to adopt particular protocols on making information available for assessment and, indeed, for public organisations their funding can depend on an ability to demonstrate that they have adhered to these protocols. Problems with this approach to accountability involve questions regarding whether or not information made available matches internal organisational activity, whom information is made available to, what sense is made of information made available (see Wall, 1996) and how information is used (often, making information available becomes the end goal, a box to tick to demonstrate adherence to a principle rather than for any clear practical benefit; Neyland, 2007).

### Participatory Accountability

This fourth form of accountability investigates the means and consequences of attempts at encouraging and accomplishing participation in particular forms of activity for the purposes of accountability. *Participatory* accountability includes how, for example, organisations, scientific expertise and government actions should be governed and the adequacy of new methods of public consultation in the context of demands for greater accountability through democratic participation in decision making (for an overview see Irwin, 1995; Kleinman, 2000; Kitcher, 2001). This mode of accountability plays heavily in the dispute between a “low-intensity” model of democracy associated with neoliberalism and a democratic-participatory conception, which defines the current political dynamics of regions such as Latin America. The latter is also present, although in different form and drawing on different vocabularies (such as delegation *versus* dialogism or representation *versus* participation) in political experiments taking place in Europe and in North America.

For minimalist or “low intensity” conceptions of democracy, usually associated with neoliberalism, the assumption is that there is one inescapable, global model of economic organization which sets constraints to any political process, thus narrowing down the possibility of choice which is claimed to be central to the competitive dynamics of this type of democracy. Under these circumstances, the definition of a set of formal, procedural rules and institutions that guarantee them are seen as constituting democracy. Accountability means, above all, electoral and judicial accountability associated with the respect for procedures and information to the public. Although outcomes (of policies, of government) should be relevant, the reference to constraints beyond the possibilities of political action actually reduces their significance. In fact, governing against an electoral program is often celebrated as evidence of “realism”, “responsibility”, etc. “Civil society” is reduced to a “third sector” which takes over many of the policies formerly associated with the state, all in the name of efficiency and cost-effectiveness.

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<sup>1</sup> Transparency has been considered from a number of different perspectives in poetry (Gordon, 1969), post-modernism (Vattimo, 1992; Baudrillard, 1993), philosophy (Westphal, 1986), political analysis (Wall, 1996), psychology (Tagiuri et al, 1955) and studies of accounting (Humphrey et al, 1995; Gray, 1992; Zadek and Raynard, 1995; Sikka, 2001; Canning and O’Dwyer, 2001; Drew, 2004).

As an alternative, democratic-participatory accountability initiatives focus on the possibility of change, based on the active engagement of citizens in public life. Participation is focused on the shaping of alternative modes of organizing economic and social life, and participation becomes a central issue in the dynamics of democracy, a means of broadening and strengthening it. This mode of accountability is based not just on following formal rules and procedures, but on outcomes as well, on how public institutions, governments and other actors actually achieve democratic aims. The creation of spaces for the engagement of citizens in the definition of policies and their assessment is a mode of articulating procedures and aims.

### *Summary*

This section of the report has incorporated four different approaches to accountability. This has begun to broaden out the sense of accountability under consideration beyond traditional forms of, for example, neo-liberal political accountability. Attempts to address inequality through science and technology based accountability can draw on these broader modes of accountability to address questions such as accountability for whom, using what means, with what outcome. In particular instances of accountability, these areas can begin to overlap in challenging ways. For example, attempts to render an organisation or a political process accountable can involve (face to face) meetings, demands for the production of specific forms of (directive) evidence, calls for information to be made (demonstratively) public and the development of processes of (participatory) engagement whereby those external to an organisation or process are invited to take part in an aspect of decision making. The next section will briefly illustrate these modes of accountability in reference to the case-studies researched through WP3.<sup>2</sup>

## **3. Accountabilities in action**

### **Introduction**

This section of ResIST WP3 involved a focused exploration of accountability. In particular, it investigated opportunities for addressing inequalities through holding forms of science and technology to account.

### **Science, Technology and Accountability**

This aspect of WP3 asked: How can we develop an understanding of the mundane and pervasive ways in which science and technology developments shape the organisation of life in a variety of locales? How can we develop an understanding of the interconnected and multiple locales through which technologies move? What methods do we have available for developing appropriate policy for such interconnected locales? What would constitute appropriate mechanisms for holding so many policy locales to account? How could accountability mechanisms be developed for the benefit of those in

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<sup>2</sup> More details on the case-studies can be found in the case-study reports, available from: <http://www.resist-research.net/home.aspx>

specific locales? What methods of assessment need to be developed for considering such benefits and beneficiaries? Addressing these questions involved the development of three cases.

