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Natural Resources of Minerals and Food: A Missing Link in Agency

Life in all its forms depends everywhere on the products of the earth. At a human level, food must be wrung from the soil and the artifacts of civilization from the oil and minerals that are found within it. At the level of politics and public policy, these two broad necessities are increasingly seen to conflict, as when mining explorations encroach on farming land or when biofuels supplant production for food. A reconciliation between the imperatives of the extractive industries and of food production is scarcely ever attempted. Rather do reformist prescriptions exist on each side, running parallel without meeting. One the one hand, a strengthening coalition of policy actors suggest that the norms of ‘good governance’ can deliver the financial benefits of mining to local communities. On the other, an overlapping coalition suggests that modern methods of intensive monocrop cultivation for the (distant) market, heavily dependent on energy-hungry chemicals, should give way to production through organic methods for local consumption. The defence of prevailing methods in each case comes from the companies and their political proponents who profit from the status quo.

It is common for mining revenue to be seen as a source social expenditure and thus of the general improvement of living conditions in Africa but neither scholarly writings nor official policies make the link explicit in any but rare cases. The streams of discourse emanating from the African Union, for example, treat the two matters quite separately; the various mining declarations of the AU scarcely mention food security, and neither the Maputo agreement of 2003 that called for 10% of national revenues to be devoted to agricultural infrastructure nor the “Summit on Food Security in Africa” in 2006 mentioned mining revenues

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The hypothecation of mining revenues to methods of food production might be one possible link, and is an issue to which we return.

This paper explores the tensions, suggesting that action at local and regional levels is needed to break the hold of the transnational actors. It reviews the experience of a substantial cohort of mining companies in Africa that have an Australian base and in some cases partnerships with Chinese miners. It shows that indigenous ownership of the resources above and below ground has been achieved in some cases, as yet on a small scale, when notions of private ownership and profit in the extractive industries and chemicalised mono-cropping for distant markets in agriculture are alike challenged and replaced with practices of communal ownership and small-scale food production for local markets. Raised are questions about the policy prescriptions that civil society can advocate in forums including the African Union, national polities, and the IFIs. Such advocacy can be painfully slow and tortuous, as recent Australian experience shows: the report of a parliamentary inquiry into “the relations of Australia with the countries of Africa”\(^2\) (the first such public inquiry ever to be held) shows that civil society organisations were active in making submissions and won some concessions from the companies also appearing, but that governmental responses are likely to be hesitant and incomplete.

Revenues from the extractive industries are increasingly said to be subject to emerging international norms of financial transparency and good governance that make the renewed scramble for the natural resources of Africa different from the outright plunder of colonial times. Despite the rhetoric of the IFIs and national governments of both the North and South, however, evidence of beneficiation in social and environmental senses is hard to find. As noted, even harder to find is the effective linkage of mining revenues, when actually captured by host governments and peoples, to policy outcomes of a critical nature for social development, including arguably food security above all. A few analysts, notably including Paul Collier\(^3\), have identified the importance of such linkages but their analyses are weakened by an acceptance of conventional notions of development that leave unchallenged issues of energy, waste and ownership. Collier’s arguments especially are worth scrutiny for what they reveal of the limits of the debate on both mining and food security.

It would seem mistaken simply to regards the words of the IFIs and of certain mining companies and their national governments as mere window dressing, design to sugar coat the pill of continued exploitation. It is certainly reasonable to suppose that some degree of ‘compliance’ is merely tactical, and even to evidence cases in which outright opportunism and ‘short-termism’ guides a company’s responses to the reform agenda. At the same time, the very unevenness of industry reaction exposes the shortfalls in performance that the recalcitrant companies exhibit. Space

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may then be opened up for pressure to be placed upon the non- or low performers. Issues of ‘real’ compliance remain, to be sure, as still does the critical problem of turning mere compliance into policy outcomes of substance.

Some examples from the Australian experience are probably typical of the extractive industries worldwide. The standards adopted by companies in regard to matters of corporate responsibility, specifically environmental and social issues relating to mining, vary greatly. The record is on the whole poor. In earlier surveys of major mining companies, Oxfam Australia found only five references to human rights issues on company websites⁴ and Bice only five references to issues of gender⁵. A survey of thirty-four companies undertaken in 2010 confirmed and extended those findings across a broader range of possible issues, covering financial reporting, human rights, physical environmental and remediation, gender and other issues. It was apparent that the large and small companies varied considerably in their standards of reporting across this extended field of variables⁶.

