

Issues in Employment and Poverty
Discussion Paper

5

FROM WORKFARE TO FAIR WORK

**The Contribution of Public Works and
other Labour-Based Infrastructure
Programmes to Poverty Alleviation**

by

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Preface

Based on the assumption that poverty is closely correlated to unemployment, public works programmes (PWP) are intended to alleviate poverty through providing work opportunities to economically active people who are either unemployed or underemployed. Public works programmes can contribute to poverty alleviation in several ways, the most direct routes being through transferring income (in cash or in kind), and by creating useful economic infrastructure. Indirect or 'second round' effects include income multipliers generated by spending of public works wages, impacts on labour markets, and enhanced employability of workers after the programme finishes.

This paper adopts a broad definition of employment programmes 'to include all employment and/or labour intensive, public-works type, programmes'. Yet, more importantly the paper draws a basic distinction between two types of publicly-funded employment programmes. The first type, labour-*intensive* employment programmes, maximise short-term employment creation, usually as a response to crisis or as a self-targeting means of identifying the poor for income transfers. The second type, labour-*based* employment programmes focus as much attention on the objective of asset creation – especially infrastructure creation or maintenance – as on the objective of employment creation. In order to capture the distinction between these two types of public works programmes, the paper uses the terms 'employment-based safety nets' (EBSN) to represent the former and 'labour-based infrastructure programmes' (LBIP) to represent the latter.

The paper argues that a failure to differentiate between these two categories of public works programmes has resulted in criticism of their design or impacts that is often unfair or misdirected. Thus on the basis of the above distinction, the purpose of this paper is to examine the advantages and limitations of public works programmes as a poverty alleviating or poverty reducing intervention. In doing so, the paper considers a number of issues, which determine the effectiveness of public works programmes in alleviating poverty including targeting mechanisms, the scale of employment creation and income enhancement. A few points emerging from this discussion might be worth mentioning:

1. Concerning the issue of targeting the poor, public works programmes often stand accused of paying unethically low wages for self-targeting reasons. Whereas self-targeting is certainly a feature of many EBSNs, LBIP wages are increasingly market-related and alternative targeting mechanisms - such as community selection, or job rotation – are preferred. The paper argues that this trend towards 'fair wages' rather than 'low wages' should be encouraged.
2. In terms of employment generation, the paper argues that most EBSNs provide only short-term unskilled employment, do not build transferable skills and make little discernible impact on the structural unemployment and underemployment that characterises poor developing countries. By contrast, LBIPs prioritise 'quality' of employment over 'quantity' and have the potential to achieve significant and sustainable employment impacts, both directly through providing 'real jobs', and indirectly through employment multipliers.
3. With regards to asset creation, EBSNs *maximise* the use of labour on public works programmes, but this risks degenerating into inefficient 'make-work', which ignores considerations of cost-effectiveness, quality of work and sustainability of assets created. By contrast LBIPs attempt to *optimise* employment, meaning that the objective of creating employment is prioritised but without compromising efficiency or the quality of the work itself. Moreover, LBIPs tend to prioritise the creation of physical and social infrastructure, such as feeder roads or school buildings, which tend to benefit the poorest.

4. In terms of poverty reduction, the paper argues that in general EBSNs have the potential to achieve broad-based, immediate but more short-term poverty alleviation by transferring income to a greater numbers of workers. By contrast, LBIPs are more likely to achieve sustainable poverty reduction, but for a smaller group of beneficiaries.

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INTRODUCTION

It is a curious paradox in the development discourse that 'public works programmes' have a bad name, but 'employment-intensive pro-poor growth' does not. One objective of this paper is to attempt to explain this paradox.

Public works programmes are intended to alleviate poverty through providing work opportunities to economically active people who are either unemployed or underemployed.¹ The assumption is that poverty is closely correlated with unemployment.² "The most productive way to assist the working poor appears to be through creating opportunities for them to earn a living wage. It has been shown how labour-based public works programmes tend to employ the poorest workers" (UNCHS/ILO 1995:180). Public works programmes (PWPs) can contribute to poverty alleviation in several ways, but the two most direct routes are through transferring income (in cash or kind), and by creating useful economic infrastructure. Indirect or 'second round' effects include income multipliers generated by spending of public works wages, impacts on local labour markets, and enhanced employability of workers after the programme finishes.

However, the effectiveness of public works programmes in alleviating poverty can be compromised in various ways, including: poor targeting, low wages, limited coverage, temporary employment creation, low-quality or poorly maintained infrastructure, and unintended negative impacts (e.g. undermining food security by competing with labour needs in agriculture, or condoning child labour). These issues have compromised the credibility of claims made by supporters that public works programmes have enormous anti-poverty potential, not only as an 'employment-based safety net' but also as a contributor to sustainable poverty reduction.

This paper examines the advantages and limitations of public works programmes as a poverty alleviating or poverty reducing intervention.³ The paper addresses the following questions:⁴

- **Targeting the poor**
 - How self-targeting is self-targeting? (the wage rate debate)
 - Inclusion errors and exclusion biases (working the sick and time-poor?)
 - Alternative mechanisms (e.g. community selection)
- **Scale**
 - How many jobs do public works programmes create?
 - Can public works programmes be scaled up?
 - Do public works programmes have indirect employment creation impacts?
- **Impact**
 - Income enhancement
 - Immediate (duration of employment x wage rate)
 - Sustainability (skills development, etc.)
 - Are the assets created by public works programmes pro-poor?
 - Labour market impacts.

¹ Employment creation also supports the spirit of the Employment Policy Convention of 1964, Article 1 of which states that signatory States agree to pursue policies designed to promote full, productive and freely chosen employment (UNCHS/ILO 1995:16).

² This is usually, but not necessarily, true: Glewwe and van der Gaag (1990) found that the unemployed were not over-represented among the poor, no matter which definition of poverty they used.

³ In this paper, 'poverty alleviation' refers to short-term relief from the consequences of poverty, while 'poverty reduction' refers to sustainable exit from poverty. Income transfers to support consumption *alleviates* poverty; raising incomes permanently *reduces* poverty. These terms are analogous to 'livelihood protection' vs. 'livelihood promotion', or 'income/consumption stabilisation' vs. 'income enhancement'.

⁴ These questions are derived from the Terms of Reference for this commissioned paper. My thanks to Rizwan Islam and Jean Majeres, both of ILO, for their helpful comments on earlier drafts.

It is important to define key terms at the outset. Following Keddeman (1998:1), this paper adopts a broad definition of employment programmes “to include all employment and/or labour-intensive, public works-type, programmes”. However, a basic distinction must be drawn between two types of publicly-funded employment programmes. Labour-*intensive* employment programmes maximise short-term employment creation, usually as a response to crisis or as a self-targeting means of identifying the poor for income transfers. Labour-*based* employment programmes focus as much attention on the secondary objective of asset creation – especially infrastructure creation or maintenance – as on the primary objective of employment creation. Though similar in many ways, these two approaches have very different implications for project design. The choice of which approach is appropriate in a given context depends on the objectives of the programme. As Ravallion (1999:33) points out, a government might value employment generation in its own right, and this might lead it to favour labour-intensive methods.

“A workfare program can reduce poverty in two ways: by providing paid work for the unemployed from poor households, and by producing goods or services that poor families value. Workfare will naturally be more labour intensive than if the government simply maximised the present value of the assets created because the workfare program attaches positive value to employing poor people, independent of the gains to society as a whole from the outputs obtained. So a workfare program will tend to operate at a point where there is a trade-off between the value of the assets created and employment ... This trade-off poses a difficult question: How much emphasis should be given to immediate employment versus creation of durable assets?”

Labour-*intensive* methods *maximise* the use of labour on public works programmes, but this risks degenerating into inefficient ‘make-work’ which ignores considerations of cost-effectiveness, quality of work and sustainability of assets created. By contrast, labour-*based* methods attempt to *optimise* the use of labour, meaning that the objective of creating employment is prioritised but without compromising efficiency or the quality of the work itself (Tajgman and de Veen 1998:2). Labour-intensive approaches are likely to achieve greater and more immediate *poverty alleviation* impact, by transferring income to greater numbers of workers, than labour-based approaches, where fewer people tend to be employed and a higher proportion of project budgets is allocated to non-wage costs. Conversely, the quality and sustainability of physical assets created by labour-based methods are likely to be higher, as are the potential indirect impacts on *poverty reduction* if the assets created are accessible and useful for the poor.

