

# INTERNATIONAL Poverty Centre



United Nations Development Programme

Working Paper number 13

April, 2006

## **A CAPABILITY CENTRED APPROACH TO ENVIRONMENTAL SUSTAINABILITY: IS PRODUCTIVE EMPLOYMENT THE MISSING LINK BETWEEN MICRO- AND MACRO POLICIES?**

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Working Paper

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ISSN: 1812-108X

# **A CAPABILITY CENTRED APPROACH TO ENVIRONMENTAL SUSTAINABILITY: IS PRODUCTIVE EMPLOYMENT THE MISSING LINK BETWEEN MICRO- AND MACRO POLICIES?**

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## **ABSTRACT**

The emphasis on growth has led to an under-emphasis of the micro-impacts of macro-economic policies. Whether growth reduces income-poverty is crucially dependent on its impact on employment. This paper addresses the question: what kind of productive employment can an economy generate that fulfils three objectives: one, personal fulfilment; two, value added; and three, restores the organic link between humans and nature. Growth policies that do not fulfil these criteria fail the test for human capability enhancement with environmental sustainability. Policies which recognize a dual synergy framework like the paper proposes, and which have been demonstrated to fulfil these objectives are described and discussed for specific countries/sectors.

A paper for a book: *Sustainable Human Development and the Capability Approach*, to be edited by Enrica Chiappero Martinetti (Department of Economics, University of Pavia, Italy) & Anantha K. Duraiappah (International Institute for Sustainable Development, Canada).

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## 1 INTRODUCTION

A basic premise of the Capability Approach is that focusing development analysis and policy on increasing income and material wealth is misguided. Although almost every person would like to enjoy higher income, one's standard of living is also determined by access to basic social services (which provide the means to expand capabilities and functionings), and the health and sustainability of the environment (which also affect wealth and functionings). Often raising per capita income is insufficient or unnecessary (or both) to ensure the expansion of capabilities. In the first part of this paper, a brief discussion of the interactive relationship (synergy) between income growth and the expansion of capabilities is presented. This leads to a set of recommendations which explicitly integrate economic and social policies and which are associated in the economics literature with different heterodox approaches (Post-Keynesian, Evolutionary, Structuralism, and Transformational Growth).

Moreover, the path of the growth of consumption patterns and the development of the productive capacity pursued by now industrialized countries is not an option for developing countries from an environmental point of view. This is the essential imperative for making development sustainable, i.e. development based on consumption, distribution and production paths which are different from the ones experienced in the past. However, the literature on sustainable development seldom incorporates the elements of the synergy mentioned above.

The core of the paper (section 2) deals with the interaction between the environment and this economic-social synergy. A crucial element in this interaction is employment generation, i.e. generation of particular kinds of employment to ensure both environmental sustainability and increasing value added in the production chain. This leads to higher income on the one hand, but also the protection of nature so future generations of humans can survive. However, humans today need to survive and be able to engage in the economic activities (i.e. work) they want to value. This is the capability of finding productive employment – this is especially important in labour-surplus economies. Such work would be not only valuable in a personal sense, but also in the sense of reversing the vicious cycle of poverty-population increase and environmental degradation,, which is particularly acute in some parts of the world (e.g. in parts of Sub-Saharan Africa and South Asia). Too often, in macro-economic policy analyses and in the advice from international financial institutions, this micro-macro link between growth and employment is missing. Moreover, partly as a result of this, they apply a “one size fits all” approach, as though macro-economic policies for, say a labour surplus economy, or one with low population density might be similar. So the question this paper addresses is: what kind of productive employment can an economy generate that fulfils three objectives: one, personal fulfilment; two, value added to the economy; and three, restores the organic link between humans and nature.

The third section of the paper describes some policies which might contribute to this sustainable human development path. Concrete experiences as well as a description of the institutional mechanisms which exist in various countries with very different labour endowments (e.g. India, Brazil) are also presented. The final section summarises the argument.

## 2 SOCIAL-ENVIRONMENT-ECONOMIC- SYNERGY

### 2.1 PRELIMINARIES

The mainstream view of development posits that if economic growth is maximised, poverty will be reduced, and increases in welfare will ensue (in a more or less automatic fashion). Thus, much policy-making occurs under a leader/follower hierarchy model, where macro-economic policy is determined first, while social policy is left to address the social consequences (Atkinson, 1999). This separation of the 'economic' from the 'social' discourse is inherent to the Washington consensus and the Neoclassical theory which underpins it. Moreover, under this view, only certain policies ensure economic growth

In this section, we sketch a different theoretical perspective, while we take an explicitly normative stance.<sup>1</sup> The capabilities approach has placed human beings and their well-being at the centre of its concerns – not only their well-being, but their freedom to choose a life they have reason to value. Thus, Sen (1982, 1985) has argued that for many evaluative purposes, the appropriate 'space' is not that of utilities (as claimed by welfare economists)<sup>2</sup> but that of substantive freedoms and capabilities. At the theoretical level, there have been many other critiques of the simplistic Neoclassical view of human behaviour. At the normative level, it has resulted in an over-reliance on the principle of Pareto optimality, which severely hinders any redistributive attempt. Sen, in various writings (e.g. Sen, 1985) has shown some of the contradictions of this approach. For instance, that a rich person may obtain very little utility from having several houses and many cars, while a poor person may be content with a small hut and a bicycle, leading to the conclusion that redistribution from the former to the latter would increase aggregate utility. The attempt to solve these paradoxes by stressing that fairness should be analyzed at the level of commodities, however, also leads to some dead-ends. Actually, people need different goods and services, and use more or less of them, e.g., if they are sick or they live in different climates. Thus, Sen argues for a "middle space" between commodities and utilities, which he calls "capabilities".<sup>3</sup>

As income or commodities are not enough for human satisfaction (increase in capabilities), different lenses are needed to understand the interaction and integration of economic and social objectives and policies.<sup>4</sup> Consequently, a different strategy from the one consciously or unconsciously followed by most developing countries is needed.<sup>5</sup> The starting point is the well-known synergy, or feedback loop, among social interventions in basic health care, reproductive health care, education, nutrition, water, and sanitation. This synergy takes place at a micro-economic level as illustrated by the positive influence of better nutrition on school attendance and learning. Better education leads to improved health outcomes and lower fertility rates. Increased access to water also improves health outcomes and school attendance. Thus, a web or mesh of interactions takes place (Mehrotra and Delamonica, 2006 for details on this synergy and earlier precedents in the literature).

Then, in the process of development, there is a second synergy. It takes place at the macro-societal level among income-poverty reduction, enhancement of functionings at the aggregate level, and economic growth. We are, obviously, borrowing the expression "functionings" from Sen. However, in this context we are interpreting it in a narrower sense than he does. Instead of all the important activities that people may value engaging in, we concentrate on those functionings which come about from the provision of basic social services, i.e. healthy, literate lives. For synergies to be realised at this macro-societal level,

actions on several fronts are needed (e.g. fiscal policies which promote full employment and provide sufficient funding for basic social services, monetary policy to promote investment and full employment, regulating the quality of basic social services, distributive policies to reduce poverty, and so on). This supports the need to integrate social policies with macro-economic ones.