Whilst the subtleties of language made complete definition difficult to achieve, the overwhelming impression undoubtedly, and unsurprisingly, is that the larger companies have adopted a more ambitious approach to what might be seen as their extended corporate responsibilities⁷. They have made considerable efforts to present their activities in an attractive light that may disarm critics. The largest company, BHP-Billiton, is easily the most spectacular example. Its main web page is figured prominently with references to issues of the environment and community: “Sustainable Development” is one of the six leading tags at the top of the page, and closely below, following only the “company overview” and “resourcing Asian growth”, appear links to “positive community impact” and “rewarding outstanding health, safety, environment and community” initiatives, the latter with an attractive video in support. The more detailed financial and annual reports, also accessible from the main page, give prominence to the company’s efforts to meet the standards espoused by the World Bank and the EITI. Another large miner, Equinox, claims that it “sets its own benchmarks” for its uranium mining activities in Zambia but that these are “fully consistent with Atomic Energy Agency .. guidelines”.⁸ One witness before the parliamentary inquiry noted above was thus able to claim that

BHP Billiton is the third largest development agency in Australia... that puts them after the Australian government and World Vision an outs them in front

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⁴ Oxfam Australia, submission (number 39) to the Joint Select Committee on Foreign Affairs, Defence and Trade, “Inquiry into Australia’s Relations with the Countries of Africa”, p. 16.
⁷ Cf Oxfam’s contention that larger companies “have begun the process of developing corporate accountability policies ... [but] the same cannot be said for the junior and mi-tier companies ... which are the most active in Africa” (Submission 39, 15).
of the Red Cross and the plethora of other agencies and organisations that do aid and development.9

The typical response of larger companies, to be sure, was that they did not hold themselves up “as an aid agency or service deliverer at all”.10

In any event, almost without exception the smaller companies present a strong contrast, with most giving emphasis to their financial reporting mechanisms but with only a few giving attention to the broader issues, and then in a way that needs to discovered through the pursuit of subsidiary links. Such differences are no doubt entirely predictable. The smaller companies may believe that they fly ‘under the radar’ of public notice and, when pressed, argue that they do not have the resources or certainty of profit enjoyed by their larger competitors and thus cannot guarantee a performance that goes beyond the minimum that may be legally required. Such equivocations do not go unnoticed however, as shown in the recent report of the parliamentary inquiry noted above. The cautious report was able to express itself as satisfied that “the Australian mining sector operating in Africa is committed to fulfilling its corporate social responsibility obligations” whilst also admitting that “unfortunately, no evidence has been received from small exploration companies who do not necessarily have a long-term commitment to a project beyond proving its economic viability”.11

A further point needs to be made about the varying policies of companies whether large and ‘enlightened’ (or clever) or small and recalcitrant. It is that the agenda of extractive reform is seen to be almost wholly discretionary. The only variables reported above that are mandatory, in the Australian case, are those relating to financial transparency. Wider social and environmental concerns, though flowing clearly from the prescriptions of the WB and the EITI and the like, are in no way mandated in legal or policy senses. This is where space for political advocacy and activism may also open up.

The heavy emphasis placed upon financial transparency by Australian governments and companies alike seems almost designed to distract attention from the wider range of concerns that are called for. Government ministers have expressed pride that Australian companies demonstrate “good practice”. According to the then Parliamentary Secretary for International Development Assistance in 2009, Australia “can help [Africans] .. regulate [mining]. We are good at governing the mining industry, so we can do things that virtually no other developed country can do and we ought to be there doing it”.12 More recently the Foreign Minister has made similarly expansive claims at the Commonwealth Heads of Governments meeting in Perth, apparently aiming his remarks at the numerous African leaders at the meeting. Such claims do seem to be established in one important regard: apparently without exception, Australian companies conform to practices of financial reporting

10 BHP Billiton, loc. cit.
11 Report, p. 166.
12 Interview with R. McMullan, Transcript 2CN Morning Show, 13 November 2009.
and disclosure at a high level by world standards. But this is really only to say that Australian companies do what they must do by law, a law takes shape in the financial standards expressed in the Rule 4.10.3 of the Australian Stock Exchange (ASX), requiring in effect that companies implement the Principles of Good Corporate Governance and Recommendations, set out most recently by the ASX in 2007\textsuperscript{13}. The Principles require companies listed in Australia to act with propriety, probity and transparency in the financial transactions but do not deal at all with the broader issues of the impact of a company’s operations “on the ground”. All the companies surveyed through their literature for this paper implied or specifically stated that they were bound by this code. Beyond that, as already noted, the standards adopted by companies in regard to wider matters of possible corporate responsibility, including environmental and social issues relating to development generally, varied greatly.