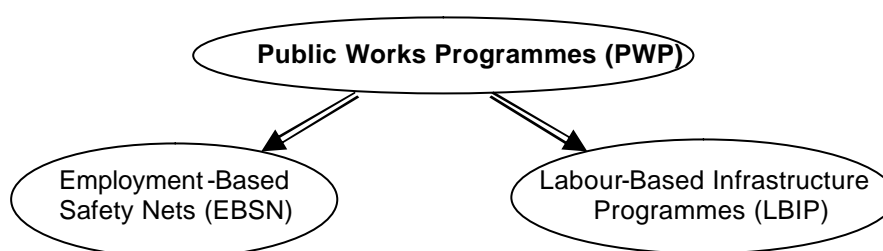
It would be simplistic to think of this trade-off as a polarity, but to some extent the choice to be made is between two distinct functions of employment programmes, depending on which function is to be prioritised by the specific programme: public works as a safety net (welfarist function), and public works for infrastructure creation (developmental function). The latter function provides greater opportunity for sustainable poverty reduction than the former. One advantage of labour-based methods is that these projects are more likely to produce the infrastructure asset that the project budgeted for, than labour-intensive projects, which tend to provide employment until the project budget runs out, often before the asset has been completely constructed or rehabilitated.

The distinction can be captured in relation to the primary objective or focus of the public works programme: either to generate employment in order to transfer income, or to create assets at household and community level that have lasting developmental impact. In this paper, the distinction will be captured by using the terms ‘employment-based safety nets’ (EBSN) and ‘labour-based infrastructure programmes’ (LBIP) respectively, these being two major categories of public works programmes (PWP).⁵

⁵ This division is neither comprehensive nor mutually exclusive. There are other forms of public works programme, for example that that promote income-generating activities at household or community level. Food- and cash-for-work have been used to promote community vegetable gardens or brick-making projects, for instance. Also, a spectrum of possible project designs exists between the two stylised extremes of public works as a ‘safety net’ and public works as a ‘developmental’ intervention.

Figure 1 *Two categories of public works*

programme



Rather than discussing these two categories of public works programme separately, this paper discusses issues that are relevant to both. Some of the key distinctions of substance and emphasis are summarised (crudely, to illustrate the point) in Table 1.

Table 1 *Different categories of public works programmes*

	“Workfare”	“Fair Work”
Goal	Welfare	Development
Terminology (theory)	Labour-intensive public works	Labour-based public works
Terminology (as used in this paper)	Employment-Based Safety Net (EBSN)	Labour-Based Infrastructure Programme (LBIP)
Examples (in practice)	Employment Guarantee Scheme (EGS)	Food and Assets for Sustainable Employment (FASE)
Objectives	<ul style="list-style-type: none"> ▪ Livelihood protection ▪ Consumption smoothing ▪ Income stabilisation 	<ul style="list-style-type: none"> ▪ Livelihood promotion ▪ Mean-shifting ▪ Income enhancement
Impacts	Poverty alleviation	Poverty reduction
Time-frame	Short term, immediate impact	Long term, sustainable impact
Rationale for labour market intervention	<ul style="list-style-type: none"> ▪ Seasonal underemployment ▪ Economic crisis (e.g. famine) 	<ul style="list-style-type: none"> ▪ Infrastructure creation ▪ Infrastructure maintenance
Coverage	<ul style="list-style-type: none"> ▪ Wide (‘WIDCOV’) ▪ ‘Maximise’ employment 	<ul style="list-style-type: none"> ▪ Narrow (‘LIMCOV’) ▪ ‘Optimise’ employment
Targeting mechanisms	<ul style="list-style-type: none"> ▪ Self-targeting ▪ Job rotation 	<ul style="list-style-type: none"> ▪ Means testing ▪ Community selection
Level of payment	Below local market rates	Equivalent to local market rates
Typical payment mode	Food rations (‘Food-for-work’)	Cash wages (‘Cash-for-work’)
Nature of work	Secondary concern	Priority concern
Benefit incidence	General community	Project participants

As Table 1 reveals, issues of direct interest to this paper, such as the targeting and coverage of public works programmes, are directly determined by the type of public works programme (EBSN or LBIP) that is being implemented. Therefore, in the discussions that follow, attention will be drawn to the implications of this basic distinction wherever relevant.

TARGETING THE POOR

Public works programmes are attractive to policy-makers concerned with poverty reduction because, unlike most anti-poverty interventions, the beneficiaries select themselves: a combination of the work requirement and low wages – especially on EBSNs – discourages participation by the non-poor. While microcredit, for instance, tends to reach the ‘richest of the poor’, low-paid manual labour tends to reach the ‘poorest of the (working) poor’. But self-targeting is not perfect, and for some public works programmes – especially LBIPs – targeting the poor is not a priority concern. This section examines the inclusion errors and exclusion biases associated with public works programmes, and considers alternative targeting mechanisms, such as means testing, community selection and job rotation.

Self-targeting

Public works programmes achieve self-targeting of the poor by manipulating both elements of the benefit/cost ratio that potential participants face: the wage rate, and the work requirement. Offering low wages – typically, below local market rates – discourages everyone but the poor from applying. Imposing onerous labour and time requirements has the same effect, since the opportunity cost of time is higher for the rich than the poor (Gaiha 1993:112).

Participation by the poor can be maximised by lowering the wage rate until the number of people willing to work at that wage matches the number of jobs available on the project. Conversely, “targeting becomes less effective the higher the wage being offered. If it is above the prevailing rural wage, the resulting allocation of jobs will not necessarily be based upon need” (USAID 1991b:14). In Burkina Faso in the early 1990s, public works wages were set as low as 1/3 of the national minimum wage (von Braun *et al.* 1991). This practice is justified in terms of reducing ‘leakages’ to the non-poor, which is especially important on EBSNs that are intended to provide social protection to the poorest and most vulnerable. In Bangladesh’s Food for Work Programme, the poorest 25% of households secured 70% of workplaces (Ravallion 1990:45). In Maharashtra, where rural poverty stands at 40-45%, around 90% of employment provided by the Employment Guarantee Scheme (EGS) is taken up by the poor (Lipton 1998:80). Public works programmes are also effective at targeting women, which may be a side-effect of paying wages so low that men are discouraged. On the EGS, for instance, women took 53% of days worked in 1987, well above their participation rate in the rural labour force (Dev 1994:6).

However, while self-targeting is generally more effective than indirect or indicator targeting, it is not infallible. In rural Ethiopia, targeting inefficiency is as high for food-for-work as for free food distribution, suggesting that no self-targeting advantage is derived from either the wage rate or the work requirement. One explanation is poor programme design – specifically, paying rations above the value of the local average wage, which has the advantage of transferring more income to workers, but the disadvantage of attracting people from above the poverty line in regions characterised by high levels of unemployment or seasonal underemployment.⁶

Another reason is that household size tends to be positively correlated with income (Barrett and Clay 2000), which means that the poorest households are labour-constrained, while wealthier households have underemployed adults who are always looking for opportunities for work. The ‘lumpiness’ of the labour requirement for food-for-work (40 hours per week in Ethiopia) “represents a larger share of the labour endowment of smaller, poorer households, on average, than it does of larger, wealthier ones” (Barrett and Clay 2000:23). Another study of food-for-work in Ethiopia confirmed that participation rates were highest among eligible households with labour to spare, while many food insecure households were unable to participate at all in labour-demanding food-for-work activities (Gebremedhin and Swinton 2001).

⁶ A study in South Africa found that the probability of public works wages being set above local average rates was directly related to the extent of community control over project design (Haddad *et al.* 1999, cited in Barrett and Clay 2000:7).

