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DEPLETION AND SOCIAL REPRODUCTION

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Introduction

The aim of this paper is to assess to what extent the concept of depletion can be applied to the various aspects of social reproduction. In the context of social reproduction, Diane Elson has made an important statement about depletion: "If too much pressure is put upon the domestic sector to provide unpaid care work to make up for deficiencies elsewhere, the result may be a depletion of human capabilities, …To maintain and enhance human capabilities, the domestic sector needs adequate inputs from all other sectors. It cannot be treated as a bottomless well, able to provide the care needed regardless of the resources it gets from the other sectors" (Elson, 2000:28). Analyzing depletion involves identifying indicators and forms of measurement as well as appropriate terminology. Issues to do with harm and subsidy are relevant here as well as questions about how depletion is accounted for and how in the end it can be reversed.

In our work on depletion we have found important parallels in attempts to set up balance sheets for environmental accounting, as the following example indicates. The UN PRI (Principles for Responsible Investment) organisation is currently studying the damage caused by global business to the environment. A major study is due out in the summer which will assess the costs by industrial sector to the environment through production of greenhouse gases, acid rain, water abstraction, waste and other variables.[1]. The argument of the study is that the failure to account for this sort of environmental damage has provided a huge subsidy to business, which helped to fuel the massive expansion of the last two decades, and is now contributing to hardship and crisis. With certain notable exceptions, the reaction of those responsible has been either: 'the market will correct deficiencies' or 'governments will deal with the consequences.' The aim of the study is to aggregate the costs and

[1] A summary of the research upon which this report is based was given in the Guardian newspaper, 19 February 2010

promote the idea that investors should pay for the environmental damage done in the past and that businesses should pay more up front to limit damage in the future. Achieving this comes up against the absence of a metric by which to measure 'subsidy', business reluctance, competition, and the absence of global regulatory frameworks that hold subsidized businesses to account. As far a one can see from pre publication extracts, depletion is not the term used in this report; damage and cost seem to be preferred. The report is part of a strategy which involves calculating the damage caused and what it costs, and assessing forms of compensation.

Can somewhat similar arguments, terminology and strategies be used in respect of the depletion through social reproduction? There are obvious similarities. As Elson pointed out in 1988, the unpaid work of women in the household provides an unmeasured and uncounted subsidy to capital. There is also a similar reluctance to aggregate the phenomena taking place, measure and value the depletion/damage and draw conclusions about consequences. One difference is that in the case of social reproduction the depletion of human capital and human bodies is direct whereas the effect on human bodies of environmental damage is for the most part indirect. Once the case is made to account for depletion, there is likely to be an equivalent reluctance on the part of both public and private actors to take remedial action. It is the purpose of this paper to explore some of the issues involved in treating depletion in the context of social reproduction as creating at least as severe a crisis for society as environmental damage.

Social Reproduction and Depletion

A great deal of work has been done by feminists over the last two decades on social reproduction – what its components are, how it should be analysed and how it fits within the global system (Picchio 1992; Elson 1998; Hoskyns and Rai 2007; Bakker 2007; Bedford and Rai, 2010). Further work has been done on the nature and characteristics of the care economy and its changing composition (Razavi, 2007).

In this paper we use the terms 'social reproduction' to mean the following:

- biological reproduction (including producing labour). This carries with it the provision of the sexual, emotional and affective services that are required to maintain family and intimate relationships;
- unpaid production in the home of both goods and services. This includes different forms of care, as well as social provisioning and voluntary work directed at meeting needs in and of the community
- the reproduction of culture and ideology which stabilises (and sometimes challenges) dominant social relations.

Though deemed valuable within social ideologies of the family, household and communities, social reproduction and thus the depletion that accrues through its performance remains unaccounted for in the UN System of National Accounts (SNA) on in a country's GDP, which itself is reflective of the gendered hierarchies of political economy. This makes it difficult to set a value on these activities or aggregate their effects. It follows that depletion is only noticed in ad hoc and irregular ways. The result of this, we would argue, is that models of the economy are inaccurate, economic predictions become faulty, and development policies flawed.

We have reviewed elsewhere the trajectory of the campaign to get social reproduction recognised and suggested some specific reasons why a highly researched issue is not seeing the light of day in policy. (Hoskyns and Rai 2007). What we want to focus on in this paper is the concept of depletion in the context of social reproduction – how to define it, its location, possible ways in which we might think of measuring it and how it might be mitigated and reversed. We do this with the following caveats:

- Social reproduction has been variously defined. For the purposes of this paper we have defined it as above.
- We are aware that social reproductive labour can enhance as well as deplete our capabilities and capacities. However, in this paper we focus on depletion order to clarify the concept and the dangers accruing from not accounting for it.
- Both paid and unpaid work involves depletion; we are focusing on depletion through unpaid work because it is neither measured nor valued with clearly gendered consequences.