In attempting to understand the positive experience of recently industrialised countries or of high-achieving developing countries, we are struck by the difficulty of establishing causality relationships. For example, despite widespread literacy within a population, many countries have not achieved rapid growth, although education is a major determinant of such economic growth.<sup>6</sup> There are also examples of countries with relatively rapid economic growth but persistent income-poverty. Indeed, the relationship between economic growth, income-poverty, environmental sustainability, and enhancement of functionings is a complex one. A framework to describe these linkages is presented below.<sup>7</sup>

The lingering question remains: if there are no sufficient or necessary conditions linking these elements, are they unrelated? The answer is, yes they are related, but in a complex way. Although no particular element is necessary or sufficient for the advancement of the other, they help each other. Thus, for instance, the effectiveness of industrial policy in inducing economy-wide productivity growth, or non-agricultural employment in rural areas will be enhanced in the widespread presence and high average quality of functionings in the healthy/educated population, in turn resulting in higher rates of income growth (depending on the technology used as well as the type of value adding activities) and the environment being protected.<sup>8</sup>

## 2.2 THEORETICAL FRAMEWORK

A synergy or feedback loop can be succinctly expressed as the enhanced impact a change in an independent variable has on the growth rate of a dependent variable, given the presence of a third variable (Haken, 1979). This leads to several important, and often overlooked, inter-related effects in terms of policy. The impact of a policy (e.g. redistribution to directly reduce poverty) on another variable (say economic growth) crucially depends on the level and rate of change of a third variable (e.g. health and educational status). In other words, economic growth will be faster and more sustainable if (income) poverty is reduced simultaneously through direct policies and the health and educational status of the population is higher and increasing.<sup>9</sup> What we have in mind can be expressed algebraically:

*GNP per capita growth = f<sub>i</sub> (macroeconomic policies, expansion of functionings, income poverty reduction, technical/structural change, environmental sustainability policies)*

GNP per capita growth is not chosen by governments, but is the result of public policies and private decisions. GNP per capita growth is influenced by the expansion of functionings, the pace of poverty reduction, macro-economic policies, and, most importantly in the medium to long run, technological change (i.e. the introduction of value adding activities and productivity increases through technical/structural change).

Low unemployment and high wages reduce poverty, leading to higher levels of consumption, internal demand and economic growth.<sup>10</sup> Stable prices and low interest rates also contribute to a favourable context in which firms would want to work and invest. However, this does not mean that macroeconomic stability per se results in economic growth, as evidenced by the standard error of the regressions that try, but fail, to establish this point. Nor does this imply that a privately-led boom will not result in imbalances. Which policies are more conducive to stable full employment and economic growth is discussed later. Here we want to stress that innovations are introduced through investment - which is financed by profits or by sustainable inflows from abroad. The latter may be more volatile than the former and both are influenced by macroeconomic policy.<sup>11</sup>

In order to understand the engine of growth, i.e. technological change, (Abramovitz, 1989; Chakravarty, 1982; Schumpeter, 1934; Solow 1997), a model such as the evolutionary one, rather than one involving firms with absolute knowledge concerning static production functions, is needed. Such a model would stress that both inventing and adapting new technologies is a process of discovery characterised by uncertainty, rather than by probabilistic risk (Nelson and Winter, 1982). In this case, markets are not efficient and have no tendency to reach equilibrium, as they tend to change (Anderson, Arrow and Pines, 1988; Lesourne and Orléan, 1998, Pack 1992; Verspagen, 1993; Nell 1992, 1998a and 1998b). This different theoretical perspective leads to alternative policy recommendations.<sup>12</sup>

For instance, if markets are in constant flux as firms try to alter those constraints through innovation, then the very notion that taxes or import restrictions introduce distortions lacks foundation. Taxes, however, play another important role that is usually unnoticed. Taxes affect the distribution of income, which impacts on income poverty as we see next.<sup>13</sup>

*Income poverty incidence reduction =  $f_2$  (GNP per capita growth, expansion of functionalities, asset re-distribution policies, environmental sustainability policies)*

As with economic growth, the primary income distribution is not in the hands of government to decide, but emerges from market results and relative bargaining power between the owners of production factors. The distribution of income, in turn, affects the incidence of income-poverty. Nevertheless, the government both through regulation and overall management of macroeconomic conditions (captured in the GNP per capita growth variable) can affect income distribution.<sup>14</sup> It can also use fiscal policy to affect the after-tax income streams (the secondary income distribution), correcting the excesses of the market and reducing income-poverty.

Moreover, the distribution of assets can be altered (e.g. land-reform, titling, distribution of shares) which in turn will affect the primary income distribution. It has been argued that the single most important economic factor affecting women is the gender gap in command over property. In rural South Asia, the most significant form of property is arable land, which is a critical determinant of economic well being, social status, and empowerment. However, few women own land and fewer control it (Agarwal, 1994). Women's inheritance claims regarding land are often opposed because they would decrease agricultural output by reducing farm size and increasing land fragmentation. In fact, existing evidence shows that small-sized farms in South Asia continue to have a higher productivity per sown acre than large-sized ones. Recent

work in Sub-Saharan Africa has also argued that one of the factors constraining growth and poverty reduction is the gender inequality regarding access to and control of a diverse range of assets (World Bank, 1999).

Finally, a fundamental way in which the government can also influence distribution is through the provision of services and transfers (the tertiary income distribution) – through social assistance and social insurance. This, in turn, builds and enhances functionings.

*Functionings expansion =  $f_3$  (GNP per capita growth, income poverty reduction, social policy, clean and healthy environment)*

Education, health, sanitation, the elements which enable people to enjoy the functionings which make life worth living, have myriad interaction effects among them. Obviously, additional resources (at the household level and nationally) through poverty reduction and economic growth helps. However, as many country experiences show, a policy of what Sen (1989) called “unaimed opulence” is not sufficient. Public action in terms of social policy is fundamental in enhancing functionings.

In addition, it is important to highlight that a healthier, safer, and cleaner environment is, obviously, conducive to better functionings. This is almost tautologically so for health, but it also improves enjoyment of life and makes studying easier. At least two elements contribute to this. Access to water releases time and energy (especially girls’) which can be used to go to school and study.<sup>15</sup> In addition, as access to water is associated with better health and nutrition, the capacity to learn is enhanced.

Moreover, there are other environmental problems which affect various functionings differently.<sup>16</sup> Air pollution from industrial production promotes respiratory illnesses. The use of biomass in cooking, mainly in rural households in unventilated rooms, causes respiratory tract infections for women and children due to the smoke from the ovens.<sup>17</sup> Uncontrolled logging in forests (which *does increase GDP per capita*) not only destroys livelihoods for the poor in the neighbourhood who rely on the forests for non-timber products, quite apart from causing soil erosion. Urban squalor and living conditions impact shelter and nutrition. Natural degradation in mining and of agricultural land (through inefficient irrigation practices) can impact economic growth, and through another feedback loop, indirectly, the potential for additional resources for social services. As this point shows, synergies crop up almost everywhere. In order to complete the discussion, then, we proceed to the determinants of a clean and healthy environment.