Acharya (1998) reaches similar conclusions about the segmented nature of rural labour markets in Maharashtra, which also undermines the effectiveness of public works self-targeting through adjusting the wage rate. As Acharya (1998:168) points out, labour is not a homogeneous category, and “the assumption that self-targeting can be achieved by fixing a stipulated wage rate” neglects “non-wage factors and/or the cycles of labour supply in these economies”. Determinants of labour market segmentation include gender, age, religion, education, location and agricultural seasonality, all of which result in differential labour supply at a given wage.⁷

Setting the wage rate too low also has several disadvantages. Firstly, attracting only the very poor and paying them very little might leave them unable to feed themselves and their families adequately. In extreme cases, a combination of poor nutritional status, low cash wages or food rations, and heavy manual labour might leave poor workers worse off than if they did not undertake public works employment at all.⁸ In this context, the practice of providing public works employment in the ‘hungry season’ as a way of transferring counter-seasonal income may need to be reassessed. Making poor people expend energy by working for food or low wages when they are already malnourished is clearly an inefficient way of reversing their nutritional deprivation; it may also be considered unethical.

Secondly, employing the poorest of the poor will probably not reduce the *incidence* of poverty – only its *severity* – whereas paying higher wages will attract workers closer to the poverty line, who might cross the line and escape poverty (at least for the duration of their employment) because of their public works earnings (Ravallion 1991). This consideration is especially important in terms of the contribution that public works programmes can make towards the International Development Target of halving poverty by 2015. Even if the poorest of the poor are effectively reached, paying them higher wages increases their prospects of exiting from poverty, because of ‘Engel’s Law’ (the proportion of income spent on food falls as income rises): higher incomes increases the propensity to invest in income-generating activities.

Thirdly, in contexts of mass rural poverty, attempting to equilibrate labour supply and labour demand at the market-clearing rate might require setting the ration or wage at an unfeasibly low level. There is also an ethical concern about paying people wages so low that their basic needs are not even met through employment earnings. This policy is incompatible with recent thinking that emphasises empowerment of the poor as a priority for all development interventions. More generally, self-targeting approaches might conflict with the ideals of “decent work”, defined as “work which will provide for the health and education of the family; which will ensure their basic security in old age and adversity; and which respects their human rights at work” (Somavia 2000:32 quoted in ILO 2001:8). Work provided through employment creation schemes should not be degrading or meaningless ‘hard labour’ (such as digging holes or breaking stones) simply to discourage the non-poor from registering. In this respect, LBIPs hold more potential than EBSNs. Public works should offer ‘fair work’, not ‘workfare’.

Finally, screening out those who are *unwilling* to give up their time and provide their labour also screens out those who are *unable* to do so. This leads on to the issue of ‘exclusion biases’ in public works programmes, which are considered next.

Exclusion biases

By definition, public works programmes provide opportunities for enhanced income only to members of the economically active population: able-bodied unemployed or underemployed adults. Other poor and vulnerable groups who lack labour power – the elderly, the chronically ill, people with disabilities, orphans and other children from poor families – are ‘unemployable’ and are excluded from any income transfer programme with a work requirement. “Thus, such schemes may not reach households with the greatest need” (USAID 1991b:14).

⁷ For example, in Acharya’s econometric analysis, female labour market participation rates fall by $\pm 3\%$ for every 10% increase in the proportion of Islamic households in the population, but rise by $\pm 3\%$ for every five years of education (Acharya 1998:169).

⁸ This is a kind of ‘benefit trap’ that relates to the ‘efficiency wage hypothesis’.

Two responses to this problem are possible. One is to separate those who need public assistance into two discrete categories: able-bodied adults who can participate in public works programmes, and the 'labour-constrained' poor, who require transfers provided without a work requirement.⁹ A related point is that the nature of the work might be so arduous that it deters people who are able-bodied but lack the physical strength required (women and the undernourished, for instance), but who might be in desperate need of income-providing employment. A survey by Deolalikar and Gaiha (1993) found that height was a significant determinant of participation on Maharashtra's EGS, suggesting that the heavy manual labour required on EGS causes self-selection of stronger labourers. This is another reason why public works programmes might not reach the poorest able-bodied adults, irrespective of what wage rate is offered.

The possibility that those who most *need* work may be least able to *perform* work strengthens the case for labour-based (or labour-optimising) rather than labour-intensive (or labour-maximising) methods on LBIPs. Since infrastructure construction involves heavy manual labour, increasing the capital component (i.e. using mechanical equipment as appropriate) should reduce the physically demanding nature of the work and attract those groups of the working poor who are incapable of undertaking heavy labour and are therefore excluded from labour-intensive programmes.

The second approach is to recognise that most individuals who are unable to work and provide for themselves are dependants of economically active relatives, who can benefit from employment creation programmes. Child poverty, for instance, can be addressed by providing employment to the parents of children living in poverty. Another application is provided by Ethiopia's food aid programme, which operates on an '80:20' rule of thumb: at least 80% of food aid should be channelled to the poor through employment projects, and no more than 20% should be given out as 'Gratuitous Relief' (Sharp 1997). Ethiopia's 'Employment Generation Scheme' pays workers rations not just for themselves but also for their dependants – i.e., according to household size rather than days worked or tasks completed, while household size also determines the number of days of employment that each household is entitled to work.

There are other reasons why significant groups of poor people might be excluded from public works programmes. Some poor people are not 'labour-constrained' but *time-constrained*. Contrary to the popular perception that labour is the poor's most abundant asset, the poor are often overworked and have little time to spare. 'Time-poverty' is particularly problematic for women, who face more domestic obligations (such as cooking and child-care, which absorb a high proportion of their time) than men. The work requirement on public works discriminates against labour-constrained (e.g. female-headed) households. On the other hand, carefully designed public works can reduce women's 'drudge-time' on water and fuelwood collection, by providing water-points and woodlots nearer to their homes.

'Time-poverty' is not the only reason why women might be unable to participate in public works programmes, or to engage only on unfavourable terms. In some societies, religious or cultural conventions restrict women's livelihood options – in extreme cases, confining them to the home. More benignly, there are categories of women whom society deems should not work, such as pregnant women and mothers with infants (Besley and Coate 1992:259). Public works projects are generally not sensitive to the 'double burden' of women's productive and reproductive roles, but some projects provide childcare facilities (e.g. crèches) at project sites, often run by elderly or frail women who cannot perform manual labour and are employed by the project as child-carers. Maharashtra's EGS

⁹ This distinction is found repeatedly in the literature on anti-poverty interventions. "Rural public works as a poverty alleviation measure has one major limitation – it excludes specific subsets of the poor such as the disabled, the old and the infirm. For these subsets transfers are necessary" (Gaiha 1993:113). "For poverty resulting from individual infirmities – debilitating illness, mental incompetence, age, physical disabilities – public works or asset redistribution would be inappropriate but transfer payments certainly work" (Herring 1998:6). "The group below the working poor in income and capability, who can neither earn a meagre living nor look after their own well-being, can only adequately be supported through some form of welfare benefits" (UNCHS/ILO 1995:180). However, it should be noted that this distinction is not unique to developing country contexts: every society includes both workers and categories of people who are unable to work and are dependent on welfarist transfers.

goes further: it allows women who have worked for more than 150 days to take maternity leave on minimum wages (Wilkes 1997:38).

Gender stereotyping in employment is of particular concern to designers of public works projects. Different types of work are socially constructed as 'men's work' or 'women's work'. This might prevent women from presenting themselves for certain employment opportunities, or it might result in women being channelled into specific activities within employment programmes. Even when gender quotas are introduced on public works schemes, women often remain excluded from certain activities or face implicit wage discrimination, because infrastructure projects tend to involve physically demanding manual labour, and equal payment for piecework favours men who can complete arduous tasks faster.¹⁰

The case for gender targeting on public works programmes rests partly on empirical evidence that women have a higher propensity to spend incremental earned income on the nutrition of their children than do their male partners.¹¹ Targeting employment opportunities directly at women should both empower them economically and maximise the impact on their families. Nonetheless, the case for gender quotas is not yet proven. In communities where a 'traditional' patriarchal division of labour applies – women maintain the home while men work for income outside the home – making women work for rations or low wages might simply increase their workloads and undermine men's responsibility for providing the family's food. Instead of imposing gender quotas automatically, on the assumption that men are less responsible than women, this decision should be based on an understanding of the local sociocultural context, in particular about how resources are managed and controlled at the intrahousehold level.