Defining Depletion

Depletion v. Depreciation

The dictionary meaning of depletion is straightforward enough: 'to decrease seriously or exhaust the abundance or supply of', with synonyms such as, use up, drain, reduce, consume and lessen. The common usage of the term is associated with a) natural resources, and b) the environment[2]. For example, depletion has been recently used to describe the growing shortage of rare metals.[3] Depletion, however, can cover a complex set of phenomena, some of which are accounted for through market mechanisms and state policy, while others continue to be uncounted and unmet and still others critical but immeasurable. In essence, depletion seems to us to describe the condition of

[2] There is also some reference in the economic environmental accounting literature to 'degradation', which seems to be used interchangeably with depletion and depreciation.
[3] As for example in the BBC Radio 4 programme 'Dwindling Metals', 11 February, 2010.

loss, without necessarily implying either its measurement or a process for replenishment that might offset it.

We use the term depletion rather than depreciation which is the commonly used term for loss of value in capital goods. Depreciation in that sense denotes an identifiable, measurable economic value and triggers a clearly defined process for replacement. So depreciation of an asset is compensated for by the repayment of the reduction in its market value which allows either renewal or replacement. As far as we are aware, mainstream usage of the term depreciation is not associated with either the human body or households or with communities; nor is it commonly associated with social reproduction[4]. We have chosen depletion – rather than depreciation - as the term which most accurately describes the current situation with regard to social reproduction. As with depreciation, we aim to construct a clearly marked process to identify and measure depletion which will then require appropriate compensation.

Depletion as harm

Arguably, it is a lack of an identification of harm, accruing from the non-recognition of depletion, which allows depletion to subsidize both the market and the state. Harm is usually defined by or in relation to a set of legally protected interests – over the body, material possessions etc. Implicit here is the idea that identification of harm protects some interests over others as society values certain activities more than others. Subsidy provided through depletion has to be recognised in order to compensate for harm. The terms 'damage' and 'cost' are widely used in discussions of the environment in relation to harm, as is shown in the example in the introduction. Such usage implies a stage further in the development of the concept of depletion to the point where the process is sufficiently advanced to make possible the identification of the perpetrators of harm.

[4] Interestingly, however, while the ILO is at one with the SNA to exclude social reproduction from the production boundary (SNA, 2008), it does, when addressing the issue of productivity and social spending on health suggest that depreciation of human capital might be taken into account in social policy: "One could argue that human capital operating at high productivity is – similar to physical capital – subject to a high "depreciation rate". Social protection would then have to be interpreted as measures compensating for the depreciation of human capital. Unemployment benefit systems and pension systems would then be interpreted as systems that allow for human "escape" from labour, a buy-out of exhausted persons from the production process. Health care would be interpreted as a system operating in order to try to maintain the productive capacity of labour by extending the potential time that a worker can remain in the production process" (ILO, Committee on Employment and Social Policy, 2005, Social protection as a productive factor, p. 8, Geneva).

Depletion of those engaged in social reproduction is varied – of the body engaged in labour to meet its requirements, of the household and of communities in which this body is embedded. Here, we need to identify at which point or under what conditions depletion becomes significant, so meriting political attention and economic value. One complication lies in the fact that despite several attempts to dislodge the ideology of the family as an altruistic unit, social reproduction continues to be regarded in policy circles as a consensual activity. Consent complicates both the establishment of depletion as harm as well as the measurement of its consequences. At what stage would one draw the line and say this constitutes harm or damage? Nevertheless, the issue of subsidy still remains even if the depleting activity is consensual, and we need to study this further.

Reversing Depletion

Depletion, however, is not irreversible. We conceptualise this reversal in three different ways. The first is what one might call *mitigation* when individuals attempt to lessen the consequences, by for example paying for help or sharing tasks across genders. Obviously, this is easier for those with a higher income, more resources and more social capital. This strategy exposes differences in the effects of depletion not only between North and South but also between different classes, races and regions within particular national contexts. So for instance, depletion associated with the provision of care in the home can be mitigated by hiring domestic help. This however, does not end the process as the domestic help in turn may be doubly depleted as she undertakes both her caring responsibilities at home and as paid work.