There seems no likelihood at all that either of the major political parties in Australia (the federally governing Labor party and its opposition, the Liberal/National coalition) will challenge this situation, though the position of the third party, the quite rapidly growing Greens party, is significantly different. Accepted by the major parties alike is the primary relevance of contractual relations between individual companies and individual governments, however much those relations may be clothed by reference to the standards of good practice emerging from institutions like the WB and processes like the Extractive Industries Transparency Initiative (EITI)\textsuperscript{14}. The ideology of the LNP coalition is obvious enough, but it might be thought that a Labor government, in view of its social democratic orientation would be more inclined towards the regulation of mining activity towards social goals. There is in fact little evidence in recent domestic history to suggest any clear differentiation of the political parties along these lines. At both state and federal levels, the Labor party has eschewed policies that might restrict mining activity, and a recent imbroglio over a so-called “super profits tax” does not negate this generalization. The tax was in fact modified after protests from the industry, and the modified policy that replaced it was seen to be acceptable to the largest mining companies. In the context of this paper, the relevance of the issue is only that the ability of the current government to seek reform of the industry along broader lines is likely to have been inhibited; one life-threatening experience was enough. To extol the profitability of Australian mining companies in Africa, and to insist that their ‘best practice’ (albeit largely limited to financial good practice as argued above) is setting an example to the world, seems a counterpoint to the super profits tax and indicates that the government wishes to do no more. It would be optimistic to expect the more ambitious perspectives of the Greens party to hold sway any time soon.


\textsuperscript{14} See Extractive Industries Transparency Initiative, \url{http://eiti.org/}, accessed 10 November 2010.
Yet one point remains to be considered in delineating the shared attitudes of companies and political parties where space may be opened up for change. This is the point, usually carefully and even indirectly expressed, that governments and companies of the North can only do so much when deep flaws inhibit the ability of the South to act responsibly in meeting the (claimed) standards of Northern investors – especially the prevalence of governmental corruption inhibiting, it is said, much action beyond the ‘core responsibilities’ of honest accounting. Evidence from the parliamentary inquiry is again relevant, as in the typical claim of the BHP Billiton representative that if “corruption and misappropriation” marks a government, then “maybe that is a government that we are better off not working with”.15 Such inhibitions are invariably expressed as allusions only, and the spread of mining activities across the whole continent must suggest that not all companies are as resolute in eschewing corrupt practices. A form of ‘whistle-blowing’ and public documentation is needed if governments and the organisations of civil society are to be well equipped to pursue their goals of reform.

Our argument to this point has been a limited one – no more than that the stated goals of international agencies and their supporters like Collier around the extractive industries opens up space for advocacy and activism. This is not unimportant, but a less benign view of the slow adoption of the reformist discourse would note that the extractive industries have been subjected to a long and intense analysis for many decades and thus the adverse impacts of mining are well known and have been carefully documented. At the same time, the interests affected have had time to consider, to learn and to regroup in making tactical concessions that preserve the fundamentals of ownership and control, and so the time scale of reform seems agonizingly slow and incomplete. The fact that mining will continue in however modified a form almost indefinitely indeed must make the reform project a very long term one.

Collier’s analysis does however deserve some specific attention because his proposals extend the reform agenda in a particular way – to emphasise the essential role of elected governments in monitoring minerals exploration, in extracting the best possible deals through the auctioning of rights and in actively investing the proceeds in trade-offs between investment for the future and infrastructure development in the present. Whilst he does not challenge existing property rights and thus leaves for-profit companies still well in control of the whole mining enterprise, his proposals do extend somewhat the position adopted by agencies like the World Bank. Though he stops well short of proposing nationalization of mining, to take one possible development of the argument, his argument as it stands does open up further space for extending the settled reform agenda and to that extent might be welcomed.