A final set of reasons for non-participation in public works projects is self-exclusion. It is often considered stigmatising and demeaning to work on public works projects. This negative image is related to the quality of the work itself, and is often associated with the mode of payment – as a generalisation, cash-for-work is attractive while food-for-work is seen as demeaning. In Malawi, men tend to monopolise available cash-for-work employment (provided through MASAF, Malawi's Social Action Fund) while women dominate WFP's food-for-work activities – not by choice, but because men are reluctant to work for food rations (Devereux 1999a:54). This is an argument for improving the image of public works programmes, by improving the terms and conditions of employment so that the stigma attached to public works projects is removed. On course, this might compromise the self-targeting efficacy of the programme: low-status work together with payment in food are sometimes deliberately preferred in order to attract the poorest and neediest to public works opportunities.

Alternative targeting mechanisms

The depiction of rural populations as divided into two mutually exclusive categories – able-bodied workers (most of whom are unemployed or underemployed) and 'dependants' (people with zero or limited labour power) – is a misguided and inaccurate starting point for designing public works programmes. Rural labour markets are segmented along many lines, and the use of 'flexible' (i.e. below-market) wage rates as a mechanism for identifying and self-selecting the poorest able-bodied adults out of poor communities may be not just unethical but also sub-optimal. Moreover, if the principle of paying workers fair wages for their labour is accepted, this might undermine the effectiveness of the wage as a self-targeting device, and other ways of selecting public works participants must be found. Three alternatives are considered here: means testing, job rotation, and community-based targeting.¹²

¹⁰ Ethiopia's food-for-work programme has found a solution to this dilemma. All activities on food-for-work projects are classified as 'light', 'medium' or 'heavy', and women are allocated only 'light' or 'medium' tasks while men are assigned all the 'heavy' tasks. Men and women work together in gangs to achieve joint piecework norms, so the time worked and payment received are the same.

¹¹ One much-cited study found that mothers in Brazil spend, on average, 4-7 times more of their incremental income on feeding their children than do fathers (Thomas 1990).

¹² Often more than one targeting mechanism is deployed on a single programme or across projects within a single country, which reflects the lack of consensus on an 'ideal' approach. Selection for employment on

Means testing

In contexts of mass unemployment, or where a relatively high food or cash wage is offered, the self-targeting feature of public works employment is undermined, and alternative mechanisms of allocating workplaces must be found. A conventional mechanism for targeting transfers is means testing, where beneficiaries are selected according to indicators of their poverty, as a proxy for need. Such indicators can be categorical (e.g. lack of any employment, or lack of livestock), or continuous (e.g. a measure of per capita income, or the value of household assets).

Means testing is generally recognised as the most accurate methodology in theory, but the most complex and expensive to administer in practice. Apart from the difficulties of recording objective assessments of household income or asset-holdings, there are other problems with targeting using a screening criterion, including perverse behavioural effects. In Zimbabwe, for instance, only households that owned no livestock were eligible for food-for-work employment. In 1992, this screening criterion was abandoned because of evidence that certain households were selling livestock at very low prices in order to be registered for food-for-work (Webb 1995:180).

Job rotation

Another alternative to self-targeting through the wage mechanism is *job rotation*. Instead of rationing a limited number of workplaces to a group of applicants who may or may not represent the poorest community members, work is provided for a limited period (say, one month), after which the workers are replaced with others. Names of workers can be drawn either at random or systematically (e.g. all households alongside a road construction project – as the road progresses, so new households are drawn into the catchment area for recruitment).

The problem with introducing selection procedures of any kind, even through job rotation, is that this also introduces opportunities for “corruption and arbitrariness ... about selection for public works gangs, especially when an intermediate labour contractor has a local monopoly” (Lipton 1998:73). In both job rotation and community-based targeting, project officials or local politicians might be amenable to bribery or might demand a share of workers’ wages in return for workplaces (there is evidence of this from many public works programmes). In this way, although the work requirement discourages the wealthy from applying for work, leakages of benefits (wage income) to the non-poor can (and do) still occur.¹³

Box 1 Job rotation on public works programmes in Tanzania

Selection for employment on Tanzania’s labour-intensive public works programme starts at the village level. “Involvement of the village government is often sought to ensure availability of labour for project work and ‘equitable’ sharing of paid project work among the village population. ... Typically, project work is rotated among village cells” (Teklu 1995:158). Apart from considerations of equity, job rotation is also practised on public works programmes in Tanzania to circumvent legal provisions which state that any worker hired for more than three months is entitled to the same terms and conditions and benefits as permanent employees. This would raise costs. One consequence is that employment is spread more widely, but this also results in fewer days of employment per worker.

Botswana’s Rural Roads Programme, for instance, is done at village level, using various methods, including: “Random selection (a lottery technique) ... quota setting by sex, a limit on the number of participants per household, targeting of poor households with working adults...” (Teklu 1995:152).

¹³ In fact, opportunities for rent-seeking arise whenever the demand for work exceeds available workplaces (labour supply > labour demand), even on self-targeted projects where budgetary constraints necessitate employment rationing.

Community-based targeting

If communities are to be more involved in project identification then it makes sense for their participation to be enhanced at every stage of the project cycle, including the selection of participants. Community-based targeting mechanisms are increasingly popular for this reason, though experiences remain limited and further testing is needed.¹⁴ Community targeting exploits the personal knowledge that community members have of each other, so that the community itself takes responsibility for identifying vulnerable individuals and households. Programme administrators might suggest eligibility criteria which the community is better placed to observe and verify (e.g. livestock ownership), or the community may select beneficiaries without explicit criteria (e.g. through discussion). Community targeting provides a holistic means of assessing poverty or vulnerability, since it does not rely on 'objective' criteria set by distant administrators. It also satisfies the 'participation' objective of increasing local control over programmes.

On the other hand, this targeting mechanism is vulnerable to local power dynamics. Community 'representatives' might be drawn from elites who do not prioritise the interests of the poorest and marginalised community members, but instead divert benefits – in this case, access to highly valued workplaces – to their relatives and allies. Devolving responsibility for allocating public resources to the community might personalise resentment by those excluded that was previously directed at 'the government'. So inviting communities to identify public works participants can solve the *technical* problems of targeting (setting eligibility criteria and identifying beneficiaries), but at the cost of introducing new *political* problems.

Table 2 summarises the case for and against community-based targeting.

Table 2 'Pluses' and 'minuses' of community-based targeting

PLUSES (advantages/benefits)	MINUSES (disadvantages/costs/risks)
<ul style="list-style-type: none"> + community members already know each others' situation (assets, income sources, household size, etc.) so there is no need for costly and difficult data collection and analysis + the community understands complex interacting causes of vulnerability better than outsiders + promotes participation in and ownership of the programme 	<ul style="list-style-type: none"> - risk of bias, corruption, intimidation, domination by powerful groups, etc. – requires monitoring/auditing - the community's concepts of equity and vulnerability may not match donors' priorities - communities may disagree with the principle of targeting, and prefer to share aid among everyone - developing and supporting community institutions needs significant staff time, skills and resources - it is difficult to standardise or compare targeting between different communities - the community may not include the most vulnerable groups, or in certain situations (e.g. refugees) a 'community' may not really exist - costs to community decision makers, in time and trouble, can be high

Source: Sharp (2001:26)

¹⁴ Community-based targeting is understood here as asking the community to identify which of its members need assistance. An alternative interpretation – identifying needy communities and providing employment opportunities to all members who present themselves for work (blanket coverage at community level) – is really a form of geographic or area-based targeting, with the community as the targeting unit.