A second way of reversing depletion is what we call *replenishment*. This is where the state or private bodies make adequate inputs, as Elson suggests, so lessening the effects of depletion. This would involve such measures as tax breaks, state benefits, regulation of conditions of work, and availability of health care and free schooling. This acts to replenish, that is 'fill in' some of the systemic causes and consequences of depletion, but does not involve structural change.

The third way of reversing depletion we term *transformation*, which involves structural change. This would entail accounting for depletion that occurs through social reproduction, which in turn would lead to the accounting of the contribution of social reproduction to the global economy. This would

imply recognition of the harm and subsidy in particular sectors at a global level and the calculation of how to transform the situation.

These three concepts that address the reversal of depletion are not fixed and the boundaries between them remain fluid. We separate them out here only as a heuristic device. In the case studies at the end of this paper we give examples of how these concepts apply, or could apply in particular circumstances.

In summary, we can identify the key definitional elements of depletion through social reproduction as follows:

- Depletion can be defined as decrease, exhaustion and loss – of the body, the household and the community
- depletion occurs when the output of resources is greater than input, even when in the context of social reproduction it might be seen to based on a consensual relationship within the household
- depletion is greater when it is not accounted for and therefore cannot be measured so that it might be mitigated (as opposed to depreciation, where the loss of value in capital goods is accounted for and triggers a process of replacement).
- because of this neglect of accounting for depletion, it can be seen to provide a subsidy for the functioning of market as well as the state
- depletion thus unaccounted for leads to 'harm', where we can define harm as damage, injury, detriment and impairment; violence thus underlies depletion
- depletion can be reversed if it were accounted for. This can be done either as mitigation – lessening the consequences for the individual, replenishment – lessening the consequences through state and private interventions ; or transformation – rejection of the subsidy that depletion provides and its removal in a permanent way.

Mapping Depletion

In this section we raise issues of mapping depletion – what are the indicators of depletion in different sites and how these might be measured.

In the SNA the production boundary includes: "The production of all goods or services that are supplied to units other than their producers, or intended to be so supplied, *including the production of goods or services used up in the process of producing such goods or services"* (SNA 2008, 98; our italics). This relies on social reproduction(and we argue depletion). We also know that

"Economic production may be defined as an activity carried out under the control and responsibility of an institutional unit that uses inputs of labour, capital, and goods and services to produce outputs of goods or services. There must be an *institutional unit* that assumes responsibility for…A purely natural process without any human involvement or direction is not production in an economic sense" (SNA 2008, 97-98; our italics). Now, what we have been exploring is whether the non-recognition of aspects of work (social reproduction) of an institutional unit – the household[5] - also leads to non-recognition of the 'goods and services used up' in this process. This non-recognition then contributes to depletion by taking social reproduction and its costs for granted and leaving these unmeasured. Thus *non-valuation* of both work and the resources that are used up or that 'decrease seriously' need to be accounted for if we are to address the issue of depletion of those engaged in social reproduction.

In order to do so, we need to know what or who is being depleted.

- Is it the individual body engaged in social reproduction? If we think both human bodies *and* subjects are being depleted, how do we understand depletion in terms of the latter?
- Is it the household's (however we define it) capacity to maintain and improve its resources?
- Is it the capacity of the community (however we understand this) in which the household is embedded, to provide/sustain production?

We also need to study what is happening to those engaged in social reproduction. Are we suggesting that *everyone* engaged in social reproduction is experiencing depletion? What are the axes of class, caste and race, North and South that mark social reproductive labour and consequent depletion? Are some benefiting from the present regimes of labour and able to trade off depletion with the labour of others? Are some households able to withstand the costs of buying in aspects of social reproduction while others are buffeted by economic crises and go under? Are some communities becoming atomised and others impoverished? This brings up the issue of mitigation, replenishment and transformation referred to earlier.

In conceptualising the body to measure depletion, we understand it as embedded in social relations – while discrete it is relational, while being depleted on an individual basis, it does so within social frameworks that position it in relations to other bodies. These relations are historically specific and contested and as such these influence the ways in which bodies are

[5] For an important reminder to us about the complexity of analysing households as complex rather than 'bounded, unitary and homogeneous' units, see Rawanpura, 2007.

viewed, used/abused, work and are worked upon, depleted and replenished. What needs to be thought through here is what the body needs for its continued existence, without which it can deteriorate faster than it need, affecting the individual body but also the social institutions within which it remains embedded. The fulfilment of these needs does not, of course, mitigate depletion beyond the average life expectancy of a society – this poses difficult questions regarding how depletion of a limitedly renewable resource like the body might be measured to offset its depletion. Within the household unit we need to explore different scales of depletion in social reproduction: should the body engaged in this labour be our primary concern? In the context of depletion of the human body, we could point to some measurement indicators of exhaustion – length of the working day, the difference between the numbers of calories consumed and expended, hours of sleep needed to renew bodily resources and the number of hours actually slept. But how might we measure the depletion of the subjective self? What measure of self-respect, empowerment and unalienated labour might we be able to develop?