*Clean and healthy environment =  $f_4$  (technological/structural change, GNP per capita growth, income poverty reduction, environmental policies)*

Although GNP per capita growth is usually associated with environmental degradation (and it often does lead to worsening environmental conditions), it depends on how growth is achieved. Hence, the importance of the technological and structural changes which are driving the growth process in assessing the impact of economic growth on the environment. Through



the introduction of liquefied petroleum gas in place of biomass for cooking in rural homes will save millions of lives every year and man-hours lost through respiratory tract infections – quite apart from saving time for women, which might enable them to undertake non-agricultural income earning activities.<sup>18</sup> Thus, GNP per capita growth, which is based on introducing and promoting environmentally sound activities, employment and industries, actually generates the synergy between economic growth and environmental health that gives meaning to ‘sustainable development’.

Moreover, there are various routes through which income poverty reduction leads to better environmental conditions. One of the most widely known ones is the use of inappropriate cooking materials, or the over-exploitation of natural resources by the income poor who cannot afford better products or livelihoods. In as far as new, more technologically and environmentally appropriate activities and employment are promoted through state policies, and those at the bottom of the income distribution can access these jobs (which is more likely if functionings are present and rising), income distribution improves and income poverty is reduced - closing another synergetic loop.

A fundamental point of the notion of synergy between the four types of interventions is that in strategies where one is absent, the effect of interventions in the other three spheres is less than what it would otherwise be. Policies which focus largely on *economic growth*, without much regard for income-poverty reduction, enhancement of functionings or environmental sustainability are doomed to unequal income distribution (and thus higher income poverty), lower levels of functionings (than otherwise possible), or environmental decline, which will dampen economic prospects in the long run. This policy of “unaimed opulence”, as Sen (1989) calls this strategy, represents a failure of a development plan in converting the benefits of output growth into enhancement of functionings, or poverty reduction.

Policies that focus only on *enhancement of functionings* (poverty reduction), but ignore economic growth, income-poverty reduction (enhancement of functionings), or environmental concerns will lead to outcomes that are not sustainable. A “growth-mediated” strategy, following Sen’s terminology, could be translated into enhancement of functionings (poverty reduction) through supportive social policy (transfers), which eventually could lead to poverty reduction (enhancement of functionings). A growth mediated strategy may also help people expand their functionings as higher income may enable command over needed goods and services and make use of them if growth leads to more jobs. However, a growth mediated strategy is a risky proposition, as many elements may not materialize in this long causal chain. Moreover, it could represent unconscionable delay for those at the bottom of the social pyramid.

This is one of the major respects in which our argument differs from that of the Washington Consensus. The poor should not have to wait for the benefits of economic growth. We do not downplay economic growth, but as economic growth is such a predominant part of the Washington Consensus strategy, the pace at which social outcomes improve appears to be at a discount. A synergy exists between income poverty reduction, enhancement of functionings, economic growth, and environmental sustainability which does not put increasing the growth rate on a pedestal higher than the other three variables. Instead, it calls for the integration of social and economic policy.

The discussion of the synergetic connections has been rather general so far. It is crucial to unpack the elements of “technological/structural change” and “environmental policies”. We attempt this in the next section. Although the discussion will still be general, empirical

cases and experiences are going to be discussed in the next section. This is necessary because of the context specific nature of the policies. Nevertheless, there is one common element or thread: the importance of growing employment.

### 2.3 THE IMPORTANCE OF FULL EMPLOYMENT

It is very common in the development literature to read about the importance of growth for reducing poverty. This is usually, but certainly not always, accompanied by the qualifier “pro-poor”. However, “pro-poor” growth is ill-defined and the centre of a burgeoning debate about what it means. We posit that part of the reason for the lack of clarity and consensus in this area is related to the insufficient focus on the determinants of both growth and poverty reduction. As described in the previous subsection, these two are processes which are embedded in a series of feed back loops (which we call synergies), which include the environment and the expansion of functionings.

For growth to be conducive to poverty reduction, it has to generate new and more productive jobs. Moreover, these jobs have to be well paid. Although this seems obvious, it is worth remembering that the traditional approaches *explicitly forget* this issue. Schematically, the neoclassical model underpinning the IFIs policy stance tracks the following logical connections:

Economic Stability - - - > Economic Growth - - - > Poverty reduction

However, each of these steps overlooks crucial elements of the synergies we described above. First, “economic stability” is usually centred on fiscal balance and low inflation, without regard either to open unemployment or hidden unemployment (or under-employment, which is quite serious in labour surplus economies). Second, economic growth is only focused on increases in income without regard to whether it is occurring in sectors which add value, or is merely exploiting natural resources, or how import- or capital-intensive the activity is. The latter can affect not only how much employment is generated, but other elements of the feedback loops described above, such as environmental sustainability and income distribution). Third, the work conditions (not just its remuneration, but also workers’ rights, health and safety concerns, hours of work and rest, job security, social insurance) are indicative of whether increasing employment will reduce poverty (and feed into the other synergetic elements) or not.<sup>19</sup>

Each of these points merits further elaboration. Unemployment represents inefficiency (i.e. a waste of resources, in this case, unemployed people), which results in less output than could have been obtained in the absence of unemployment. Nevertheless, in most debates about efficiency and stability, proper weight is not given to unemployment. If policies lead to lower inflation while increasing unemployment, they are said to contribute to economic stability. If trade reforms result in lower employment in previously protected industries and, concomitantly, lower overall output, efficiency is said to increase.<sup>20</sup> However, these economic costs are not necessarily the worst aspect of unemployment. There are also social implications, for instance, increased morbidity and mortality, family strife, substance abuse linked to depression, and so on.<sup>21</sup> From this perspective, besides the economic benefits, fighting unemployment is a crucial element of social policy.<sup>22</sup> Moreover, with so many unmet needs in most developing countries, it is immoral to keep workers idle.<sup>23</sup>

This leads straight into the second point: the need to channel resources, especially, labour, into the areas where they will promote sustainable human development. This has several components. One of them is the need to ensure that new jobs (and consequently economic growth) are geared towards activities which conserve and restore the environment. These may range from building energy infrastructure in renewable resources to eco-tourism and production of organic medicines. Another aspect is that many of the environmental issues faced by the poorest groups (e.g. lack of sewerage in shanty towns) require human effort (both in the production of capital goods and in their installation). Here again, employment, promotion of basic social services (expansion of capabilities), and environmental protection go hand-in-hand. Finally, as we mentioned above, economic growth requires involvement in the production of higher value added products. Not all of them are going to be “green” or “ecological” products like the ones mentioned above. Nevertheless, even if factories for traditional goods (cars, semi-conductors, radios, textiles, etc.) are set up in the country, they can use environmentally sensitive construction and production methods. The important point is that there are many ways in which policies to promote employment in income increasing jobs (i.e. economic growth) and protecting the environment can complement each other.<sup>24</sup>

Thirdly, and partly related to the issue of “green” production, is the issue of the work conditions. “Green” production does not refer only to the issues of recycling and preventing pollution of air, land and water. It is also crucially linked to the health and safety of workers at their job site. Moreover, “green” production does not necessarily entail that workers will be free to join unions or allowed to participate in company decisions or production design. Nor does it mean that production lines are not filled with repetitive and boring jobs.<sup>25</sup> Neither does it imply that workers will be well paid. All of this indicates that additional measures and policies are required in order to ensure that humans can engage in productive activities that they enjoy and value.<sup>26</sup>

All of these issues require planning and implementation hurdles to be addressed. Thus, institutional mechanisms should be in place to facilitate the debate on these policy choices. Some of these institutions are macro-international (such as the WTO). Others are of a local nature, such as the example of the city government of Porto Alegre, Brazil mentioned below, especially in decentralized countries.