IMPACTS ON POVERTY (1): SCALE OF EMPLOYMENT CREATION

At least since the World Employment Programme (WEP) of the early 1970s, strategies for reducing poverty have identified the need for pro-poor employment-led growth, supplemented by income transfers or safety nets for those unable to participate in the labour force. In this context, public support for employment creation programmes should be regarded as an important policy instrument, not only for welfarist reasons but to achieve sustainable development and poverty reduction.¹⁵ However, just as the rate of growth is not the only determinant of poverty reduction – its composition or distribution is equally important – so the nature of and returns to employment must also be considered in the fight against poverty (Islam and Majeres 2001). A country where employment growth is confined to the informal sector will achieve lower or slower poverty reduction, *ceteris paribus*, than a country where new employment opportunities are concentrated in the formal sector, where levels of remuneration are generally higher.¹⁶ Similarly, employment in sectors that generate higher income and employment multipliers, and have stronger linkages with other sectors (e.g. manufacturing), will be more effective at reducing poverty than sectors with lower returns and weaker linkages (e.g. agriculture). These are important considerations for the design and implementation of public works and related employment-intensive programmes.

There are two reasons for suspecting that employment-intensive infrastructure programmes (PWPs or LBIPs) could make a more significant contribution to the current global policy concern with halving poverty by 2015 (the International Development Targets). The first reason concerns the *scale* of poverty and unemployment. It is a striking fact that approximately 1.0 billion people (1/3 of the global workforce) are currently unemployed or underemployed, while latest estimates put the global poverty headcount at 1.1 billion. Poverty is closely correlated with unemployment, and PWPs generate employment and essential income. The second reason has to do with the enormous *potential* for employment programmes to generate developmentally useful assets. This is related to a number of factors, including limited physical and social infrastructure in rural areas, the poor state of infrastructure in post-conflict situations, and constraints to agriculture (such as limited land and deteriorating soil fertility) which necessitate off-farm livelihood diversification for which transport, communications and other infrastructure are prerequisites (von Braun 1995:2).

In developing countries, population growth often exceeds economic growth, while labour force participation rates are rising, especially of women. Depending on their scale – the level and duration of employment provided – public works have the potential to address the problem of inadequate labour absorption to varying degrees.¹⁷ Of course, not all public works programmes have labour absorption as a primary objective: as with other design choices, much depends on whether the programme is mainly intended to provide an employment-based safety net (EBSN) or whether the focus is on upgrading physical or social infrastructure (as on LBIPs). This section examines how many jobs public works programmes have created in various African and South Asian countries, including an assessment of the ability of EBSNs to scale up and address problems of large-scale unemployment or underemployment, and a discussion of employment multipliers.

¹⁵ As Islam and Majeres (2001:2) argue, pro-poor growth requires “raising the growth elasticity of poverty incidence”, which in turn implies increasing the “employment-intensity of growth”. Elsewhere, the growth elasticity of poverty reduction is defined as “the percentage change in headcount ratio of poverty as a ratio of the percentage change in GDP” (ILO 2001:3)

¹⁶ In this context, structural shifts in labour force composition in recent decades – including retrenchment of public sector workers and their partial absorption into the informal sector – have probably not promoted poverty reduction in developing countries, although this was the ultimate objective of these structural adjustment reforms.

¹⁷ The Philippines provides a case in point. The labour force grew by 3.6% per annum during the 1980s, while the economy grew more slowly, at 3.4%. “The fundamental challenge for the Philippines is generating productive employment for its rapidly growing labour force. ... Public works programs can play a dual role of shifting the demand for labour in rural areas and developing the infrastructure base” (Subbarao *et al.* 1996:29) In sub-Saharan Africa, where the gap between population growth and economic growth rates is much wider, the challenge is that much greater.

Job creation

Labour-intensive public works programmes have provided employment for millions of people in Africa and South Asia, especially during rural livelihood crises. During the African droughts of the mid-1980s, for instance, 23% of Botswana's entire workforce was employed on the 'Labour-Based Relief Programme',¹⁸ while in Cape Verde in 1983 the proportion of total national employment provided through public works was even higher, at 30% (Drèze and Sen 1989). These temporary interventions provided short-term employment in response to income collapse, though in many countries scaled-down versions of these programmes were continued after the emergency was over. In non-emergency contexts, rural public works employment tends to be more valued or needed where landholdings are small (so that few farmers achieve food self-sufficiency even in good years), returns to agriculture are variable (e.g. because of periodic drought), seasonality causes cyclical unemployment, and off-farm employment opportunities are limited, irregular, low paid or otherwise unattractive.

In South Asia, particularly India and Bangladesh, millions of workdays have been created through large-scale institutionalised public works programmes. During the 1980s, India's National Rural Employment Programme (NREP) provided 320-370 million workdays each year. In the early 1990s, NREP merged with another programme, Jawahar Rojgar Yojana (JRY), to provide up to 1 billion workdays per annum, or 62 workdays per participating family (ILO 2000b:163). Together with the jobs created by the EGS in Maharashtra (see Box 2), employment created by major public works programmes in India amounts to 2.2 million full-time equivalent work-years – less than 2% of the national workforce, but representing "a significant success in poverty reduction" (Lipton 1998:77).

Box 2 *Employment generation on Maharashtra's EGS*

Maharashtra's Employment Guarantee Scheme was formalised in the mid-1970s as one of the first genuine employment-based safety nets anywhere in the world. "All rural adults over the age of eighteen who were willing to do manual unskilled work on a piece-rate basis were offered a guarantee of employment within 15 days of the demand being made, provided that jobseekers registered with the local administration, and that there were at least 50 jobseekers in one locality. In principle – although almost never in practice – government was obliged to pay an unemployment benefit (originally Rs.1 per day) if it were unable to provide suitable work for registered jobseekers" (Joshi and Moore 2000:15).

Because the principle underlying the EGS is guaranteed employment for all who want work – as formalised in a State Act of 1978 – the EGS has been driven almost entirely by demand. Actual employment created varies from year to year depending on such factors as the annual harvest, but generally falls in the range 100-200 million days of work *per annum*. At its peak in 1986, EGS provided 190 million workdays (Lipton 1998:76). In 1988, when the rural labour force of Maharashtra totalled 21 million, the EGS provided 133 million workdays at an average of 6.3 days per worker (Engkvist 1995:15). Almost half the jobs provided (40-50% of workdays) have gone to women (Joshi and Moore 2000:16).

Various estimates have been made of the contribution made by the EGS to unemployment reduction. Acharya (1990) concludes that unemployment in Maharashtra would be 3.6% higher without the EGS. Dev (1992) finds that the EGS provided work for 10-20% of the unemployed and underemployed during the 1980s, but Gaiha (1993:117) produces a higher estimate: "between one-sixth and one-third of the unemployed and underemployed in the state". Summarising the evidence, Lipton (1998:76) concludes that "EGS appears to reduce rural unemployment by 10-35 per cent".

The fiscal ability of the EGS to provide employment to meet demand was compromised by a large increase in the wage rate in 1988 (from Rs.9.11 to Rs.15.02), which was not fully matched by an increase in state funding (Ravallion *et al.* 1993), resulting in job rationing. Other writers have contested this conclusion, arguing that falling EGS employment since 1988 is due to reduced demand by workers, because of more attractive employment opportunities on alternative poverty alleviation programmes, and because rising education levels have reduced the appeal of the unskilled 'hard labour' that EGS offers (Engkvist 1995:14). Besides, Dev (1995:113) points out that the fall in EGS employment – from 133.2 in 1988 to 81.3 million person-days in 1989 – was not permanent. By 1993 employment had recovered to 148 million person-days, and the programme budget had doubled. The EGS now absorbs 10-14% of the Maharashtra state budget.

¹⁸ In 1986 alone, Botswana's Labour-Based Relief Programme (LBRP) provided three million days of paid employment to 74,000 workers (out of a total workforce of 320,000).

Although Maharashtra's EGS is the most famous guaranteed employment programme, it is not the only one. The Indian Employment Assurance Scheme provides up to 100 days of unskilled waged work on demand (ILO 2000b:165). Of course, the principle of providing work to all who need it means that employment generation is the primary objective, and the quality of assets created by such programmes can be compromised as a result. As will be seen, the trade-off between immediate income transfers (where employment is maximised) and longer-term asset creation (where employment is optimised) is not inevitable, but is difficult to avoid without careful project design.