At this point we think, the household, needs to be the central unit of analysis – composed of individuals with a range of capabilities, ages, resources and subjectivities and embedded in particular contexts which affect its viability as a unit engaged in production and social reproduction. As has been done by so many excellent studies on the household, in the context of depletion we need to find out who does what in contributing to social reproduction and with what resources– money, time and health, keeping in mind that remedying depletion may depend on the extent and the significance of the activities examined. This leads to the issue of whether the resources mobilised for social reproduction are distributed to offset depletion, or actually contribute to depletion, whether this off setting is gendered and if so how, whether strategies of mediating social reproductive labour are available and to what extent in different contexts to all. Also, what resources – goods and services – are being used up but not replaced in these mediations. Starting from the household also allows us to examine the endogenous and exogenous pressures attendant upon the members of the household and the household as a social unit, to assess at what level (scale) depletion occurs.

Depletion also occurs where a member of the household leaves the labour market and returns to the familial economy, often in relation to childbearing/childrearing activities as well as the care of the elderly and need related work. While it has become general policy to calculate the individual costs of childbirth and maternity/even paternity leave, the costs to the household collectivity are often left out of the calculation. This has resulted in a greater difficulty of analysing the costs of family caring and other responsibilities compared to that of understanding the costs/benefits of

pregnancy/childbirth and maternity leave. While the Beckerian models of households have been challenged by Sen's articulation of household as a site of cooperative conflict, as far as we know, no work has been done on the depletion that occurs in the household when individual incentive based market work is replaced by relational care based work. While the reduction in the household income is reflected in the national accounts, in the absence of depletion indicators, once the individual member of the household leaves the social reproduction boundary we have yet to develop methods of tracking the ways in which their labour is 'used up' and what impact this might have on their wellbeing and on the welfare and sustainability of the household. We also need to develop methods of measuring the impact on the household when those engaged in social reproduction leave the household to take up paid work.

While there is a considerable literature on social capital, neoclassical models do not take into account Bourdieu's conceptualisation of relational social capital as a resource to collective action. The rapid rise in the study of social capital in economic analysis could be partly put down to the preference to identifying exchange relations, and the difficulties of doing so in a familial world riddled with difficult emotions and the power of affective relations. Feminists have argued that we need to consider the loss of cultural capital that is concomitant in the shift from market to familial work. So if depletion was calculated, could we use a human capital model to do so?

Measuring depletion

In this section we put forward some initial thoughts on how we might respond to the need for making visible and measuring depletion. We consider two different ways of measuring depletion: environmental accounting and time-use surveys.

Environmental Accounting

The way in which the UNSNA draws the production boundary to include and exclude what may/not be accounted for in national accounts has been challenged not only by feminist economists but also environmental economists. Indeed, like feminist economists, environmental economists have developed a sophisticated accounting system to map environmental depletion and to demonstrate the importance of including this in national accounts. They have also been able to create enough pressure on the system for the UN to recognise this accounting system as the UN System of Economic Environmental Accounting (SEEA) which has been functioning as a satellite

account to the SNA since 1993.[6] The SEEA focuses on the natural world, the depletion of renewable resources and the consequences for human welfare. It also attempts to develop accounting methods for this depletion through a critique of the SNA. It thus provides a useful starting point for considering how we might enable recognition of depletion in the context of social reproduction and encourage its valuation through an accounting system.

The starting point for green national accounting[7] is that negative effects of environmental pollution, which we can call environmental externalities, lead to two different forms of depletion – *reduced output* (when environmental depletion affects production such as the quality of water on agriculture), which is counted in the SNA, and *reduced human welfare* (health being affected by poor air quality), which is not counted. Expenditure to mitigate the effects of environmental depletion might not contribute to welfare, but it is counted as final expenditure. Further, while estimates of depreciation of manmade capital stocks are included in the national accounts, natural stocks, such as forests, which are 'used up' in production increase Net National Product (NNP) but their loss is not recorded. While environmental scholars agree that environmental depletion should be accounted for, they have also pointed to the difficulties that arise in accounting particularly for renewable resources: "[Renewability] presents a range of problems for measuring the value of renewable resources used in production: 1. how to value depletion in renewable resources used in production, and 2. how to value the stocks of such assets in the absence of market prices" (Bain, 2007). This discussion is especially relevant in the context of depletion of the human body involved in the provision of social reproduction.