There are however serious shortcomings in his proposals, not least a restricted view of what ‘infrastructure’ means when it comes to the latter part of his argument, concerning food security. If Collier represents the ‘cutting edge’ of conservative

15 Cited Report, p. 166.
reformism, food security seems a contrasting case and on the whole an even more
difficult arena in which to accomplish change. The space for reform is not grounded
in a discourse that is well accepted, even if often hypocritically. At the level of policy
prescription there is nothing even approaching the flawed and incomplete EITI, for
example. The dangers of vanishing fertility, though evident long since to a few
(including the ‘environmental Marx’16), have only entered public debate and
consciousness to any degree relatively late. A united coalition around better practice
is only beginning to emerge, though the scientific ground is well prepared. The
debate, and the likely adoption of reformist rhetoric by the interests affected, akin
to the mining interests, might be expected to follow a similar pattern of informed
resistance. And yet, the implementation of better practices of food security is, in
limited places, arguably more advanced than good mining practice. Actually existing
practices, to amend a phrase, do suggest starting points (or rather, as we will see,
‘returning points’) that the mining enterprises, scarred by centuries of rank
exploitation, cannot provide. And as we have already suggested also, the linkage of
both reform discourses may provide the key to resolving the problems of each. But
the difficulties of defining the true nature of the problems of food security do first
need clarification in a way that the more obvious issues of mining impacts hardly
seems to call for.

Food security is certainly a highly contested issue when ‘nature’ rather than human
agency is so often seen as the root cause of crop failures, salinity and the like, and
the consequent deprivations of famine and starvation. Poverty, as Sen and others
have argued, may be seen as the primary cause of deprivation when food is available
but too costly to buy, and human agency is assuredly the central factor then. But it is
agency in a broader sense that has delivered African peoples especially into a
situation where poverty and the scarcity of food alike characterise whole regions and
societies. The history of virtually the whole of Africa since colonial times has been
one of attempts to integrate African economies in certain restricted ways into the
“world economy”, that is, to the economies of the former colonial powers and their
replacements in the modern world. Thus agriculture has been developed and
‘modernised’ with an orientation to export markets and income for the elite, and the
replacement of once productive land with vast monocrops that need energy-
intensive chemicals to remain productivity. The so-called ‘green revolution’ of
recent decades has only intensified a growing reliance on chemical stimulants to
shock soil and water back into ever-ebbing life. There is no shortage of critical
analyses of these biases, to be sure. Criticism has become the stronger as the
modern condition of resource scarcity and global warming has underlined the
fragility of a natural environment that is no more inexhaustible, in the absence of
care, than are the dwindling minerals alike taken from it. The report of the UNEP-
UNCTAD Capacity Building Task Force on Trade, Environment and
Development(“Organic Agriculture and Food Security in Africa”), with its carefully
documented case studies, is surely an outstanding example.17

Collier’s analysis is again a convenient summary of the points in contention, showing the ideological assumptions that underpin a discourse apparently radical yet supportive in fact of entrenched interests. As noted above, he has no quarrel with, rather does he provide arguments in support of, a capitalist mode of production in the mining industry, albeit within a framework of drastically altered governmental regulation. Similarly his linkage of mining revenues to issues of food production and security in Africa, though a link that is seldom made and in an abstract sense the concern also of this paper, supports prevailing patterns of ownership and legitimacy. His support for infrastructure drawn from mining revenues (for example, improved access to railways and ports for farming communities) is one instance of the linkage that seems promising enough on the surface. But his view of what constitutes infrastructure is very limited, for he explicitly links mining revenue to the thereby increased ability of government to support large-scale commercial farming, which he sees a essential both for food security in African nations and for their ability to earn the export income that will in time replace the revenue foregone from an inevitably depleted mining industry. In that context, he is able to give almost unreserved support to the widespread use of genetically modified (GM) crops as a method of improving productivity, again against the backdrop of eventually declining mining revenues. Collier’s argument about food security is certainly consistent with his argument about mining, in the sense that both preserve existing relations of production; his challenge is truly a reformist program within an ongoing framework of private ownership, government regulation and commercial for-profit agriculture.