## **3 POLICIES**

### **3.1 MACRO POLICIES**

A simple example linking the equations described in the previous section, only for illustrative purposes, would work as follows. Both technological change and appropriate macroeconomic policies are needed for economic growth. Similarly, macroeconomic policies and the expansion of functionings through social policy should work together. An adjustment policy that increases unemployment, reduces wages, forces the misuse of natural resources, and cuts the financing of water and sanitation does not induce positive synergies. On the contrary, it reduces welfare and functionings, undermining the feedback loop.<sup>27</sup> Compensatory policies (with public funds) should be implemented to channel resources to the poorest (where they will have the largest impact in enhancing functionings), thus the need to integrate macroeconomic, environmental, industrial, and social policies. Policies to distribute assets and income are fundamental for poverty reduction and sustainable economic growth. It can be perceived intuitively, then, that

a series of small, strategic interventions can unleash a powerful virtuous circle. This example shows not only the importance of jointly devising economic and social policy, but also how the synergies framework can highlight deficiencies in traditional, IFI-led policy-making, with macroeconomic policy determined first, and social policy in a follower role meant to pick up the pieces.

As noted above, the dual synergies model is not only useful as a heuristic model for the description of actual patterns and an analytical framework, it can also be used to devise policies. Some policies which can be derived from the model are described in this section. Governments today have a panoply of instruments available to achieve sustainable development. The first prerequisite is to abandon the simplistic notions that rather than investment (fostered by technological change and the presence of functioning), the efficient use of resources (and the elimination of state-induced distortions in the market economy) is the key to economic growth, and that economic growth equals per capita income increases (sustainable or otherwise). Investment is needed in both physical capital (in value-adding, dynamic activities that increase employment) and expanding functioning. The improvements should focus on education, health services, modern infrastructure (especially water/sanitation and communication/transportation), and environmental conservation.<sup>28</sup>

In addition, some degree of protection from international competition, balanced with export opportunities and market access, are the best source of learning by doing, and for increasing the capacity to adapt, and eventually, innovate. In fact, the emphasis on free trade tends to ignore the possibility of an economy acquiring dynamic comparative advantage as a result of this process of learning. Simply stated, economic growth is evolutionary, based on structural and technological change, and usually irregular. Thus, macroeconomic (stabilization) policies are needed.

However, not any macroeconomic policy will do. As mentioned above, macroeconomic policies should ensure low unemployment and high wages in order to maintain high levels of capacity utilization (promoting investment). Non-contractionary monetary and fiscal policies are needed. When adjustment is required (e.g. if exports or investment are on unsustainable paths), the redistributive aspects of policies, especially among the poorest groups, should be kept in mind. Taxes and expenditures<sup>29</sup> are key in this regard. They impact directly through disposable income, and indirectly through the advantages or disincentives created to either favour or discourage the production of certain commodities (or production in certain geographical regions). Also, by not increasing taxes in order to reduce fiscal deficits, limits are imposed on possible future expenditures and expansion of functioning. Given a tax rate structure, tax rate reductions are seldom neutral.

Besides tax policies, governments have to address the unequal distribution of assets. An unequal distribution of assets is not only a source of unequal income distribution at a point in time, but is the cause of rising income inequality despite economic growth, as happened in the early stages of growth in the now industrialised countries.

The trickle-down hypothesis assumes society is composed of homogenous people with equal chances of participating in the market and finding jobs. As this assumption is not valid, empirical studies testing the trickle-down hypothesis suggest growth has not trickled-down. When they do indicate the existence of trickle-down, it is because they draw inappropriate inferences from cross-sectional data about dynamic processes (Srinivasan, 1985).

There are many additional issues related to income distribution, which are also absent in the mainstream discussion, but which are of utmost importance when describing the real world, and in particular, when thinking about policies. These are related to the role played by women in social reproduction (what some economists would tastelessly call the “production of humans”). Not only is this role not valued economically, it is often assumed to be the “natural” job of a woman. Not incorporating these activities, the differentially gendered roles played by women and men, and the concomitant topic of intra-household allocation in the analysis of the impact of adjustment policies, for instance, has had pernicious effects both for women and the economy as a whole.<sup>30</sup>

### 3.2 TECHNOLOGICAL/STRUCTURAL CHANGE: ENVIRONMENTAL CONSERVATION AND VALUE-ADDING EMPLOYMENT

In the short term, governments can follow other policies as well to promote a better distribution of income. To improve the distribution of income, governments can influence the structure of production in favour of *commodities largely consumed by the lower-income sections* of society. A key aspect of this policy is the expansion of agricultural production, so that overall growth would not be constrained by the agricultural sector (Taylor et al, 1997). As we note below, protecting and promoting small landowner agriculture is not only better for income distribution, but also for growth, as the experience of East Asia demonstrates (Saith, 1996).

Almost all countries today have some policies for small and medium enterprises (SMEs), since they are seen as engines of job creation. However, Japan, Korea and Taiwan made particular efforts to support SMEs, while at the same time supporting large firms using capital-intensive techniques. It should be noted, of course, that the protection of small landowner agriculture and small businesses in these economies is market-distorting as seen by neo-liberals. Korea protects the small-landowner farms, not only by trade protectionism, but also by restricting the size of individual farms, banning absentee ownership and numerous other measures in addition to land reform conditions (You, 1995). Taiwan has vigorously promoted small-scale industries through the establishment of industrial parks and districts with financial and technical support, as well as agriculture and rural industries.

Discernible lessons for developing countries can be derived from these policies, which are distinctly different from those the Washington Consensus propounds. 'After all, here was a regional cluster of countries that had not closely followed the Washington Consensus prescriptions but had somehow managed the most successful development in history' (Stiglitz, 1998). The industrial policy followed by them, with an emphasis on closing the technological gap between them and the industrialised countries, was in stark contradiction to the consensus and closer to heterodox thinking (Amsden, 1989).