## Case Studies

1. *Textiles* Clothing forms a ubiquitous aspect of consumer lifestyles in the developed world. However, often t-shirts are produced in developing countries, where questions are asked of labour conditions, safety and hours of work. Subsequent to use in the west, t-shirts are often donated to charities and shipped back to the developing world where they form the focus of emerging industries for accessing, distributing and owning such garments. The research asked how could these contexts of production, shipping, usage, shipping (again), re-distribution and usage (again) be connected through policy developments? Could a system of accountability be developed for encouraging the connectivity of these locales to be constituted in such a way as to be advantageous to the developing world?

The research on textiles suggested a variety of problems with the global textile trade. This included mass movement of goods, attempts to protect domestic markets from imports, exploitative labour relations and potential problems with the industry of textile donation. One way forward proposed for textile trading was Fair Trade initiatives. These relied on a form of *accountability through certification*. Systems of Fair Trade certification involved all four areas of accountability. Inspectors would go to potential producers in the developing world, along with traders and manufacturers, holding them to account in (face to face) interviews and certification organisations would audit fair-traders on-going financial and social investments (a form of directive accountability). Each of these forms of accountability was opened for interrogation. To what extent did the sense made by inspectors of complex trading conditions constitute a reliable record of what had gone on in Fair Trading? How far did these accountability mechanisms manage to change things for people in developing countries (given that, for example, a tiny percentage of the money a consumer spends on a Fair Trade item actually gets back to the producer)?

Certification also involved forms of demonstrative and participatory accountability. Firstly, Fair Trade organisations would attempt to render the entire trading system transparent, providing information for producers, traders and manufacturers. This transparency was justified on the grounds that producers in the developing world had previously been at a disadvantage through lack of access to markets and lack of access to information over, for example, what would count as a suitable price for their goods. Secondly, Fair Trade certification was also designed to engage consumers by (attempting to) guarantee that what they were consuming was something for the good of the developing world while also making a statement about the kinds of things they cared about.

This certification and accountability was designed to introduce what might be termed trust at a distance for consumers. Questions regarding this form of accountability were many. The extent to which any form of transparency matches with the internal activity of organisations can be held up to scrutiny. Did Fair Trade organisations simply encourage reporting information on particular activities whilst other actions were left unaccounted for? Once measures were in place, did producers or traders simply attempt to produce as much information as possible to match what they perceived were expectations of the producers of that measure? What was the reliability of a Fair Trade

label actually meaning that every aspect of a good had been produced fairly (and according to whose definition of fair)? Did every consumer have the same notion of what should count as Fair in purchasing Fair Trade goods? Did these accountability systems enable assessments of 'fair' (i.e. what counts as a fair wage) while maintaining commitments to current models of 'trade' (i.e. how could global distribution mechanisms be re-oriented to address issues of inequality)?

The case-study report on Fair Trade suggests that the form of accountability built into the system is itself inequitably distributed and does not necessarily or straightforwardly address forms of inequality (it may deal with prices paid, but not broader terms of trade). A broader consideration of this research in relation to the utility of modes of accountability set out in this report is taken up in the Conclusion.

2. *Neglected Diseases* Vaccines can form a pervasive, mundane and routine expectation within societies of the developed world (aside from questions of the reliability of MMR and questions of the availability of flu vaccines). However, the absence of, and political controversies pertaining to, vaccines in the developing world require that many aspects of day to day routine are organised around attempts (and failures) to gain access to vaccines in appropriate settings, within appropriate time frames, for appropriate sections of a population. Much of this access and routine expectation derive from vaccine development and ownership by developed societies. How might these contexts of vaccination be drawn into a connected system of accountability? How might such a system be developed in order to enhance the health and well being of those in the developing world?

The research on vaccines primarily looked to Public-Private Partnerships (PPPs) as the way forward for developing new drugs and overcoming the variety of different obstacles to vaccine development in the developing world (including the apparent absence of profitability in 'neglected' diseases, problems with infrastructure and education, delivery and vaccinology). PPPs proposed a form of *accountability through partnership*. Under the PPP model (although there are a variety of different possible models), according to the research presented, partnerships would operate in a face to face mode of accountability. Although this operation would mean that each partner was available to hold the other partners to account, problems seemed apparent in the absence of any means to make the PPP accountable beyond the partners and even between some partners as meetings were only occasional. There was a kind of narrowly proscribed face to face accountability, where partners could hold each other to account, but those involved were limited to certain partners. Various researchers suggested greater demonstrative accountability was required in order to render the PPPs accountable (including how they work, the terms on which they invite new partners, whose interests prevail, etc). Funders of PPPs meanwhile sought greater or more effective directive accountability, apparently continually searching for more indicators, metrics and measures which would finally deliver a sought after robustness of measurement.