Green accounting theorists have suggested two different ways for accounting for natural resource depletion:

- *cost based methods* which take into account costs of avoiding pollution by changing production and consumption patterns, which provides policy makers with information on the costs to society of meeting standards or environment protection;
- *damage based methods* which account for costs of damage to human health, crops etc.

Critics of these measures suggest that more sensitive indicators need to be produced for current wellbeing and long term sustainability. One such alternative is the Index of Sustainable Economic Welfare (ISEW), which when

[6] As has been well-documented household satellite accounts have not been systematically recognised even though several countries do produce these regularly. The SEEA is now recognised as an accounting system in its own right and has been elevated to an international standard.

[7] This section is based on two papers – Bain, 2007 and Hunt, 2006

used by scholars in the US suggests that sustainable economic welfare has risen much more slowly than GNP. In Indonesia, for example, research showed that while GDP grew by 7.1% between 1972 and 1984, accounting for the loss of forestry, oil and soils meant that the estimate of environmentally adjusted NDP grew by only 4% in that period (Repetto et al cited in Hunt, 2006).

In recognition of this work on environmental accounting, the UN Committee of Experts on Environmental-Economic Accounting (UNCEEA) was established by the UN Statistical Commission at its 36th session in March 2005. Its remit was to mainstream environmental economic accounting and related statistics; to elevate the *System of integrated Environmental and Economic Accounting* (SEEA) to an international statistical standard and to advance the implementation of the SEEA in countries. However, SEEA remains a satellite account; environmental depletion as a cost to production is not incorporated within the SNA.

This discussion of the way natural resources are dealt with in the SNA is useful for us because it allows us to reflect upon how the natural world is conceptualised in terms of asset valuation and accounting within the production boundary. We can raise some of the same questions in the context of depletion in/through social reproduction:

- the need for recognising, accounting for and counting the costs of reduced welfare and natural resources through participating in social reproduction
- the need for recognising, accounting for and counting the costs of human resources that are 'used up' in/through social reproduction [or household production more widely defined?]
- the need for developing indicators to measure depletion that are time sensitive and reflect both the current wellbeing and the long term sustainability of those engaged in social reproduction.

Time Use Surveys

Time use surveys could be an important tool for measuring depletion. "Time-use surveys (TUS) show how women, men, girls, and boys spend their time in a given day or week, which allows researchers to measure all forms of work, particularly voluntary and unpaid care work" (Chen et. al., cited in Esquivel et.al., 2008: 107).

The focus of time-use surveys has been to demonstrate the interdependence of paid and unpaid work within the household. The surveys map the

interface between the boundary of production and social reproduction. Arguably then identifying and measuring depletion at this interface reveals the significance of not accounting for it. This is a critically important research area, which makes "it possible to measure individuals' total working time – be it paid or unpaid. Others show the effects of deficient social infrastructure (such as health and education) and physical infrastructure (such as availability of water and electricity) on the time devoted to unpaid care work, providing insights into aspects of development not yet fully explored" (Ibid), we need to explore whether this data can allow us to read off depletion of human resources and if not, whether time-use surveys can be modified to include the generation of data that could help us measure depletion in the conduct of social reproduction. Esquivel et.al. also point to "the painstaking process of building political conditions that support TUS, the lengthy process by which these surveys finally come to light, and the limited impact their findings have had in informing public policy to date" (Ibid.:109).

Time needs to be an additional dimension in our consideration of depletion: the rate of depletion needs to be measured across different boundaries – how does time for renewal/rate of renewal operate to increase or decrease the rate of depletion? It would also allow us to focus again on issues of class, North-South division of labour, cultural frames etc. So, if TUS is an important way forward in identifying and measuring depletion, we need to take these challenges into account.

What other methodologies can we use to measure depletion? In terms of households, should we measure income and spending on basics such as food and health versus spending on leisure, always in the context of social inequalities within the household? In terms of communities and social capital can we measure voluntary work – its levels during different periods of household expansion/contraction?

Some of the main difficulties in measuring depletion in social reproduction would seem to be as follows:

1) We need to consider whether depletion occurs in and through all three spheres of social reproduction as listed at the beginning and if so how measurements can take place to give an estimate of the nature, levels and causes of depletion in each sphere.
2) As the focus of depletion is on labour, which is a renewable resource, we are faced with complex calculations for representing the loss of resources that occurs through expenditure of labour in the context of

natural growth[8]. However, this renewability, in the case of living beings and plants is not infinite; they have finite asset lives. Morbidity as well as renewability then needs to be measured.