Scaling up

There are an estimated 150 million unemployed people, and 750-900 million underemployed workers, in the world today (ILO 2000b:167). Most of these unemployed and underemployed adults, but especially those living outside the OECD countries, have no access to unemployment insurance or other forms of social assistance. In this context, public works, preferably provided on demand (as an employment guarantee) can play an important role in providing social protection against un(der)employment. In poor countries, labour market interventions are more feasible and fiscally affordable than social welfare programmes such as unemployment insurance. In several countries (including Bangladesh, Ghana, India, Kenya and Madagascar), employment-intensive programmes have been "mainstreamed and replicated on a large scale" (ILO 2000b:166).

As a generalisation, the potential for scaling up public works appears to be greater in South Asia than in sub-Saharan Africa (though Ethiopia provides a notable exception to the rule). In many African countries the population is too dispersed for large-scale infrastructure projects to be viable (unlike densely settled Bangladesh and most Indian states), and African governments face a range of technical constraints – logistical, administrative and fiscal – that limit the number of workplaces that can realistically be created.

Another problem with scaling up public works programmes is that the provision of large-scale employment implies recruiting unskilled workers for simple manual tasks on labour-intensive projects (the ESN model), rather than recruiting semi-skilled workers or training a smaller pool of workers to acquire skills through labour-based projects (the LBIP model). In general, ESNs provide limited long-term benefits in terms of skills transferred and the sustainability of income enhancement and assets creation. Given that unemployment is closely correlated with education levels, and that conventional public works projects provide unskilled manual workers with little or no on-the-job training, it is doubtful that these interventions can sustainably address the problems of structural unemployment that most developing countries face. In Botswana, for instance, unemployment in 1994 stood at 21%, but among junior certificate school leavers unemployment was 32% while among those with tertiary qualifications it was just 2% (Mayer and Kayira 1997:5). "To deal with the problem of chronic and structural poverty through labour-based public works, it is important that the nature of drought relief programmes and public works projects be de-linked" (Mayer and Kayira 1997:10). The authors argue that the safety net function of public works in drought years and the developmental function of public works in non-emergency contexts are quite distinct, and have very different implications for programme design and implementation.

On the other hand, the potential for employment creation using labour-based methods is far from insignificant. A southern Africa study estimated that labour-based road construction projects could generate as many as 75,000 full-time jobs in Zimbabwe, amounting to 6.6% of total formal sector employment in 1995, and 8,271 full-time jobs in Lesotho, equivalent to 18% of total formal sector employment in 1995 (Lennartsson and Stiedl 1995:17).

Various studies have demonstrated that participants in public works programmes tend to be less well educated than non-participants in the same community. This partly explains why they are at a disadvantage in the job market, and are channelled into public works programmes.¹⁹ This fact has led critics to argue that public works programmes (especially ESNs) simply exploit cheap labour and

¹⁹ In most cases, participation in public works programmes should be regarded as 'constrained choice' behaviour, since public works jobs are not 'preferred' but offer 'last resort' employment in the absence of desirable alternatives.

make little effort to transfer skills and build human capital that will reduce the participants' dependence on public works and similar welfarist programmes. Others argue that the expectation that public works programmes should provide training and transfer skills in addition to providing work and transferring income may be unrealistic, given the low initial education and skills levels of the average public works participant, who more often than not is an illiterate farmer.

Public works programmes that emphasise skills formation for sustainable (post-project) income enhancement are generally slower to set up and more limited in scale than EBSNs. The objective of providing temporary, unskilled employment to large numbers of people inevitably conflicts with the diversion of some project resources (both budgetary and technical) to provide training. Where attempts are made to transfer skills, these have had limited success. As seen in Box 3 below, both objectives were pursued in Namibia's food-for-work programme during the 1991/2 drought, which included large-scale labour-intensive infrastructure projects (such as water pipelines), but also a high proportion of income-generating activities (IGAs) linked to training inputs (brick-making, vegetable gardens, community tourism).²⁰ The infrastructure projects employed three times as many people, on average, as the income-generating activities. Most IGAs collapsed after the six-month period of food aid support came to an end. Without continuing non-food support from government and donors in the form of training and equipment, the incentive to continue vanished and most projects never achieved financial viability. On the other hand, some marketable skills were transferred and useful social assets were created, so development impacts were achieved.

Box 3 Food-for-Work in Namibia

Food-for-work was introduced to Namibia during the southern African drought of 1991/2, as one of two food transfer components of the national Drought Relief Programme (DRP), the other being free food distribution to 'vulnerable groups'. More than 500 food-for-work projects were initiated. The projects fell into two categories. Two-thirds were public works projects (e.g. laying pipelines for community water supplies, building teacher's houses), each employing 71 people on average and creating useful physical and social infrastructure. The remaining one-third were income-generating activities (e.g. vegetable gardens, community tourism), each employing just 22 people on average. In addition to food and non-food inputs, basic training was also provided on many projects, not only technical skills (such as brick-making), but also bookkeeping and project management. Participation by women was high (over 50%), and surveys suggested that their self-confidence and skills were enhanced.

Notwithstanding these achievements, the food-for-work programme faced severe problems. In terms of coverage it was much less successful than the Vulnerable Groups programme, which reached 220,000 of its 250,000 targeted beneficiaries (88% coverage). By contrast, only 27,000 out of 375,000 able-bodied adults targeted actually participated on food-for-work projects (7% coverage). Most of the income-generating activities (IGAs) collapsed once food deliveries were terminated, usually after six months. This unsustainability suggests that free food was the primary motivation for participants. The underlying problem was a failure to appreciate that food-for-work involves a complex labour market intervention, not simply a food distribution programme. The programme was over-bureaucratized. A centralised decision-making process resulted in lengthy delays before project approval. Lack of previous experience with food-for-work meant there were no 'off the shelf' projects or guidelines for programme staff to draw on. The requirement for written proposals resulted in leakages as literate community members such as teachers were written into projects intended to benefit the poor. Also, Namibia being a large country with a dispersed but mainly poor rural population meant that opportunities for large-scale labour-intensive public works were limited, there was inadequate local demand for IGA products, and it was logistically difficult for programme staff to monitor projects and deliver food, training and non-food inputs.

An evaluation report (Devereux and Solomon 1994) concluded that one objective per programme is more effective than multiple objectives. For drought relief purposes, conventional large-scale public works are preferred, to maximise employment creation. For 'linking relief and development' and rehabilitation of livelihoods, sustainable income generating activities should be encouraged, supported by properly funded training and a longer-term commitment of financial and technical resources to each project.

(Source: Devereux 2000:280-281)

²⁰ The inclusion of IGAs was possible because the Drought Relief Programme was slow to get started (there were lengthy debates over whether cash transfers were more appropriate than food, given Namibia's level of market development), so that food-for-work was finally implemented as a post-drought rehabilitation intervention as much as an emergency food transfer mechanism.

Another dimension to the 'scaling up' question is rural *versus* urban public works. Not only are urbanisation rates and urban poverty rising fastest in developing countries, unemployment is a bigger problem in urban areas, where informal sector employment is the dominant livelihood strategy, than in rural areas, where most livelihoods remain agricultural rather than based on non-farm employment. Yet public works programmes remain concentrated in rural areas, on the grounds that the scale and severity of poverty are often worst in rural communities, while lack of rural infrastructure offers more opportunities for useful public works projects. Nonetheless, recognising the interconnectedness of rural and urban livelihoods (and rural and urban poverty) suggests that EBSNs and LBIPs should increasingly become national programmes.

Employment multipliers

Public works programmes, especially LBIPs but also EBSNs, have the potential to generate opportunities for 'knock-on' employment in several ways, including:

- public works participants using their wages to hire others, such as agricultural labourers to assist with their farming;
- participants spending their income on goods and services, providing income for traders and work opportunities for service providers (e.g. barbers);
- participants using skills and experience acquired on public works projects to find alternative employment after the project ends, or upgrading from self-employment to waged work.