Although partners could hold each other to account, there was little demonstrative or participatory accountability. However, successfully rendering an organisational form publicly accountable is very difficult. With limited funds, reasonable questions could be asked as to whether broad forms of demonstrative or participatory accountability should be a priority. Vaccine trials involved a particular kind of face to face accountability; those populations deemed targets for vaccination would need to be monitored, assessed and accounted for according to their potential sickness, benefit from the vaccine,

receiving of the vaccine, participation in the trial and so on. In a similar manner to Fair Trade, accountability in this case appears unevenly distributed.

A further problem with some PPPs was their designation of the developing world. The 'Developing World' was a category made and maintained for the PPP through accountability relations. Some PPPs did not envisage the 'Developing World' as any of the Ps — it was neither conceived of as public or private or (often) as a partner. Instead PPPs positioned the 'Developing World' as beneficiaries of the PPP, an accounting term delineating non-active involvement in processes which maintained the accountability system and produced decisions regarding the form a benefit and beneficiary would take. In this way the accountability system sometimes kept the 'Developing World' from having an active voice in the PPP and instead positioned the 'Developing World' as grateful recipients of the 'wisdom' and 'generosity' of the PPP. The accountability system made and maintained a social order which positioned who could and could not contribute to the running and decision-making of the PPP and who would be grateful for receiving outputs from the PPP (whether they wanted them or not).

3. *E-waste* With the growing use and disposal of electronic equipment (from PC's to mobile phones), questions are being asked of where waste should go, how IT, for example, should be dismantled and what impacts such e-waste is having on particular locales. Historically the far-east has provided the context for the development of IT, the western world has provided the context for much IT use and the developing world (particularly India, China and west Africa) has provided the context for IT disposal. However, this has changed significantly with policies designed to restrict the inclusion of hazardous substances in electronic equipment, manage the movement of waste from developed countries (and restrict its movement to developing countries) and the massive and rapid rise in production and use of electronic equipment in countries such as India and China. This case-study asked: what are the consequences of policies which attempt to draw together these distinct contexts so that producers and users are aware of, and perhaps more responsible for, disposal issues? What are the most appropriate ways for disposing of e-waste? Can we develop reliable mechanisms for holding to account producers, users and the contexts of disposal in order to enhance benefits of this connectivity of locales for those in the developing world?

The research on e-waste highlighted the growing problem of electronic equipment having ever shorter life-spans, being dumped at greater pace, historically travelling to countries in the developing world with consequences for local environmental pollution and for local people employed to dismantle the waste in hazardous labour conditions. The research looked to new European Union directives as a way forward in reducing these problems through reduction in the toxic contents of goods, reducing the energy consumed by goods, encourage re-use of goods and establishing systems through which producers of goods should take back electronic items and dispose of them responsibly. In order to enforce this extended producer responsibility take back scheme, the directives proposed holding to account the audit trails of electronics producers. This has resulted in a form of *accountability through audit trail*. The form this audit system has taken involves information on producers and the goods they have produced (including how old the goods are), how they will go about collecting the goods (whether through their own take back scheme or an intermediary firm), what has happened to the goods taken back (where they have been collected, where they have been taken to) and proof that they have been dismantled responsibly. These directives do not prevent old



electronic goods from moving to the developing world if they are to be re-used, but do put in place rules on how those goods should be treated.

This audit trail of the production, consumption and movement of electronic goods engaged with face to face, directive and demonstrative modes of accountability. Initially it was the producers and retailers of electronic goods who were the organisations to be held to (directive) account through this new audit mechanism. Compliance with this audit was checked via occasional (face to face) inspections. Audit trails and information on the extent to which producers and retailers successfully managed to take back goods from consumers were then to be made available for consumers to (demonstratively) hold these producers to account. The system was designed to render producers and retailers aware of their responsibilities through the threat of enforcement and negative publicity regarding any potentially unethical behaviour. However, once again questions could be asked about the integrity of this accountability system. First, to what extent were paper trails relating to shipping containers which moved from port to port around the world reliable evidence of the content, final destination and final usage of the content of shipping containers (previous exposes suggested these audit trails were weak)? Second, in what ways did consumers relate to this opportunity for participatory accountability? Third, what implications might this system have for the developing world (for example, it would not necessarily eliminate electronic waste in the developing world with 'reusable' goods eventually requiring disposal)? Fourth, the research suggested that compliance with e-waste legislation was currently low and that harmonisation across European Union member states had proven difficult; what are the prospects for change in this situation?

### *Summary*

Each of these cases has introduced questions regarding inequality through science and technology which can be understood in relation to the development of the WP3 accountability principles. The salient points which can be drawn from these cases in relation to the accountability framework will feature in more detail in the subsequent section on Case-Study Implications. This will be followed by a Conclusion which will set out the broader issues arising from accountability and inequality.