There are, however, alternatives to his arguments about food security, even if his points about mining are accepted as feasible reforms within any likely political formation in a globalised world of multinational companies of overweening influence on the polity. Collier notably does not engage the findings of the UNEP-UNCTAD task Force or other similar reports. His tendency is rather to dismiss certain alternative ways of ensuring food security as “feudal” (personified by Prince Charles as a “leading apostle...[of] organic self-sufficiency [as] a luxury lifestyle”\(^\text{18}\)). These alternatives emphasise local food production for the market, often outside the market economy, and require a productive enterprise eschewing large-scale commercial (and especially chemical-based and thus energy-greedy) farming in favour of holistic, organic and essentially traditional methods of food production. (Modern farming methods, it might be noted, are termed “conventional” is this context, but of course the “traditional” was “conventional” until very recently.) Africa has many proponents and practitioners of such methods, and support for medium-sized enterprises abounds in the literature. Fifteen years ago Ake wrote eloquently of an African democracy that was self-sufficient in food and brought “the farmer to the center” of the picture\(^\text{19}\). Collier admits some of the force of these alternatives, noting especially the work of Hans Binswanger “family farms, albeit

\(^{18}\) Collier, \textit{Plundered Planet}, pp. 212-13. Collier hardly does justice to Charles’ position; for an accessible account of his views, which are scientifically well-informed, see his “Sir Albert Howard Memorial Lecture 2008”, posted as a 33 minute You Tube video, \url{http://www.youtube.com/watch?v=5dadwzplbfo}, accessed 10 November 2010. Howard (1873-1947), an agricultural scientist who worked in India, is widely regarded as the “father” of organic agriculture.

consolidated into larger units than at present”\textsuperscript{20}. It might be added (though Collier does not) that the World Bank itself has given cautious support to such an approach, conceding “the fruits of agriculture-led growth are more widely shared when small holders participate”\textsuperscript{21}. Indeed, the Bank argues, “there is little evidence that the large-scale farming model is either necessary or even particularly promising for Africa”.\textsuperscript{22} It is true that Collier alludes to the ‘IFIs’ as favouring but this course but again he fails to engage the detailed evidence.

We have suggested that Collier’s prescriptions about mining might be seen as radical reforms, yet also as “realistic” within a world that is likely to continue to be occupied by privately owned for-profit companies. This is not to deny that there is a stream of still more radical prescription that calls for the socialisation of mining activity by national governments or by transnational cooperatives. To deal with food security through traditional, organic methods does however raise questions of private and social ownership also. Though Collier links mining revenues to food production, principally through the provision of relevant infrastructure as outlined, it is nevertheless true that he fails to make one of the (negative) links that join mining with food production, or rather with the difficulties of food production: the fact that mining activities frequently reduce the capacity of African farmers to produce food where once they could. Deforestation, land subsidence and the drying up or poisoning of waterways are amongst the ways in which mining has had adverse consequences for farming. The large scale commercial farming that he supports is no remedy for these ills: rather it exacerbates them with further land clearing and the continued diversion of waterways, the reduction of ground water and so on; and it also requires large inputs of energy, which in present circumstances are carbon-intensive. Collier’s emphasis here contradicts his overall theme of carbon reduction. More, his stance in favour of GM crops worsens matters, not for the reason primarily advanced, that GM crops pose genetic risks (though likely they do), but because the single licences demanded by most manufacturers also have negative implications for energy use, demanding long-distance transport and delivery and cropping methods that are chemical (that is, energy) dependent.

Organic methods of farming, in contrast, offer a direct method of remediating the adverse consequences of mining. Alternative methods of food production at the village and community level, and on broad acre production as well, are found under a variety of names – regenerative agriculture\textsuperscript{23}, natural sequence farming\textsuperscript{24},