3) And further, how can we measure subsidy in terms of its compensatory value for harm through depletion, as well as the measurement and return of the benefit accruing on account of the subsidy?
4) Measuring depletion is also challenging if we wish to scope this across North/South boundaries. How differences in household forms, and in resources made available to make time-use surveys play out, are important considerations.
5) Then there is the challenge of aggregating different forms of depletion at different levels and in different contexts. This poses particular challenges if we are to make depletion visible through recognisable methodologies.

To illuminate these complexities and suggest some clarification we go on to look at some 'real world' examples of depletion and their consequences

The Real World of Depletion

Confusion about the context and about the changing composition of social reproduction makes any study of depletion hard to conceptualise and implement. Despite this lack of certainty, some hints as to what might be feasible are beginning to emerge. An idea of this is given in a number of ad hoc studies where the reality of depletion of different kinds creeps through, and where methodological issues are raised. Four examples (chosen at random) illustrate this.

Paid and unpaid work in Canada

The first is a study from Canada on the impact of stress and adult health based on hours spent on paid and unpaid work (Beaujot and Andersen 2004) The first point to make is that this study was only possible because the authors could use a data set from the 1998 General Social Survey on Time Use which measures paid and unpaid work in different family settings The survey used a 24 hour diary plus weekly estimates and the authors chose a sub set of data covering adults between 30 and 59 - the maximum ages for both paid work and family care. The survey controls for gender, age, income,

[8] In the context of environmental accounting, renewable resources are "able to sustain or increase their abundance through natural growth in excess of natural mortality" (Bain, 2007: 9).

numbers of dependants, types of work and family composition. Stress is measured by subjective assessments of anxiety, time pressure, guilt etc and health by number of conditions diagnosed and time taken off work over the last twelve months. Stress is seen as fairly immediate while ill health is cumulative.

The findings show that the intensity of both paid and unpaid work increased over the period between 1986 and 1998, with casual paid work and long hours full time work (over 41 hours per week) being particularly stressful. Paid and unpaid work were both causes of stress and men and women experienced stress in fairly equal measure. The authors' main conclusion is that it is the long hours worked (including both paid and unpaid hours) which is the cause of stress and consequently of poor health, not the particular balance between them. Personal factors can mitigate the effects, particularly levels of income and a family structure where caring responsibilities are shared.

This study suggests a clear case of depletion of the personal well being of individuals and families. While employment is a way of mitigating depletion through unpaid work, it also contributes in the long run to depletion, which is visible through stress and poor health. The equal weight given to paid and unpaid work in the survey make it possible to aggregate the work being done in ways that are not normally available. This suggests the importance of time use surveys for our project. The possibility clearly exists to add in questions which would make the depletion effects as well as the mitigating and/or replenishing circumstances clearer.

Rickshaw pullers in Dhaka

The second case study concerns the livelihoods of rickshaw pullers in Dhaka, Bangladesh. (Begum and Sen 2004). The authors use general data from the Bangladesh Institute of Development Studies (BIDS) and the WHO and then undertake some 500 interviews of current and former rickshaw pullers, mainly in the age range 30 to 44 years. They are concerned with length of service and hours worked and the affects of this on health and welfare. The majority of the rickshaw pullers are married and they pay particular attention to those who have their family with them in Dhaka. They note that each puller is supporting between 4.5.and 5 persons and that child mortality rates are high. Of the wives of the pullers (not interviewed) 19% are rated as economically active, working for the most part in garment factories and as domestics. 36% of girls between 15 and 19 are employed in similar occupations. The study illustrates the arduousness of the job of rickshaw puller – nine or ten years are the maximum for effective work, after that physical capacity and thus income declines. Financial crisis and health shocks reduce the capacities of the household, although even in impoverished

circumstances some contribution is made to the extended family. The conclusion of the study is that although the move to employment as a rickshaw puller is seen initially as an advance and a way out of rural poverty this cannot except in exceptional circumstances be maintained or passed to the next generation. This indicates that employment in this context mitigates depletion. It follows that subsidised healthcare, flexible credit and more secure educational provision are seen as necessary to replenish the bodies of the rickshaw pullers though these are not enough to transform the conditions in which they work. Transformation in this context would remove the stark disparity between paid and unpaid work leaving the individuals free to determine how to use their time.