## **4. Case-Study Implications**

### **Accountability and the Case Studies**

#### *1. Textiles*

The ResIST case-study research offered a mixed picture of Fair Trade clothing. There is growing consumer recognition of the Fairtrade (FLO) mark (but not necessarily a deep understanding of what it means), a growing body of consumers interested in ethical clothing (although this may not follow through into actual purchases), there has been an increase in the breadth (number of items) and depth (number of criteria of assessment) of Fair Trade accountability in monitoring, inspection and certification (although whether or not this is the right way forward is questioned), issues of cost and value are on the agenda for discussion (but there is not clear agreement on how high-costs should

be managed and who should retain what value and for what purpose) and large-scale mainstream retailers are moving into Fair Trade (but perhaps as a limited cost, high-value marketing opportunity) with some Fair Traders considering a move into the mainstream (while others would rather avoid it).

The case-study explored the possibilities of altering the Fair Trade accountability system through the certification or monitoring process so that it was more closely attuned to the interests of Fair Traders or more varied and able to cover more developing country contexts. There are suggestions in the case-study report that Fair Trade could get more involved in more sophisticated educational initiatives both in developing and developed countries. In terms of international accountability systems some Fair Traders advocate a change in import policies which might encourage the movement of more ethical or Fair Trade goods by, for example, lowering import duties or taxation on such goods. Finally there are Fair Traders who advocate a stronger role for Fair Trade organisations to build a more effective community of Fair Traders with greater opportunity to share information, interact on particular initiatives and develop co-operative rather than competitive trade.

The research reported that these four possible futures were not easy to achieve and unproblematic. Accountability through the certification and monitoring process of Fairtrade has introduced a labelling system with increasing consumer recognition. Although there are Fair Traders with long-term, close and direct relationships with producers who feel that they know and trust producers sufficiently to guarantee the Fairness of their Trade, there are other Fair Traders who are more reliant on the current certification and monitoring system (and indeed there are some who would like to see this enhanced). Furthermore, although education initiatives may set out grand aims and ambitions, these are not easily achieved. Educational schemes on a larger scale would require funding, run the risk of incorporating neo-colonial aspects and require interest from potential participants (raising questions such as who would want more Fair Trade education and for what purpose?). Also it is difficult to assess the likelihood of a change in trade policy towards ethical, organic or Fair Trade goods – how much political will is there for a change in, for example, trade tariffs? Finally, the development of a stronger Fair Trade community would require organisations which are working in a profit-oriented business to share information and co-operate (which would require a certain amount of willingness from each party involved) and Fair Trade organisations would need to be active in achieving this community building (something which they may not have the funds to accomplish).

This is not intended to suggest that the future for Fair Trade clothing looks bleak. The field appears characterised by a wide variety of different participants, involved for different reasons, with different commitments. There are a range of different Fair Trade organisations, accountability processes, certification and monitoring schemes. Sales of Fair Trade clothing and awareness of what Fair Trade is about appear to be on the increase. Such diversity can be advantageous. A narrow range of organisations each trying to do the same thing, all dependent on one over-arching Fair Trade organisation, could be more likely to fail. Even if pessimistically we conclude that Fair Trade clothing is a niche sector, it occupies more than one niche (appearing in mainstream retailers, high fashion retailers and small and medium scale ethically committed retailers). More optimistically there appear strong grounds for suggesting Fair Trade clothing is in a good position to develop further.

The challenges of Fair Trade can be summarised through the different modes of accountability considered in this report:

*Face-to-face accountability* through inspections has been a central principle of Fair Trade. For clothing this appears to be too expensive. What would count as a reasonable alternative? Are self-monitoring, random inspections and peer-review a sufficient alternative? Would trust-based long-term trading relationships be more suitable as an effective guarantee of Fair Trade? At present, the main alternative to conventional Fairtrade Labelling Organisation (FLO) certification, is provided by IFAT self-monitoring processes. These hold out some prospects for a lower cost, less bureaucratic version of Fair Trade for goods with long supply chains (including clothing).

*Directive accountability* has been a focus for international textile trading. With the continuing slow demise of quotas as an accountability system to categorise, count, regulate and assess textiles, what will and should come next? What are the accountability implications of, for example, proposed EU trading partner agreements? Altering quotas to allow free movement of ethical goods holds out the prospect of encouraging the production of more Fair Trade goods.

Forms of metric accountability have also been closely tied into *demonstrative accountability* with Fair Trade organisations using common principles as a means to measure and make information available on the production of particular clothing goods. Campaigning organisations follow similar principles in attempting to render transparent the supply chains of High Street stores. How important is this information? What else could be held to account? Who uses this information and to what end? Current evidence suggests that many mainstream retailers have a marginal interest in Fair Trade clothing and look to mostly use information on the flow of goods as a way to assess their market position (rather than displaying a deep commitment to ethical retail).