In addition to policies that promote small and medium enterprises, new policies should promote off-farm, non-agricultural employment, especially in rural areas. Since industrial growth in many countries has not been accompanied by a significant increase in employment, most new employment in the non-agricultural sectors has taken place in the informal sector, especially during periods of economic downturn. This process has gone hand-in-hand with the fact that women's labour force participation in such non-agricultural activities has not only increased, but has come to dominate labour force growth in both developed and developing countries. Women's labour force growth since 1980 has been substantially higher than that for men for every region except Africa. Therefore, an active, gender-aware government policy to

support the activities currently carried out in the informal sector is required. In fact, given the growing feminisation of the increasingly informalised labour force, one could argue that the second synergy may not be triggered, or at least may lose force, in the absence of state support for such women workers in the informal economy.<sup>31</sup> This would require an increase in girls' education to allow them to participate in the labour market; the removal of wage differentials both in legislation and in practice; improved access to training, especially skill development and entrepreneurial training; access to credit; and extension services, especially in technology and marketing. In particular, it would require support for rural-focused enterprise development, which would provide work of a non-agricultural nature. These structural changes not only promote employment in sectors with more value added, in comparison to what traditional activities presently offer, but could also increase the potential of value added in the years to come (unlike specialisations in agriculture or mining). They also foster the dynamism to engage in R&D activities to promote the escalation of the product cycle in the future, as had been the case in successful industrialising Latin American countries (e.g. Argentina, Brazil, Mexico) during the 1950s, 60s, and 70s (Katz and Kosacoff, 2000).

#### **4 SOME EXAMPLES OF POLICIES THAT EXPLOIT SYNERGIES**

When the high-performing economies of East Asia were industrializing, there were neither the concerns about environmental degradation nor was climate change a major topic of discussion in development circles. By the 1980s, the discourse had changed, and has intensified over the last decade and a half. India, Brazil, and China are large developing economies for which global concerns about their rapid growth and their contribution to greenhouse gases is now a major part of the development discourse.<sup>32</sup> But the concerns are not only driven by the global impact of their development processes, but by the local impact of environmental degradation.

A fundamental reason for the growing global concern with climate change is precisely the fact that India and China, the two largest Asian economies (other than Japan), not only are growing rapidly economically, but account for 40 per cent of the world's population. It is only inevitable that their energy and total consumption will grow well into the current century – as they should if the incidence of poverty in these countries, and elsewhere, is to decline. How can the dual objectives of income/employment growth for the poor and environmental sustainability be met?

In this section we will argue, on the basis of what has been achieved and of what is planned in these and some other countries, for actions that offer a way forward for integrating these dual objectives – social, economic and environmental. Examples will be drawn from a variety of sectors so as to indicate the wealth of action that is possible for integrating human development with environmental sustainability.

##### **INDIA – EMPLOYMENT-GROWTH THROUGH LAND REGENERATION**

We have argued earlier that only employment-intensive growth will ensure that poverty will decline and inequality will not increase. However, the employment-elasticity of manufacturing in India has fallen sharply in the 1990s. The only reason employment has been growing as rapidly as the labour force is on account of growth in services. But that has left the majority of those dependent upon India's slow-growing agriculture behind - particularly as crop production growth has slowed in the 90s.

Agriculture still accounts for 59 per cent of total employment in India. While in the medium-run, transfer of labour out of agriculture will be necessary, direct action by the government could dramatically reduce rural poverty in India within the next five years. In late 2004 the new government introduced a bill in parliament providing an annual minimum guarantee of employment to poor households. The original proposal would have given a statutory right to 100 days a year of employment at the minimum wage in each state to one person from every household. It will initially cover the 150 poorest districts in the country, and if implemented, will eventually cover the whole country.

In a low income country, the poor cannot afford to be unemployed; most of the poor in India are the working poor. Most poor families are in casual employment or self-employed, while those with regular employment are least likely to be poor. What the employment guarantee act will do is ensure at least 100 days a year of regular employment to the poor – eliminating a basis of poverty. On the basis of a population-weighted average minimum wage of Rs 60 per day, 100 days work will raise incomes by Rs 6 000 a year for poor households. That could potentially raise two-thirds of India's population above the poverty line.<sup>33</sup>

This employment guarantee has the potential of offering highly productive employment in environment-friendly activities. In fact, labour-intensity can be high in such work as watershed development, land regeneration, flood control and command area development. This would not only protect the environment, it would enhance land productivity and promote rural employment in the future. We examined the Government of India's Tenth Five Year Plan document (Planning Commission, 2002) to see what kind of projects would have growth effects in rural India. While dams might continue to be the mainstay of irrigation development, the Plan mentions a host of other cost-effective, labour-intensive options like "rejuvenation of traditional water harvesting structures, ground-water development, restoration of surface minor irrigation systems, rain water harvesting in urban areas and watershed development. These options are less costly in terms of cost per hectare of development as compared to dams and do not involve other problems faced by dams like rehabilitation of displaced persons, submergence of forest lands, and land acquisition (Planning Commission, 2002, p. 872).

Besides, improving watershed development, the Plan could reduce damage to life and property caused by frequent flooding, and save future costs in government flood relief. As the Tenth Plan notes, this requires, *inter alia*, "flood plain management through zoning and the people's participation in the maintenance of embankments" (p. 874).

A related source of growth-oriented, environment-friendly activity requires addressing the wide gap between the creation and utilization of irrigation potential – a gap noted way back in the early 70s – that led to the initiation of the Command Area Development Programme. The efficiency of irrigation water use could improve enormously both through better maintenance of the canal system above the outlets, as well as the development of field channels and field drains below the outlet. The CADP has made some progress in this regard, but evaluations have pointed to many shortcomings. Not surprisingly, the Tenth Plan notes, that "for the CADP to be a success, ... the system needs to be handed over to the Water Users Associations for maintenance. Thus the concept of Participatory Irrigation Management needs to be dovetailed into CADP" (P. 875).<sup>34</sup>

Such plans, if coordinated with the employment guarantee-related works, would have positive second-round effects on household incomes by raising agricultural wages and investment in human capital. One of the major reasons that the children of poor parents drop

out of school is because the parents cannot afford the direct and indirect costs of schooling; raising family incomes would reduce school drop outs. Add to this the increase in land productivity – together these can have profound economic growth effects.

The issue of labour absorption in India will still remain in the long run. The implementation of the bill would not obviate the need for the transfer of labour out of agriculture, where the structure of employment is such that few have regular employment; most are self-employed or casual labourers.<sup>35</sup> This implies a growth strategy based on the exports of manufactured goods, but also the production of low-skill intensity goods for the huge and growing domestic market. But given the large numbers involved, even a fast transfer out of agriculture will not pull all the working poor out of poverty. Hence direct employment creation through the employment guarantee act is an essential component of policy – which would be environment-friendly and productivity promoting, while generating income and reducing poverty.

Besides, the maximum attainable share of industry in total employment in late industrializers is lower than what it was in the now industrialized countries at their manufacturing peak. In the UK it was 55% (1901), in Japan 37% (1973) and in Korea 33% (1994). In China it is 22% (2000) and in India 16% (Ghose, 2004). Late-industrializers borrow technology from early-industrializers, and the labour intensity of technology always declines with time. Hence, regular wage employment in total employment will not rise significantly. Thus the share of self-employment will perforce remain significant into the foreseeable future in most developing countries, including India. This even further underlines the need for reducing the scope of casual labour, and hence, the need for an employment guarantee.