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  \item Ibid., p. 2.
  \item Peter Andrews, \textit{Beyond the Brink}, Sydney: ABC Books, 2006; and see also http://www.naturalsequencefarming.com/, accessed 1 November 2010. For a supportive initiative by the former Governor General Michael Jeffery, see Outcomes Australia, “Land and Water”,
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permaculture 25 (or “permanent agriculture”), bio-dynamic, community-based, eco-agriculture, ecological, environmentally sensitive, extensive, farm-fresh, free-range, low-input, sustainable and wise-use. As such a broad range of terms might suggest, sustainable organic agriculture (to settle on one term) “is not a defined set of particular technologies”26, but the principles of mimicking nature through the use of ‘food forests’ that incorporate a density of food types and animal systems are well established. One notably successful exponent argues that he has “planted trees, built huge compost piles, dug ponds, moved cows daily with portable electric fencing, and invented portable sheltering systems to produce all [his] animals on perennial prairie polycultures.” Today his farm “arguably represents America’s premier non-industrial food production oasis”28. Africa has unique problems, but it can benefit from this knowledge or technology transfer – returning it in fact to Africa. The critical point is that organic agriculture requires education and informed choice by the farmer. If one of the “greatest constraints faced by farmers changing to organic and near-organic systems is .. lack of knowledge, information sources and technical support”29, then some of the tasks for public policy supported by an adequate revenue base become clear: “greater government investment in appropriate research and extension services” is required. 30 Much else in the way of education, technical support and local infrastructure is also required, but again there is no dearth of proposals from well-qualified scientists and agriculturalists reporting through the UN agencies31. The learning that takes place has broader connotations: as the UNCTAD report expresses it, partnerships “between farmers, farmer groups, NGOs and civil society organizations .. organic movement organisations, governments and certifying bodies at all levels foster successful organic agriculture”. 32 These are the linkages required at the broader political level too.

This is no matter of ‘mere theory’. It is fitting to note that the permaculture movement, for example, had its origins in Australia and the earliest applications were in Zimbabwe; the move into the remediation of mining sites, which aims to build social cohesion and long term food security, is now being trialed in a number of mine sites in Ghana with the support of mining companies33. Though small in scale to date, secure sites of food production of a permanent nature may show that

accessed 20 October 2011.

25 Terry Leahy, Permaculture Strategy for the South African Villages Towards MDG7 Environmental Sustainability, School of Humanities and Social Sciences, University of Newcastle, 2009.


27 Ibid., 34.


29 Organic Agriculture and Food Security in Africa, 35.

30 Loc. cit.


32 Organic Agriculture and Food Security in Africa, xi.

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permaculture can be “a valuable ... tool” of “corporate social responsibility” if it leads to “improved social outcomes and to functional stable human environments and healthy ecosystems, leaving a positive functional legacy that will remain after the life of the mine”\textsuperscript{34}.

We have seen that it is the large miners companies that display the greater awareness of extended corporate responsibility, and no doubt a degree of self-protection in light of changing attitudes in significant sectors of the world community, not least the World Bank. At the same time, remediation in the ways just outlined does not appear to be on the agenda of even the most ‘enlightened’ companies if evidence before the parliamentary inquiry is considered, for the Australian-based miners at least.

Notions of “good governance” began to be entertained by the IFIs when it became obvious that the market mechanisms implemented through the SAPs were eminently corruptible. The new mantra then held that civil societies holding government to account could temper market excesses and ensure transparency in the raising of taxes and in national expenditures. Clearly the international order was not changed by such rhetoric: the First World was not itself transparent, and trade and investment remained effectively closed to the nations of the South. “Good governance”, an ambiguous term, in fact reduced the role of government and privileged capital and the private firm; “strong private control” would have been a more accurate term, but of course also an unattractive, unsettling and likely unsellable one.

“Good governance” is just a set of procedures, however grandly expressed. The concepts are policy or content free and valorize no particular set of policy prescriptions to deal with issues of poverty, ill-health and so on. That is held to be a virtue. The political process, it is said, sets the policy goals and determines the outcomes: if there is a preference for market-based solution to human issues, then state-led or community-based action is not ruled out even if public-private partnerships and market dominance are the preferred modes. The raising of revenues and the purposes and ways in which expenditures are made are then hardly ever linked. Some limited gestures at a connection between national wealth and desirable outcomes can be made in general terms, as we have noted, but it is exactly specificity that is missing.