*Participatory forms of accountability* are the central means by which consumers are offered the opportunity to make particular kinds of purchasing decisions. What kind of detailed consideration (if any) do consumers enter into in making their clothing purchases? How much are they willing to pay for Fair Trade? Although there is growing recognition of the Fairtrade mark, what does this mean to consumers? To what extent do consumers orient their shopping toward fairness? In the current economic downturn, environmental ethical purchases seem to be holding up more successfully than Fair Trade.

## 2. Neglected Diseases

Problems for effective intervention in the disease burden of the developing world are multiple. The ResIST research suggests this involves issues of:

- Vaccine and drug development (some diseases have no vaccines or effective drug treatment, some have drugs or vaccines, but price and quality is difficult to control)

- Education (sometimes effort is required to provide a sufficient number of administrators, sometimes a local population requires convincing of the value of vaccination or treatment)
- Finance (for the development and purchasing of drugs or vaccines)
- Infrastructure (for local delivery, for local, sustainable research initiatives, for administering vaccines and treatments)

Various interventions have been attempted, but each of these interventions is said to involve further questions of governance and accountability:

- Tax breaks are designed to encourage pharmaceutical firms to invest in research and development, targeting diseases of developing countries. However, holding pharmaceutical firms to account for the promises they may make in return for tax breaks provides a narrow perspective on neglected diseases which does not cover many of the problems outlined above.
- Discount schemes are designed to make existing drugs treatments available at a price affordable to developing countries. However, governance and accountability questions arise in relation to loan systems (which may lock developing countries into expensive debt), levels of discount and how promises of discounts would be met (held to account by what means?).
- Extended patents are intended to enable firms to distribute their profits over a longer period reducing the cost of each dose, while short patents are designed to open up access to IP. Patent tailoring is proposed as a compromise. However this might fix governance and accountability measures around a single product, doing little to enhance further innovation in the same area, may lead to lock in around a sub-optimal treatment and there appears little interest amongst pharmaceutical firms in a change in patent governance.
- Market-oriented interventions (sometimes termed Advance Purchase or Advance Market Commitments) would introduce a new system of governance and accountability based around guaranteeing a contractually agreed price for particular vaccines up to a certain maximum value, providing a market for less marketable diseases. However, it is argued that this governance and accountability focus on pre-agreed contracts, problematically simplifies the science of vaccinology, markets and problems faced in providing vaccinations and may face enforcement difficulties in relation to next generation products.
- Momentum seems to be with Public Private Partnerships (PPPs) which draw together private firms with public bodies to work together, in a long-term, sustainable manner, addressing a broad range of issues. Partnerships may enable management of risks and offer developing country organisations the opportunity to participate in accountability. Yet governance questions of control, inequity, ethics and ways of working, and accountability questions of measurement, effectiveness and transparency, continue to come under scrutiny. However, PPPs are the only intervention potentially offering governance face-to-face (through partnership meetings), directive (through performance measures and indicators developed by funders), demonstrative and participatory accountability (which could offer opportunities for accountability beyond the narrow membership of a partnership).

How might this range of governance and accountability questions be addressed and what other difficulties arise in specific instances of practice?

Public Private Partnerships (PPPs) appear to offer the principal way forward in tackling neglected diseases. They attract the most funding, are a focal point for drawing together organisations and manage to engage across the complexities of neglected diseases. In the specific case of malaria which formed a focal point for ResIST work, there are complexities around availability issues (developing a vaccine and drugs, getting existing treatments or bed-nets to people), infrastructural issues (having the transport and medical infrastructure in place to deliver treatments and, at some point in the future, vaccines, and figuring out ways to initiate environmental controls) and educational issues (around, for example, diagnosis, bed-net use and insecticidal spraying). This has led to suggestions that PPPs offer the most suitable way forward through having a varied field of activities. PPPs offer opportunities to pursue a variety of different practical interventions.

In sum, PPPs offer opportunities for managing three forms of risk:

*Financial risk* – PPPs can be focal points for drawing together and managing a range of different financial sources (from state funding, philanthropic sources and contributions from pharmaceutical firms, even if those contributions are in kind). This can mean that PPPs are not dependent on a single source of funding (although Gates foundation funding is substantial for some partnerships and is not always yet matched by state funding). PPPs can also take on the responsibility for assessing which projects to fund through scientific advisory boards, enabling an informed distribution of funds.

*Reputational risk* – for vaccine and drug development, it has been suggested in this research that pharmaceutical firms might be put off engaging in neglected disease research due to concerns about their reputation (ranging from being connected with failures as the science of, for example vaccines, is uncertain through to liability issues arising from trial failures). PPPs offer an opportunity to manage these risks by spreading the reputational burden across several organisations and by establishing complex liability issues up front.

*Opportunity risk* – PPPs can be developed to tackle a disease from multiple angles simultaneously. This is notably the case in malaria with PPPs focused on environmental controls and education (RBM), drug development and delivery (MMV) and vaccine discovery (MVI). Having a broad field of PPPs avoids problematically narrowing the field of activities in an uncertain area and enables limited funds to be focused on practical disease management (getting things done now) and the development of future solutions (such as vaccines).