This is a clear case of depletion, both of the body and of the household unit. However, the picture is a partial one since the perspective is that of the employed person rather than of the family as a whole. Some interviewing of the women involved would have demonstrated what was happening to domestic and community work and how stress, crises and shocks were managed. In this example, it would seem that replenishment would have to come from state or external provision since it is extremely rare for a family unit in these circumstances to be able to better itself through its own efforts.

Unpaid care work in the Pacific

The third study deals specifically with the impact of the current financial crisis on unpaid care work in Polynesia, Melanesia and Micronesia in the Pacific (UNDP 2010). The co-ordinator for the study is Marilyn Waring. In the light of the fact that 'specific, timely, comprehensive data sets of any kind are rare in the Pacific' the study gathers material from a range of sources to try and establish first traditional modes of care and community activity, then the effect that 'modernisation' has had on these and finally the effects of financial crisis and emergency on an already perilous situation.

Traditionally men and women work together in the Pacific to support the family and contribute to village and community life. No monetary reward is given or expected for care work. Hardship is visible when a household 'cannot meet customary responsibilities to other family, villages and the church'. Modernisation has meant that some women are involved in tourism, craft work, low wage factory work and sometimes the sex industry. Others go abroad as nurses or care workers and send back remittances. The lack of data means that the costs to the household and the community when women move into paid work are not understood – since the activities they carried out previously were taken for granted and seen as outside the economy. This correlates with work by Lucy Ferguson on the tourism industry in Central America. In the same way the consequences of the financial crisis which

includes economic uncertainty, falling revenues, cuts, rising prices for fuel and food and increasing household vulnerability are also misread and the wrong remedies applied. The study concludes that it is necessary to understand all the economic and 'non economic' activities a person is engaged in, in order to devise policy appropriately. 'Those who are invisible as producers will be invisible in distribution'.

The depletion here is societal as well as individual and for households. It is noticeable that the old community bonds and inputs, and reciprocal care, are breaking down in the face of the new circumstances, though women still bear the brunt of 'managing crisis'. According to Waring, detailed time use surveys on a regular basis, contextualised with other similar data, are the only way of encapsulating this situation. Interestingly, she is not in favour of a monetary valuation of the unpaid work, seeing this as an abstraction from the real situation. Following from the distinction made above, the monetary valuation of unpaid work would mitigate depletion but is in itself some way off in either replenishing depleting bodies and social networks or transforming the structural conditions in which the subjects of this study are deemed invisible as producers. This is a point we may wish to consider.

Sex Selective Abortions in India

The three previous case studies all deal, though in different ways, with the relation between paid and unpaid work and the effects on depletion of the complex interaction between them. Our final case study looks more centrally at biological reproduction, and specifically at the issue of sex selective abortions in India, drawing on the ongoing research of Dania Thomas (2006, 2007). The material used includes some India-wide data, in particular the Child Sex Ratio Index (CSR), and more local data collected by the NGO CEHAT.[9] The case illustrates the linkage between household and individual choice structures, state policy and neoliberalism in the depletion of women's bodies.

Sex selective abortions – that is the abortion of female foetuses after ultrasound examination – has expanded rapidly across India since the early nineties. It is an entirely private enterprise involving decisions made in the household and implemented by private medical practitioners. Given the pressure to limit numbers of children, the dowry costs accruing to girls and son preference, boys are seen as conveying both higher status and greater monetary rewards. The practice of selective elimination of the female foetus, which in the past was confined to certain communities, is now widespread

[9] Centre for Enquiry into Health and Allied Themes in Mumbai

across different social strata and increasingly adopted by relatively wealthy urban families.

Since 1994 sex selective abortions have been criminalised on the basis of harm done to the girl child - but not to the mother. The agents in this criminal activity are seen as the household and the medical practitioner - but again not the mother. This formulation has been attacked by feminists as reducing the agency and visibility of women and entrenching patriarchy (Menon, 2004). Despite this criminalisation, the practice has continued unabashed and even increased significantly. It is widely regarded as achieving the stabilisation of the Indian birth rate, something which had proved impossible to achieve before. Because this is a criminal activity no post abortion aftercare is provided by the state. It is often not provided by the family either and only by the practitioners at extra cost.