Indeed to make the link is a form of anathema to financial departments, treasuries and their international advisers: it is the sin of hypothecation. The problems are well rehearsed: inflexibility in future years, absence of review, fixing one government to the decisions of another, reducing the capacity to respond to changing needs. But these are also ways to avoid a commitment to accountable outcomes, though some partial exceptions do exist. The World Health Organization, for example, recommends earmarking a small portion of the total national tax revenue from

\textsuperscript{34} Ibid.
tobacco products to fund health promotion initiatives including tobacco control\textsuperscript{35} and new taxes from relevant streams are sometimes linked to expenditures as in road safety programs or in carbon control measures. More generally, it might be thought that the MDGs seem to imply a certain pattern of expenditure from aid budgets (that is, income) not made explicit in the Goals themselves but left to interim negotiations between agencies that has led, in fact, to notorious shortfalls against the promises made. In a related way, Botswana’s treatment of mining revenues is suggestive because drawn from African experience. There it was initially agreed, according to former president Mogae, that “resource revenues from the exploitation of diamonds and copper/nickel, all a wasting asset, must only be used for development projects, … not in current expenditure.” But when health and associated education issues around HIV/AIDS became a priority, the government redefined the development projects to include the current expenditure on education and the current expenditure on health, which then qualify as development projects even though they are recurrent. Then we have a sustainability ratio in our budget, which means that the recurrent budget, the national budget on everything else, must not exceed non-minerals revenue, because minerals revenue is reserved for development. So anything else that we want to do has to be financed by the government from national, non-minerals, revenues.\textsuperscript{36}

A “sustainability ratio” might be seen as a shorthand way of describing a self-imposed limit on creativity that in excess can lead to too many special cases that drain a budget. Full hypothecation, along the lines suggested here, would similarly imply ceilings that are honoured: not all income can be hypothecated! Indeed the choice of policy areas to be funded in special ways is a key issue to be confronted and traded off. Why should food security be ‘special’ in the ways we have suggested? Whilst some of the answers might be obvious enough, there is in truth no definitive answer to that question. If we accept that mining revenues can be captured – meeting the argument that mining is a chancy business and that revenues can disappear even when not hidden – the issue is then one of the mechanisms that can be realistically envisaged to ensure food security in the context of the other benefits that such revenues are held to make possible. Subventions and support to small scale local food production are realistic and have been trialed successfully and can be argued against subventions to other areas of policy.

But political mobilization in favour of preferred choices becomes then an essential part of reform. Without doubt, agricultural sustainability “implies a limited role for agro-chemical companies, who would not be predicted to accept such losses of market lightly”, and “suggests greater decentralisation of power to local


communities and groups, combined with more local decision-making, both of which might be opposed by those who would benefit from corruption and non-transparency in private and public organisations\(^3\). Whilst “many technologies and social processes for local scale adoption of more sustainable agricultural systems are increasingly well tested and established”, the “political conditions for the emergence of supportive policies” are much less so.\(^4\) The full implementation of the mining accords presents the same challenges. We return to Ake, who argued that the farmer could be at the centre of the picture only in the context of a fully democratized citizenry, meaning that authoritarian government, whether central or local, was antithetical to food security as it is to the dispersal of revenues from mining. Challenging the miners and the commercial farmers and the institutions of the North behind them becomes then a central issue of political struggle in the necessary context of local politics.


Natural resources are resources that exist without any actions of humankind. This includes all valued characteristics such as commercial and industrial use, aesthetic value, scientific interest and cultural value. On Earth, it includes sunlight, atmosphere, water, land (includes all minerals) along with all vegetation, and animal life. Natural resources can be part of our natural heritage or protected in nature reserves. Australia’s national science agency. About. Research. We are one of the largest minerals research and development groups in the world, with a proud track record in delivering innovation and solutions across the mineral resources value chain. We apply our expert knowledge and specialised research to deliver innovation that solves the challenging, complex problems faced by minerals companies, mining equipment, technology and services (METS) companies, government, and other industry stakeholders. Our innovation unlocks the value of Australia’s natural resource base and delivers a more productive, lower cost, socially and environmentally responsible Natural resources are those resources that occur within the environment in their original and natural form, undisturbed by humanity. These natural resources are derived from the environment. It seems the most logical thing in the world to believe that the natural resources of the Earth, upon which the race depends for food, clothing and shelter, should be owned collectively by the race instead of being the private property of a few social parasites. ~ Ralph Chaplin. Contents. A mineral is a naturally occurring, inorganic solid, with a definite chemical composition and ordered internal structure. Minerals in rocks: Most rocks are aggregates of minerals. This rock, a granite pegmatite, is a mixture of mineral grains. It dissolves quickly and easily, allowing its flavor to spread through the food. It is soft, so if some does not dissolve it will not damage your teeth. No other mineral has physical properties that are better suited for this use.