If forms of accountability continue to be heralded as the problem to be solved and the way forward for Public Private Partnerships, the following suggestions could prove useful in order to address some of the issues PPPs have faced:

- Calls for more accountability need to take into consideration complex questions such as accountability for whom, by what means, for what purpose.
- The mode of accountability to be employed requires consideration (and this could involve a combination of face-to-face, directive, demonstrative and participatory forms of accountability).

- Modes of accountability have consequences both for the organisations to be held to account (such as PPPs) and those invited to carry out accountability measures. These consequences require consideration.
- If calls for developing country organisations to take a greater role in PPPs are to be taken seriously, then more work is required in enhancing the accountability capacity of both developing country organisations and their representatives (so that a representative is representative of a relevant constituency, has access to the means of accountability and has some consequential input) and organisations such as PPPs (so that they provide relevant information and have in place structures through which developing country organisation representatives can engage in accountability).

### 3. Electronic Waste

This research considered the possible future directions for e-waste management, concerns which are being articulated and proposals which are being made. The first area of immediate future activity is the forthcoming review of the WEEE (Waste Electrical and Electronic Equipment) directive. Interviewees in this research were divided between those who were concerned about its likely outcomes, thought it was too early for a review and those who were interested in seeing if there was likely to be any change at all.

In terms of proposed changes to the directives and their implementation, the most frequently cited point of possible change involved a call for greater recognition of scale in the directives. It was argued by several interviewees that a *de minimis* (currently incorporated into packaging legislation) giving exemption to smaller organisations could be incorporated into future e-waste management.

Further issues raised included reconsidering the way goods are packaged so that, for example, more information is offered to consumers on the costs of recycling and responsible waste management (on the basis that if consumers are made aware that they have paid for a service already, they may be more likely to use that service). Also discussed were definitions incorporated into e-waste regulations. It was suggested that some definitions were unclear and open to interpretation (perhaps even unscrupulous organisations who might be seeking to produce interpretations to their advantage).

Finally, suggestions were also made on the need for and work done to accomplish integration between directives. Although criticisms were made of different interpretations of WEEE across member states and different legal bases for WEEE and RoHS (Restriction of Hazardous Substances directive), the continually changing nature of this area of regulation was seen as an opportunity to manage more successful policy integration. With the development of the Energy Using Products directive also coming into being, some interviewees identified this as an opportunity to accomplish integration.

Considering electronic waste and the four modes of accountability set out in this report raises complex questions:

- *Face to face* accountability has operated in various forms of inspection. However, questions have arisen regarding the purpose and strength of

inspections (for example, should inspections be designed for education or enforcement?), the level of knowledge required to understand waste management organisations (for example, do licensing organisations actually have a strong idea of what organisations they are licensing are doing and how could they develop a better understanding of those practices?) and the consequences of inspection (for example, do organisations tidy up their practices in anticipation of an inspection?)

- *Directive* forms of accountability have involved the collection of numbers which will be compiled to hold to account organisations involved in e-waste management. Challenges have arisen in regard to the appropriateness of these numbers (campaigning organisations, for example, have suggested that the system is focused too strongly on counting and measuring waste rather than effectively encouraging reduction of waste), other numbers which could be compiled (for example, at present there is no clear picture of whether or not the amounts of e-waste managed through the system are a success or a disappointment) and the consequences of evidence compilation (with, for example, the WEEE Settlement Centre running in to problems with evidence trading).
- *Demonstrative* modes of accountability have involved the compilation of evidence in the public interest which, at one extreme, could be made publicly available to name and shame organisations into compliance. Thus far decisions have been taken not to make this information available on individual companies and even aggregate data on whole industries has been kept from public view. This is currently justified on the grounds that enforcement can be aided by not making this data transparent. However, if compliance levels continue to disappoint, there may come a time when decisions regarding the release of this information may have to be made.
- *Participatory* modes of accountability are likely to involve a series of meetings and consultations on the appropriate future direction of WEEE. It seems that any review of WEEE must figure out its relation to and integration with other e-waste management directives.

It should not be assumed that e-waste is a static area. Products are constantly evolving, innovations being made and policies, alongside e-waste management practices, are continually subject to change. The immediate future of e-waste will involve a review of the WEEE directive. It seems likely that this review will take on the notion that WEEE needs to be integrated with the broad suite of e-waste management proposals and directives. In order to take on board the challenges of accountability, addressing waste management, the content of products and the design of future products (particularly in terms of their energy consumption, their recyclability and perhaps their branding as marketable eco-goods), this integration seems central. Currently WEEE appears to suffer from multiple interpretations across European member states, RoHS operates on a distinct legal basis, while the new EUP directive establishes a new framework which requires interpretation and translation for specific e-goods. Further integration of these policies requires a view on harmonisation, enforcement, compliance and ways in which producers, retailers and consumers might go beyond (or demand moves beyond) the regulations. Producing alternative means for addressing the issues highlighted under the four modes of accountability would be a useful first step in this process.