#### ENVIRONMENTAL SANITATION, HEALTH OUTCOMES AND EMPLOYMENT-GENERATION CAN BE LINKED THROUGH POLICY

Over 2 billion people in the world do not have access to sanitary means of excreta disposal, yet open defecation is rarely spoken about in many cultures. Only 37% of South Asians, 53% of Sub-Saharan Africans, and 48% of East Asians have access to improved sanitation. Heavy public subsidies for demand-driven self-provision of latrines would not only generate a multiplier-effect of employment, but have enormous social, health and environmental impacts. If, for example, women could be involved in a scheme whereby toilet construction in rural homes would involve their labour, this would be doubly liberating for poor rural women: apart from putting incomes in *their* hands, it would save them from the indignity, insecurity, lack of privacy and risk to health that outdoor defecation subjects them to. In urban areas, the positive impact on the environment and on health would be colossal. Eighty-eight percent of diarrhoeal diseases – the second leading cause of death in children under-five after respiratory infection – is attributed to unsafe drinking water, inadequate sanitation, and poor hygiene. Diarrhoeal morbidity is reduced by 21% through improved water supply, and by around 37% through improved sanitation (J. Bartram, K. Lewis, R. Lenton, A. Wright, "Focusing on improved water and sanitation for health", *Lancet*, vol 365, Feb 26, 2005). A policy subsidising latrine self-provision would be an employment-intensive health and environment promoting strategy.

#### SIMPLE TECHNOLOGIES CAN GENERATE MORE TIME AND BETTER HEALTH FOR WOMEN AND CHILDREN

A study in rural India found collection time for wood as cooking fuel to be 37 hours a month – a burden mostly borne by women and children (UNDP/World Bank, 2002, p 21). Another study



found that in 1999 some 10 million children under five die in low income countries – 2.1 million in India alone. In India child mortality per 1000 live births is 93; while universal access to private piped water would save 10.4 children, electricity would save spare 5.5, separate kitchens with clean cooking fuels would save the lives of 33.6 (Modi, 2005). Why? The use of solid biomass fuels (wood or dung) for cooking in indoor environments, especially poorly designed stoves in inadequately ventilated spaces, can lead to high disease burdens.

Natural gas and liquefied petroleum gas (LPG) produce far less detrimental emissions than wood or dung. Besides improving their health,<sup>36</sup> it would release women's and children's time – a valuable resource. A switch to modern cooking fuels would not be constrained by world resources or by greenhouse gas emissions. For example, "even if all 2 billion people shifted to LPG for household fuel, it would add less than 25 per cent to global greenhouse emissions from fossil fuels. In terms of human health, a shift to LPG would actually result in a net reduction of human exposures to air pollution that would be substantially larger than today's total exposure from all fossil fuel emissions." (Smith 2002, p 28).

Brazil has demonstrated over a 30 year period that it can be done. LPG subsidies from 1973 to 2003 maintained the cost of energy at essentially stable prices, in real terms. This allowed the penetration of LPG to rise from 18% nationwide in 1960 to 98% in 2004.<sup>37</sup> Particularly impressive is the penetration in rural areas at 93%, given the problems in reaching a low density population (Modi, 2005).<sup>38</sup> Such a simple technology as LPG would also generate employment through its distribution and stove maintenance network, quite apart from saving lives, saving time for women and children, and being environment-friendlier than biomass fuel.

#### URBAN PLANNING, ENVIRONMENTAL HEALTH AND EMPLOYMENT GENERATION IN BRAZIL

While the preceding examples are instances of nation-wide interventions of an asectoral nature, we also want to give an example of how, in one location – a large municipality in Brazil – governments can promote human capabilities through urban planning, which has health promoting and employment-generating interventions as inputs. Although Porto Alegre is famous for the Anti-Davos meetings and Participatory Budgets, it also boasts a successful model of urban planning for sustainable development. Porto Alegre (population 1.2 million inhabitants, greater metropolitan area 3 million) is the capital of the state of Rio Grande do Sul in Brazil. During the 1970s it experienced very rapid growth rates. However, nearly one-third of its population lacked access to clean water, adequate sewerage and other basic infrastructure as growth was not being used to provide basic services, encourage policy reduction policies, or promote environmental sustainability.

This started to change in the late 1980s. First Brazil regained democracy in 1984. Then, in 1988 there was a constitutional reform that promoted, among many other issues, participation at the lowest levels of government. Municipalities were increasingly given non-traditional responsibilities and authority.<sup>39</sup>

Among the changes derived from the constitutional reform, Participatory Budgets are usually highlighted. As Porto Alegre has been a leader in this area, it is not surprising that a lot of experience has accumulated in the promotion of urban planning that both addresses poverty reduction (through better employment opportunities and through public social services) and environmental sustainability (both through productive and employment generating processes that take their environmental impact into account and through improvements in infrastructure).<sup>40</sup>

Thus, for instance, while in 1989 only 46 percent of the population was served by the sewerage system, currently 98 percent of households are served. Also, Porto Alegre has the highest standard of living and the highest life expectancy of any Brazilian metropolitan centre. The garbage collection system reaches virtually all households and has included a separate collection of recyclables since 1990.<sup>41</sup>

In order to implement, in a reasonable and practical way, a participatory budget, the city has been divided into 16 regions. Also, five thematic structures have been created: city organisation and urban development; transportation and mobility; health and social services; education, culture and leisure; and financial development and tax planning.

Through these commissions and thematic groups, city planners gather information on what the population wants (focused mainly on investment projects accounting for roughly 15-20 per cent of the total budget).<sup>42</sup> The chart below shows, for the period 1992-2004, the evolution of the issues that were considered the top priorities. It is interesting to observe the evolution of these themes, as some problems were solved and the citizens focused on new areas for collective action.<sup>43</sup>

TABLE 1

**Evolution of priority themes in participatory budget, 1992-2004**

OP	1° Priority	2° Priority	3° Priority
2004	Housing	Social	Education
2003	Housing	Education	Roads
2002	Housing	Education	Roads
2001	Roads	Housing	Sewerage
2000	Housing Policy	Roads	Health
1999	Sewerage	Roads	Housing Policy
1998	Roads	Housing Policy	Sewerage
1997	Housing Policy	Roads	Sewerage
1996	Roads	Sewerage	Titling
1995	Roads	Titling	Sewerage
1994	Titling	Roads	Sewerage
1993	Sewerage	Roads	Titling
1992	Sewerage	Education	Roads

Source: [http://www2.portoalegre.rs.gov.br/op/default.php?p\\_secao=27](http://www2.portoalegre.rs.gov.br/op/default.php?p_secao=27).