Some of these multiplier effects were observed in a comprehensive evaluation of food-for-work in Bangladesh, which found that these projects had a significant productive impact on the economies of rural communities, well beyond the direct income transfer effect.

"Agricultural production increased by an average of 27 percent and per capita household income by about 10 percent, as a result of direct and indirect effects of the project. More productive employment generated was substituted for very low productivity employment among rural households. Wage employment increased by about 13 percent while self-employment declined by about 10 percent. ... The study highlights the key role of improved infrastructure for rural growth and development" (von Braun *et al.* 1991:23).

A comparative study of labour-based and equipment-based methods for feeder road rehabilitation in Uganda found that labour-based methods were considerably more cost-effective: the average financial cost was 22% lower and the average economic cost was 60% lower per kilometre than under more capital-intensive alternatives (Taylor and Bekabye 2000:3). This study also found that the programme generated many direct and indirect jobs (see Box 4).

Box 4 Employment and other impacts of labour-based roadworks in Uganda

A comparative evaluation of labour-based and equipment-based methods in feeder road rehabilitation, spot improvement and maintenance in Uganda found that labour-based methods were superior on almost every indicator. The major results of the study included the following.

- “For every job created in the feeder road programme by using labour-based methods another 1.6 jobs were created in the wider economy due to so-called ‘multiplier’ effects.
- Overall the use of labour-based methods created 3 times as many jobs as equipment-based methods.
- Labour-based methods generated about two times more gross domestic product (GDP) through indirect effects than equipment-based methods.
- Although the direct benefit of labour-based methods on public revenue (taxes etc.) is smaller than that of equipment-based methods, this is more than offset when indirect benefits are included. ... Hence, higher net public revenues result from using labour-based methods compared to equipment-based methods.
- There is a significant saving in foreign exchange (amounting to 62%) when using labour-based methods rather than equipment-based methods.

The implications for Uganda’s macro-economic framework of these results are compelling. Labour-based methods generate more income to households, increase GDP faster and are a strong stimulus on local private investment. ... The study illustrated that the greater use of labour-based methods has a high potential for creating productive employment both directly and indirectly.”

(Source: Taylor and Bekabye 2000:2)

IMPACTS ON POVERTY (2): INCOME TRANSFERS

The difficulties of evaluating the impacts of anti-poverty interventions are well documented, and include the problem of attribution (what observed change was directly caused by the project?), unintended consequences and other secondary impacts. According to Lipton (1998:75), assessing the ‘total impact’ of a public works project requires calculating three secondary effects, in addition to direct employment creation and income transfers. ‘Multiplier effects’ from spending of wages must be added, as should ‘capital effects’ – incremental income earned by workers from using new assets created or skills transferred by the programmes, while ‘opportunity costs’ – income that public works employees would have earned elsewhere – must be deducted.²¹ In South Asia, opportunity costs of public works employment have been estimated at 20-30% (Lipton 1998:76).

Most assessments concur that public works programmes have achieved greatest impact in terms of temporary employment creation and direct income transfers (poverty alleviation), but only limited impact in terms of sustainable income enhancement (poverty reduction).

“On scale, we conclude that several works schemes, in a wide range of developing countries, have created very many workdays since about 1980. ... However ... the impact in reducing poverty durably – as opposed to relieving current need – is much less. This means that, if employment programmes are not to gobble up increasing resources for ever, they must be supplemented as anti-poverty weapons by other sorts of programme” (Lipton 1998:77).

²¹ Lipton (1998:8) gives the following example for evaluating the ‘total effect’ of employment schemes. “Guaranteed employment will not help the poor if it raises their working time by 20 per cent, reduces their average wage rate by 10 per cent, and bids up the price of food by 10 per cent.” In fact, this provides an estimate of the total *income* effect of the programme. Many other effects, including social and gender impacts, also need to be considered in any holistic evaluation.

In practice, most public works programmes have ambitions to contribute to both immediate poverty alleviation (primary effects) and sustainable poverty reduction ('second round' effects). This dual objective is explicit, for instance, in Ethiopia's Employment Generation Scheme, which is defined as:

"labour-intensive works designed to provide temporary employment for able-bodied people affected by a disaster, or threatened by severe food shortage, who have no other means of livelihood. Subject to the availability of resources, EGS can also be used at other times, in disaster-prone areas, to undertake labour-intensive works which serve to reduce the vulnerability of the communities concerned to disaster" (Disaster Prevention and Preparedness Commission (DPPC 1997:1).

So an alternative position to Lipton's is that public works programmes can achieve both short-term welfarist and long term productive impacts, simultaneously – the trade-off is not inevitable.

"Food-for-work programs illustrate how public works can create productive assets to enhance future income and consumption or transfer income to the poor to ease transitory poverty. These two objectives represent the opposite ends of a relief-development continuum. Labour-based public works could serve both functions if programs are designed with sufficient flexibility" (Subbarao *et al.* 1996:35).

The benefits of public works programmes can be either income-stabilising or income-enhancing, in either the short run or the long run. If public works are introduced as a safety net to provide consumption support to the poor during a drought or 'hungry season', this is a short-run income stabilisation objective. If the programme generates meaningful and sustained employment, such that workers earn sufficient income to invest in assets as well as meeting their basic subsistence needs, then short-run (but potentially sustainable) income enhancement has been achieved.²² The key variable here is the *level of income transferred* to individual workers. The projects selected can also be aimed at either income stabilisation (e.g. soil and water conservation to 'drought-proof' rainfall-dependent local economies, rural feeder roads to reduce food price seasonality) or income enhancement (e.g. micro-dams and small-scale irrigation for vegetable gardening). The key variable here is the *type of projects* selected.

This section assesses the impact of public works programmes in terms of direct income effects, sustainable income enhancement and income multipliers, the use value of assets created or maintained by public works, labour market impacts (labour supply and rural wages), and unintended negative consequences.

Direct income transfers

The conditions that pertain in industrialised country labour markets – including relatively high wages, unionisation, and stigmatisation of unskilled manual work – do not hold in poor developing countries, where large pools of unskilled labourers are unemployed and unrepresented, wages are low, and almost any employment is better than none. Also, construction activities in industrialised countries are highly mechanised and citizens are intolerant of low quality infrastructure, but in developing countries mechanised methods of infrastructure creation might require unfeasibly costly imports of capital equipment. These conditions suggest that public works programmes have a double potential to alleviate poverty in developing countries through direct income transfers. Firstly, because capital-labour cost ratios are lower, a greater proportion of the project budget can be transferred as wages to workers, and secondly, because overall costs are lower, higher levels of employment or wage rates can be offered for any given budget.²³

²² In effect, 'sustainability' is the difference between (temporary therefore unsustainable) poverty alleviation and (permanent therefore sustainable) poverty reduction.

²³ There is no rule for the appropriate or optimal proportion of labour to equipment: labour cost could vary from 30% to 90% of total project costs (Lennartsson and Stiedl 1995:2). In general, the proportion of the project budget that goes directly to workers as wage income is higher on EBSNs than on LBIPs.

Does public works income *stabilise* or *augment* incomes? Income transfers to the poor can have either 'mean-shifting' (income raising) or 'stabilisation' (income stabilising) effects on household income²⁴ – though some evidence suggests that it can do both. In an applied general equilibrium model of the Indian economy, Narayana *et al.* (1988) found that rural public works could achieve enormous positive impacts on poverty reduction and economic growth. "[I]f rural works programs can be financed through additional taxation and if they could be carried out without investment inefficiencies and targeting failures, then not only do the rural poor improve their welfare substantially but the economy grows faster also" (Narayana *et al.* 1988:149). The extent of the impact on poverty depends on the scale of the programme and the size of the transfers. Theoretically, rural public works could virtually eliminate poverty in India, but the fiscal costs of implementing such a programme on the scale required (rising to $\pm 8\%$ of GDP, a significant additional tax burden) means that in practice "its political feasibility, let alone its administrative feasibility, is doubtful" (Narayana *et al.* 1988:150). If a scaled-up rural public works programme is financed not through higher taxes but through reallocating government spending away from other pro-poor investments, the impact is felt in a reduced (but still positive) GDP growth rate, but only a marginally lower impact on poverty.