## *Summary*

We can see that each of these modes of accountability contains potential issues in terms of the uneven distribution of accountability. However, it also appears that each mode contains the potential to address issues of who gets to take part in accountability, using what resources, through what kind of process and with what outcome. Broadening out and even combining modes of accountability opens up these issues for consideration. An assumption that traditional modes of political or legal accountability are the only option certainly appears to close off these alternative ways of thinking about accountability. In sum accountability requires broadening out from its traditional narrow concerns, but this broadening out also requires careful consideration in relation to the questions outlined in this conclusion.

## **5. Conclusion**

This report has suggested that accountability requires broader consideration than an exclusive focus on numerical measures. This broadening out relates to the vocabularies, institutions, organisations, individuals and things (such as forms of science and technology), the nature of accountability processes and the potential outcomes of accountability which all require incorporation into assessments of the possibilities presented by accountability. This report has proposed four modes of accountability: face to face, directive, demonstrative and participatory. Although each of these modes of accountability often overlap in practice, the richness of this broadened field can be useful for addressing ways forward for understanding accountability and (in)equality.

The four modes of accountability open up new areas of exploration for considerations of dealing with (in)equality through science and technology. Who gets to hold whom to account, accessing what kinds of information, through what type of process, with what kinds of outcome are central questions for inequality and accountability. However, we should not assume that having ‘accountability’ equates to having ‘equality.’ Instead detailed consideration is required for moments of accountability in order to address the questions of inequality outlined. We should also not assume that these questions are the sole complexities involved in assessing inequality and accountability. There are also issues of the framing of problems and solutions, ontological politics and the uneven distribution of accountability. This Conclusion will now take each of these issues in turn.

### **Problems and solutions**

Calls for further accountability and declarations regarding the utility, necessity or right to accountability each require detailed investigation. In several of the cases studied under this workpackage it appears that calls for accountability and claims regarding the utility of such accountability involve a complex constitutive relationship between problems and solutions. The problem to be tackled via a new form of accountability is constituted in such a way that it appears amenable to resolution through the new form of accountability. For example, when Public-Private Partnerships invest in research to uncover more effective numerical indicators for holding to account the research spending of malaria vaccine scientists, the nature of the problem and the solution are simultaneously articulated. The problem is defined as scientists who need to be held to



account in order for the funder to understand how money is being spent. More than this, the problem is defined as one that is amenable to be held to account through numerical indicators. More than this, the indicators are to be understood (once produced and utilised) as providing evidence of the activities of scientists. The directive mode of accountability thus introduces a particular definition of problem and solution which would differ quite strongly from an alternative mode of accountability. If, instead of a search for numerical indicators, funders sought to hold scientists' activities to account face to face, they might call for a meeting. The nature of the problem and the proposed solution is very different, the relations of accountability changed, the scientists may even get an opportunity to ask questions of the funder and so on. The consequences of framing problems and solutions through particular modes of accountability require careful reflection as these are consequential. Critical distance is required to reflect on the nature of these relationships and the broader senses of accountability introduced in this report can contribute to this distance: accountability does not have to be thought of in one mode, with one set of relationships, there are always alternatives. Some of these alternatives to conventional problem-solution articulations can be considered through forms of ontological politics.

### **Ontological politics**

The work of Mol (2002) suggests that people and things can enact multiple ontologies, simultaneously. There is a kind of politics in switching between different ontologies. To continue the example of malaria vaccine scientists, there are several ontologies of malaria (as a disease of the poor, as an environmental issue to be tackled through spraying potential mosquito breeding sites, as a parasite, as a disease which has most impact on children or pregnant women, as a problem which requires a barrier such as a net to be introduced between people and mosquitoes, and so on). Switching between these ontologies is required according to modes of accountability. Scientists involved in the production of a new vaccine candidate may make strong claims that 'their' candidate is likely to lead to a reduction in adult cases of malaria and directive modes of accountability may result in funders establishing metrics for assessing the efficacy of the candidate during trials on that basis. The trials may then demonstrate efficacy in reducing cases of malaria in children under 5; a success of sorts, but a failure in the directive mode of accountability. Broader modes of accountability, incorporating for example face to face meetings, might allow for more fluidity in this accountability assessment. To be successful the ontology of the problem (that it is about adults) needs to shift (it is about children) and the ontology of the solution (it is a vaccine for adults) also needs to shift. Building this kind of fluid ontological accountability is difficult. The broader senses of accountability can play a role in this fluidity. Organisations do not need to solely depend on a rigid metric sense of directive accountability.