This example provides a clear case of depletion to the women's body especially if, as is often the case, multiple abortions take place, and there is little or no aftercare. There is no public recognition or measurement of this depletion. There is also harm to the girl child, as the law recognises, and indirectly to the household and the state, although harm in these cases is often obscured by other considerations such as son preference , the levelling off of the birth rate and the profitability of this sector of the economy. It is also important to understand that the rise in this particular form of abortion coincided with the introduction of neoliberal economic policies in India in the early nineties. This involved the import of new technology and increased competition on the supply side. All of this reduced the costs of the procedure, thus encouraging and sustaining the practice.

The fact that the depletion of the women's body is not recognised or measured constitutes a subsidy to the practitioner who has no obligation to account for the damage caused. Mitigation in the form of paid aftercare represents a further increase in the profits of the practitioner and can only be obtained by those who can pay for it. Replenishment and transformation would involve greater and more sensitive involvement by the state, an increase in the autonomy of the woman/mother at the centre of this practice, and a reassessment of the status of women more broadly. Further research could examine how the norm 'son preference' has become embedded and how the creation of a market encourages the norm by failing to account for depletion of the women's body.

Analysing the case studies

These case studies suggest that any detailed study which involves domestic/unpaid work and/or reproduction is likely to reveal occurrences of

depletion. The case studies also indicate some of the different forms that depletion can take and suggest different methodologies which might be used to identify, measure, value and aggregate its effects. Depletion occurs across domestic, public and private boundaries and the methodology has to reflect this. Time use surveys are clearly important in this respect. We also need to recognise the importance of understanding the historical and cultural contexts for specific forms of depletion and their effects. All the case-studies raise issues about the centrality of markets to forms of depletion and the necessity for studying how the logic of markets adjusts to, and accommodates depletion. One of the main tasks here is how to develop indicators which could stretch across all of these situations, and many more, and begin the process of aggregating the incidence and costs of depletion.

At a conceptual level, the four case-studies suggest necessary extensions both to the flowchart in Elson , 1998 and the diagram in Hoskyns and Rai, 2007 (see Appendix 1). Both of these depict depletion as leaving the system when the case studies show that it is in fact integral to sustaining the system. In the case of sex-selective abortions, the fact that depletion of the body is not accounted for subsidizes the business of the medical practitioner. In the case of the rickshaw pullers in Dhaka, the depletion of the bodies and the stress in the household subsidize the provision of transport in the city. Thus the case studies show that depletion is not just a matter for the household or domestic sector but subsidizes the public, private and domestic sectors.

The four cases all reveal the limits of agent-based notions of harm. In all of them, there is clear depletion of well-being (paid and unpaid workers in Canada) the body, the household unit, (the rickshaw pullers, the Pacific islanders and sex-selective abortion seekers). In each case, individuals seemingly consent to undertake and benefit from the depleting activity. despite, or because of, the fact that they are enmeshed in neoliberal social relations that structure the choices they make. Further, the case studies indicate that the public sector's regulatory values can be co-opted by the commercial values of the market. This makes it imperative to establish the extent to which social reproduction subsidizes the market and to identify the point at which this subsidy becomes problematic. The subsidy is economically beneficial as long as depletion has no identifiable value.

Conclusions

In this paper we have built upon earlier work on accounting for social reproduction and outlined the need to account specifically for depletion that occurs through social reproductive labour.

In drawing parallels with environmental accounting, we can see the possibilities and challenges for measuring depletion. Damage to the environment is now visible as a global problem and its dimensions well-defined, for example through the UNSEEA. We have argued that it is equally urgent that we address the issue of depletion in the context of social reproduction. However, in this latter case it is more difficult to establish a direct causal connection between depletion and crisis. Because the depletion of social reproduction is a social rather than a natural phenomenon, its effects are more easily absorbed and disguised. However, it may be that in an era of financial crisis and glaring inequalities, ideas about costs and depletion may be easier to express and make visible than in the previous decades of apparently costless expansion. In order to take advantage of this we propose a programme of rigorous research to develop appropriate methodologies – and vigorous lobbying. The issue, we think needs urgent attention.

Questions for the workshop

1. **Do you agree with applying the term depletion to social reproduction, however you may wish to define this? Does it, could it, have any resonance in your work?**

2. **Are harm and subsidy useful concepts to highlight depletion as a problem or are they unnecessary on the ground that depletion like depreciation is a reduction in value and is therefore problematic independent of either evidence of harm or subsidy?**

3. **What do you see as the main methodological problems in attempting to measure depletion in social reproduction? On what scale could/should this be done? How can the effects be aggregated?**

4. **Is environmental accounting a useful parallel? Is this a model we could follow? What are the differences and challenges?**

5. **How can we turn depletion in social reproduction into an urgent policy issue and make visible the hazards it involves and the injustice it represents?**

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