Moreover, as mentioned above, the successful urban planning goes beyond (although it clearly builds upon) the participatory planning. The city government has also put in place programmes to enforce industrial pollution control (including special provision in garages and petrol stations), keep down polluting motor vehicle emissions, and ensure the re-utilization of organic wastes from parks and restaurants. However, what makes the experience in Porto Alegre unique is the integrated way in which the city government pursues projects to promote employment and economic growth that also ensure poverty reduction and environmental sustainability.

For instance, there has been cooperation between city government and industry. This has allowed the creation of a capital goods and electro-mechanic centre of excellence. This generates employment in high-paying/value adding jobs. Also, modern technologies allow this production to be clean.

Other less traditional ventures have also been promoted, with positive employment impacts. A Fishermen's Cooperative Collection Centre (located in the peri-urban area), which allows fishermen to collect all the harvest in one location and to handle and clean the fish according to health regulations. A Bee-keepers Association received subsidies to install the equipment that allows them to process honey bearing the federal health control seal (which also opened up an export market).<sup>44</sup> An association of farmers combines agro-industry with tourism, as visits to farms generate two streams of income (tourism and selling locally made products to tourists). The Municipal Department of Urban Sanitation collaborates with the Pig Farmers' Association<sup>45</sup> to sort organic waste at the source and distribute it to producers. These, in turn, regularly supply day-care centres with non-perishable food.

This is not the only or the most important of the recycling projects. Actually, since the early 1990s, the city has been steadily improving its garbage collection mechanism. Since the inception of the program, the purpose has been to integrate mechanisms of disposal and collection in order to efficiently improve the quality of life of the population, in particular in lower income areas, where infections and epidemics used to break out and spread due to unsanitary conditions. Moreover, also from the beginning, the attempt was to integrate social objectives in these programs.<sup>46</sup> Thus, formal employment was given to garbage collectors who had been socially marginalised and excluded from the labour market. Also, sanitary regulations were imposed on the various centralized collection and sorting centres. In addition, although these centres could be accused of reproducing gender stereotypes in terms of how the work is organized,<sup>47</sup> it would not be appropriate to do so. First, because the separation of tasks is not strict, it is almost voluntary. Second, and more importantly, because of the connection between the recycling centres and the centres to protect women against family violence, this allowed women to seek ways out of their situation by working and receiving an independent income as well as counselling, training, and education about their rights.

Another way in which this programme highlights the way synergies and feedback loops can be achieved with integral planning is that workers in the recycling centre can receive further training which allows them to pursue other jobs. These jobs are related to the setting up of plastics and other technology-based sectors, where value added and wages are higher than at the recycling centres.

Buttressing the integrated view of social and sustainable development, the city has also promoted changes in the school curricula. Also, as part of the campaign to create and sustain support for these programmes and polices, a joint endeavour with the local university resulted in the 'Environmental Atlas of Porto Alegre'. It provides basic information for environmental policy, environmental discussion and environmental education. This was crucial not only for political purposes, but also because it was an important tool for planning and monitoring.

In summary, the city government has not only been able to achieve success in traditional municipal services (e.g. garbage collection), but also in promoting broader sustainable development objectives. These include pollution control as well as promoting and engaging in projects that exploit synergies among poverty reduction, environmental sustainability, and social development.

## 5 CONCLUSIONS

Capability deprivation can take many forms if caused by the environment in which I live. I suffer from capability deprivation if I have to defecate in the open, surrounded by flies, without privacy, at fear of being molested if I am a woman. I suffer from capability deprivation if I must cook food for my family with smoke filling the small tenement my family occupies. I suffer from capability deprivation if garbage piles up regularly in my neighbourhood, and the drains in front of my home are constantly blocked and overflowing when rain falls. I suffer from capability deprivation if I am a poor farmer partly dependent on non-timber forest products, but the forest is under threat from loggers while the state turns a blind eye. There are myriad such examples, where even if my income was rising (economic growth), my capabilities would be deprived.

We have argued in this paper that there is a synergy between economic, social, and environmental interventions. On account of feedback loops between interventions, actions aimed directly at capability enhancement will have much greater impact than those that are merely 'growth-mediated'. Most of these direct actions would be highly labour-intensive activities. In other words, they would not only generate incomes, mostly for the unskilled poor, but would have vast positive externalities throughout the economy in countless ripples – making their ultimate impact immeasurable.

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## NOTES

1. See Myrdal (1959) and Sen (1988), inter alia, for the case that economics cannot be value-free.
2. As Nussbaum (2001) says: 'We have to grapple with the sad fact that contemporary economics has not yet put itself onto the map of conceptually respectable theories of human action'.
3. For elaborations, and criticisms of this view see Sen (1992), and the sources cited therein. Taylor (1983) and Uvin (2002) also present interesting criticisms and limitations of Sen's approach.
4. See Dow (1997) on lack of correspondence between theories and policy stance.
5. We say "most" and not "all" developing countries because some of them (those we note as "high-achievers") succeeded in developing education and health standards comparable to those of industrialised countries despite earning a fraction (sometimes just a tenth) of their level of income (Mehrotra and Jolly, 1997). Needless to say, they implemented policies and strategies without reference to the synergies we described ex-post, and they represent an interesting case of what Lindblom (1959) calls "muddle-through".
6. The answer is obvious too: because other growth-oriented policies (technological change to induce productivity increase, macroeconomic stability, etc) are not present.
7. Our framework could be considered a "magnifying 'lens'" view of the Transformational Growth Matrices developed by Nell (2005), whereby we introduce less elements (e.g. we do not include youth socialization), but we attempt to provide more detail to the interactions we do explore.
8. Thus, no single element can be specified as the main cause (or "development magic bullet") for success in all areas. Pritchett (2003), Easterly (2001) and Levine and Radelet (1992) discuss various shortcomings of econometric estimates that attempt (and fail) to establish these relationships.
9. A widely recognized simple example, and one often mentioned even within the Washington Consensus literature, is that economic growth will be more successful in reducing income-poverty, i.e. the elasticity of poverty-reduction will be higher, when human capital is more equitably distributed. We do not deny this. We only stress that this is only one of the many interactions among various interventions.
10. "The liberal reward of labour, therefore, as it is the necessary effect, so it is the natural symptom of increasing national wealth. The scanty maintenance of the labouring poor, on the other hand, is the natural symptom that things are at a stand" Adam Smith (1776, Book I, Chapter 8).
11. Further, the focus on freeing up financial markets in the Washington Consensus may have had the adverse effect of contributing to macro-economic instability by weakening the financial sector (UNCTAD, 1998, Grabel 2003).
12. Although expanding capabilities can clearly help in creating and introducing technological innovations, and thus, have a very important role among the determinants of economic growth, our approach shows that the traditional "human capital" concept is too limited to capture the expansion of capabilities, and that many other factors are needed to launch economies into sustainable growth paths.
13. The role of environmental policies on economic growth is discussed later in order to avoid repetition.
14. For instance Rowthron (1977) and Nell (1992) on relative bargaining and full employment.
15. Indirectly, as adult women in the household use less of their time to fetch water, their ability to earn incomes (and thus contribute to buying school supplies and books) or help children to study also increases.
16. For instance, unusable roads can limit participation. However, for reasons of space, we concentrate here on the functionings associated with basic social services.
17. This requires new simple technologies like smokeless cooking stoves. Thus, the Chinese National Improved Stove Programme introduced over 100 million improved stoves in rural areas during 1982-92 (KR Smith and G. Shuhua (1993), "One hundred million improved cookstoves in China: how was it done?", *World Development*, 21 (6), 941-961.) Alternatively, it requires the substitution of Liquefied Petroleum Gas for biomass as cooking fuel. See discussion in the last section of this paper on the latter.
18. Use of modern fuels or improved stoves can allow a greater proportion of biomass (as crop residue, animal manure) to be returned to the soil. This allows nutrient replenishment directly, as well as indirectly, by providing additional soil carbon that, in turn, can reduce leaching of soils. (V. Modi, 2005, "Energy services for the poor", paper for the Millennium Project Task Force 1, New York, mimeo, February 13, 2005).
19. It cannot be left unrecognized that the IFIs usually promote labour market reforms which are inimical to the points raised here, partly because their theoretical foundation lacks the incorporation of capabilities to link "economic" and "social" outcomes.
20. This is what happens in the real world, at least in the short to medium term run, as the theoretical long run result (higher total output as workers shift to employment in the export sector) takes time to take place, if it does at all. Even when it does take place, it is most often at a loss in wages.
21. "In our society, it is murder, psychologically, to deprive a man of his job... You are in substance saying to that man that he has no right to exist", C.S. King (ed.), *The words of Martin Luther King*, NY: Mew Market Press, 1983.
22. Implicitly, this assumes that any job is better than no job. Thus, Keynes famous quip about hiring people to dig holes to put money in bottles in the ground and then hire others to dig the bottles out. As we describe in the next section though, better uses of labour can be found.
23. Of course, many of these needs are not expressed as effective demand providing prospective profits for prospective suppliers, which leads to the need for the state to engage in macroeconomic policy, for instance following the Employment of Last Resort model (Nell, 2001).