### **Uneven distribution of accountability**

While problems-solutions and ontological politics are issues which require consideration in relation to accountability, these areas have somewhat opaque relationships to issues of inequality. For example, although it could be argued that discussions over the ontology of diseases are consequential for considering the success of a vaccine candidate, this would still be some way from developing a successful vaccine which might eradicate some of the disease burden of developing countries. However, modes of accountability can be engaged more directly in issues of equality.

Consideration is required for the distribution of accountability relations: who gets to hold whom to account, drawing on what kinds of information, through what form of process, with what outcome?

Face to face forms of accountability are conventionally focused on mutual accountability relations with each getting to hold the other to account in, for example, a meeting. However, it is not the case that all parties are in a position to participate in face to face accountability, nor are they necessarily in equitable relations which might foster accountability, nor do they necessarily have the resources required for accountability. For example, producers in developing countries wishing to be certified as Fair Trade may have opportunities for face to face accountability when certification organisations send inspectors to assess their production processes. Yet the nature of inspection introduces initial relational asymmetries (the producers want to be certified, the inspectors are there to do their job), the producers often have to pay for certification and inspectors are not always open to answering questions (the inspector is there to ask questions). Thus face to face accountability needs to be considered in relation to questions of inequality and consideration given to the types of relationship and engagement involved.

Directive forms of accountability are predicated on a principle of independence and evidence generation. Numerical indicators are designed to be understood as neutral measures outside any particular local politics. However, this mode of accountability also incorporates a potentially uneven distribution of accountability relations. Who gets to set the indicators, what gets measured and the use of evidence generated are each consequential. In the case of electronic waste it is clear that the mode of directive accountability (what gets held to account, by whom, using what metrics) is designed in a European policy context with anything non-European designated as other. There is little in the way of input from developing countries or even European NGO's representing developing country interests. Inputs and outputs from this mode of accountability are the exclusive preserve of those building European directives.

Demonstrative modes of accountability often involve the broad distribution of information across the public sphere. This can play a role in addressing asymmetries of accountability noted under face to face modes of accountability; each party may get to hold the other to account through the information made publicly available. However, within this mode of accountability consideration also needs to be given to the kinds of information made available (does it reflect what goes on in the organisation making the information available, is it reliable, on what grounds?), the method for making information available (who can actually access information?) and the means required to make sense of information (does reading the information require, for example, legal or scientific knowledge?).

Participatory modes of accountability are predicated upon opening up particular areas of activity for broader engagement in, for example, a decision-making process. In this sense the mode of accountability appears to re-distribute accountability potentially quite broadly. If the particular inequality that one wanted to address was access to decision-making, this mode of accountability might appear to have utility. However, it is not always clear that those who participate in these modes of accountability are representative of broader populations, often participation is limited to particular set-piece moments of accountability (such as a particular area of local government policy) and it is not necessarily the case that participatory decision-making is more effective at addressing, say, marginalised populations than conventional policy-making. It may even

be subject to a kind of tyranny of the masses with marginalised populations becoming even more marginal.

In sum, there are 5 areas which can be taken into consideration in the development of new articulations of accountability:

#### 1. Accountability drift<sup>3</sup>

An assessment of the extent to which means and modes of accountability have become focused on a particular area of organisational activity and the possibilities offered by broadening or changing the focus of accountability.

#### 2. Accountability shift

An assessment of the ways in which responsibility for either carrying out or meeting the terms of accountability relations continually shifts, hence also shifting relations of responsibility (who is held to account, who should be held to account, who is doing the accounting) and the potential advantages of holding a particular set of accountability relations in place, minimising drift.

#### 3. Accountability narrowing

An assessment of the extent to which any accountability system narrows the potential actions which organisations could carry out. For example, if measures are put in place to hold organisations to account, assessment could be made of the extent to which ‘measures’ operate more like ‘targets’ to aim toward and whether or not those targets are appropriate.

#### 4. Accountability and uncertainty

An assessment of the extent to which forms of accountability (such as numerical measures) enable management of uncertainty or fix in place (perhaps inappropriate) certainty (by assuming that 1 set of numbers collected is accurate, appropriate and can form a basis for further decisions). Taking into account that scientific and technological developments are frequently involved in producing unforeseen consequences could form the basis for incorporating flexibility or fluidity into accountability relations.

#### 5. Accountability and risk

An assessment of the extent to which a particular set of accountability relations incorporates or allows for risk assessment in relation to the activities being carried out by the organisation to be held to account. Fixed sets of accountability relations (such as pre-figured deliverables, milestones and performance measures) are not necessarily compatible with risk assessment.<sup>4</sup>

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<sup>3</sup> Drift here denotes something similar to a snow drift.

<sup>4</sup> For example, public private partnerships are heralded as offering opportunities for risk management, something which is not currently incorporated into the ways in which they are held to account.

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