24. For lack of space, we are not dealing with the issue of learning, i.e. can workers with no factory experience be employed in sophisticated production?
25. "The man whose whole life is spent in performing a few simple operations... has no occasion to exert his understanding ... and generally becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind renders him not only incapable of relishing or bearing a part in any rational conversation, but of conceiving any generous, noble, or tender sentiment" Adam Smith (1776, Book V, Chapter 1, part 3).
26. Obviously, this is not completely independent of what is being produced and the type of job (e.g. factory based as opposed to the service sector or intellectual/artistic pursuits). The point is to distinguish the issues conceptually.
27. Monetary and fiscal policies suggested by the Washington Consensus were trenchantly criticised during the East Asian economic crisis of the late 1990s – especially its 'cookie-cutter' or 'one size fits all' approach. When the financial crisis in mid-1997 turned into an economic crisis, the IMF imposed austerity measures – balanced budgets and tighter monetary policies. However, the effects of its measures likely turned a slowdown into a recession (Stiglitz, 2000). Seemingly without learning anything from this experience, the IMF is advocating for similar policies in Latin America today, with similarly disastrous results.
28. The role of the state in the financing and provision of basic social services and modern infrastructure to enhance functionings is sometimes recognised even by the Washington Consensus. The provision of basic services is a means of improving human capital, so when market opportunities become available, the poor can make the most productive use of their most abundant asset - labour (World Bank, 1990). However, we differ with the consensus on the role of the private (or for profit public) sector in respect to the provision of basic services, and on the existence of user charges for public provision; see Mehrotra and Delamonica 2005.
29. Most importantly, social expenditures as they build the foundation of expanding capabilities, in particular for future generations.
30. See, inter alia, the work by Beneria (1992), Ferber and Nelson (1993), Nelson (1996), Budlender et al (1998), and Elson and Catagay (2000). For an analysis of why women's capability-enhancement is a necessary condition for triggering the second synergy as well, see Mehrotra (2002).
31. For analysis of the informalisation and feminisation of the informal sector in low and middle-income countries, see Charmes (2001). For an analysis of the growing phenomenon of home based manufacturing activity in Asia, see Mehrotra and Biggeri (2002a; 2002b).
32. Witness the presence of the heads of government of India, China, and Brazil at the G 8 Gleaneagles summit meeting in 2005, primarily to discuss climate change.
33. Dreze (2004) has estimated the total cost of the programme with phased implementation rises from 0.5% of GDP in the first year (2005), at 2004 prices, to 1% of GDP in the last year of the inception phase (2008). Thereafter, the ratio will decrease, as the number of below-poverty line households decreases. The scheme, and these costs, are modelled on a similar scheme which has been implemented successfully for 20 years in Maharashtra state. But the preceding calculations assume a labour-material ratio of 60:40. The corresponding ratio is much lower in Maharashtra, and unit costs could come down with more labour intensity.
34. Yet in promoting such action, the health implications of such environmental interventions should always be kept in mind. Thus man-made reservoirs and irrigation schemes, for example, can be conducive habitats for intensified transmission of schistosomiasis (Bartram et al, 2005). In fact, in Sub-Saharan Africa this disease is largely synonymous with irrigation. Also, improving irrigation to avoid standing or slow-moving water can reduce mosquito breeding and transmission of malaria.
35. It is necessary that much of the new regular wage jobs are for low-skilled workers since casual workers have only 1.8 years and self-employed only 3.7 years of education; by contrast, regular employees have 7.8 years of education (Ghose, 2004).
36. Acute respiratory infections linked to indoor air pollution kill 1.6 million people per year, mostly women and children (Melnick et al, 2005, Lancet vol 365, Feb 19).
37. Similarly, as electricity connection charges were eased in urban areas for low income households, connection rates rose, from 38% of Brazilian households in 1960 to 80% by 1985.
38. Modi (2005) also compares the level of subsidies in Brazil with those in India for LPG.
39. Neves (2002) Municípios, Defesa Ambiental e desenvolvimento Econômico Local
40. Thus, generating the mesh of synergies discussed in the previous section.
41. Menegat (2002).
42. International Budget Project (2005).
43. Also, it should not be surprising to find out that "differences in priorities between Porto Alegre's rich and poor were immediately clear: in the poorer sections, for example, residents identified a basic sewer system as their foremost priority, while the richer areas demanded cleaner streets and more parks." Friccka (1996)
44. The honey is also sold at a kiosk and at fairs; however, the association refuses to sell its honey in supermarkets, believing it to be wrong from a social point of view because then it would be sold at unnecessarily high prices.
45. In the 1990s, urban pig farmers used to collect the city's unsorted garbage.
46. J. A. de Andrade and R. P. Guerrero (2001) "Unidades de Reciclagem de Porto alegre" in M. Ferreira Santos Farah and H. B. Barboa (eds.) 20 Experiências de Gestão Pública e cidadania, Sao Paulo.
47. The majority of the sorting is done by women, while the majority of the carrying of bundles is done by men.



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