Providing an income stabilising 'safety net' has historically been the primary function of many public works programmes, including the EGS in Maharashtra, which has been very successful in terms of smoothing income and consumption after poor harvests or during the annual 'hungry season'. One study found that income variability among landless agricultural households was halved in villages where EGS was operational, in comparison to villages where EGS employment was not available (Walker *et al.* 1986, cited in Ravallion 1990:32). Bangladesh's Rural Works Programme (RWP) and Food-For-Work Programme (FFWP) have even been credited with preventing famine in 1988, when employment on these programmes increased by 90% and 20% over the previous year respectively (Ravallion 1990:32). The *sustainable* impact of counter-cyclical EBSNs on poverty reduction is likely to be negligible, as most of these cash wages or food rations will be consumed to bridge short-term consumption deficits. However, the availability of public works income does have the important effect of protecting people affected by livelihood shocks against the need to adopt erosive 'coping strategies' (e.g. selling productive assets or becoming heavily indebted). In this sense, EBSNs can have a significant impact on poverty, in terms of preventing destitution or further impoverishment.

Knowledge of the existence of a reliable and effective EBSN can encourage moderate risk-taking behaviour by the poor, who otherwise tend (understandably, given their precarious livelihoods) to be risk-averse. Studies of farmer behaviour in India have found that farmers in Maharashtra are more likely to adopt agricultural practices – such as planting higher-yielding rather than drought-tolerant crops – that farmers in other states reject as too risky. The rural poor in Maharashtra also tend to be more entrepreneurial: they use resources tied up in precautionary savings to invest in business or agriculture. The reason is that people in Maharashtra know that their livelihoods are partially insured against crop failure by the EGS, which will provide them with waged work if required. By encouraging farmers to adopt practices that should raise their average crop yields over time, the public works 'safety net' contributes to higher as well as more stable incomes.

All income earned on public works programmes must be discounted by two factors to derive its net contribution to total income: *foregone income* and *energy expended* in working on the project. Whether public works participants enjoy higher or lower incomes than their neighbours depends not only on the wage rate and duration of employment but also on employment opportunities and conditions in local labour markets. Keddeman (1998:13) cautions against assuming that the alternative to public works employment is no employment. Where this is the case, then public works do provide additional income, but in one LBIP road project in Lesotho, non-participants were found to have incomes 50% higher than participants, because public works was seen only as "employment of last resort". Conversely, EGS workers in Maharashtra earned 20-35% of their total incomes from the EGS, most of which was additional: only 5-7% of this was income foregone from alternative employment opportunities, leading Ravallion and Datt (1994:23) to conclude: "Allowing for foregone incomes, earnings from public employment unambiguously reduce poverty". Reviewing the evidence on opportunity costs of public works employment, Keddeman (1998:15) finds a wide range of values,

²⁴ Drèze and Sen (1989) describe these as 'livelihood promotion' and 'livelihood protection' interventions respectively.

from around 10% in poor communities with limited employment alternatives to “close to one hundred percent in Thailand and in a few cases in Africa.”

On the energy expenditure costs of public works programmes, Maxwell (1993:107) notes that “hard, physical work needs extra calories, as many as 1,000 per day”. These ‘participation costs’ reduce the value of the wage or food ration compared to (food or cash) transfers made without a work requirement. Evaluations in Bangladesh during the 1970s found that food-for-work was well targeted on the poorest and provided them with 33 days of work per annum. “However, food-for-work resources received by participants together with foods from other sources were not sufficient to provide their families with adequate diets” (USAID 1991a:7). This was partly because the ration was set at a low rate, for self-targeting purposes, and partly because of high energy expenditure on public works activities. One implication of the ‘efficiency wage’ hypothesis (that the poor and undernourished need higher wages to perform as effectively as wealthier, better nourished workers) is that public works wages should be set *higher* than local average rates. Another implication is that daily working hours and work norms should perhaps be set lower than for healthier workers. Low wages and heavy labour requirements might be counterproductive – even contributing to trapping people in chronic poverty (Lipton 1983:74).

The widespread (almost universal and unchallenged) practice of setting public works wages at or just below the local average wage rate is usually justified on self-targeting grounds. A related point is that reliable employment has an intrinsic value over less reliable alternatives. Adams (2001) found that employees on Malawi’s Social Action Fund (MASAF) were willing to accept cash-for-work wages that were below local average daily rates because the certainty of continuous employment reduced the search costs and irregular nature of casual agricultural labour available in the workers’ localities. Similarly, a 1983 study in Bangladesh found that participation in food-for-work largely reflected a shift from self-employment and other forms of employment (Osmani and Chowdhury 1983). It appears that the substitution of public works employment for other (less remunerative) employment might be very high in certain contexts: the net income effect of public works might be much greater than the net employment effect.

On the other hand, setting public works wages below local rates may compromise the poverty reduction potential of these programmes, if it means that too little income is transferred to allow meaningful savings and investment to be made. For example, Botswana’s labour-based rural roads programme – which provides $\pm 3.3\%$ of total rural employment in most years – pays workers half the statutory minimum wage for construction workers, whose earnings amount to less than 50% of the national poverty datum line. “It can be concluded that employment under the scheme has been a means of ensuring basic survival without, in parallel, ensuring poverty alleviation. ... The Government of Botswana wages policy has contributed to social exclusion and marginalisation of those employed” (Mayer and Kayira 1997:12).

Many public works projects are implemented in non-emergency contexts – e.g. as components of Social Funds – and in these circumstances it is more likely that some of this income will be saved or invested as well as consumed. Public works participants in Bolivia’s social investment fund increased their incomes by approximately 45% in 1987 (Glaessner and al. 1994). The marginal propensity to invest this transfer income will depend primarily on how much is earned relative to household consumption needs. The more income is transferred to workers (i.e. the product of the wage rate and the duration of employment), the more likely it is that their basic consumption needs will be met, leaving a surplus for investment. Studies of rural food-for-work in Bangladesh and urban food-for-work in Guatemala found that both programmes had “favourable private savings and investments effects. ... Strengthening financial institutions alongside public works is thus called for” (von Braun *et al.* 1991:29).²⁵ This raises a general point, that the anti-poverty impact of public works programmes can be maximised only if public works are one component among many complementary interventions.

²⁵ The survey of urban food-for-work in Guatemala found that a surprisingly high proportion of participating households saved and/or invested some of the income earned on the project. The authors attributed this behaviour to participants treating this as ‘windfall’ income rather than part of the household’s regular income stream (Bell and Martinez 1989).

Ravallion (1991) considers the impact on poverty of two alternative public works policy options: "Wide coverage with a flexible wage rate (WIDCOV)" and "Limited coverage at a socially determined minimum wage (LIMCOV)". WIDCOV offers work to all who want it at whatever wage the agency's budget will allow, which, in most cases (given widespread unemployment and constrained budgets) will imply setting the wage rate below the level needed to bring workers up to the poverty line. This means that the WIDCOV option reaches more poor people, but only *alleviates* their poverty; it has little impact in terms of reducing the *numbers* of poor people.²⁶ LIMCOV, by contrast, fixes the wage at a higher level – one that allows participants to escape poverty – but the level of employment offered is limited by the budget constraint, so the number of beneficiaries is less than under WIDCOV.

This analysis does not answer the question – "is it better to guarantee employment at potentially low wages for all of the poor, or to guarantee that at least some of the poor are deemed to have adequate incomes?" (Ravallion 1991:60) – but it does allow better informed judgements to be made. Ravallion himself comes down in favour of LIMCOV: "under otherwise identical conditions, one would tend to favour schemes which allow at least some poor people to obtain that income, over schemes which allow only small gains to the very poor" (Ravallion 1991:60). A similar policy conclusion was reached in Botswana:

"For labour-based public works programmes to be sustainable, the Government should ensure that the incentives are right – remuneration should be commensurate to the level of work effort. ... in this connection, in labour-based programmes task-based payment should become the normal mode of payment rather than the exception" (Mayer and Kayira 1997:46).

This debate parallels that between labour-based and labour-intensive methods, where labour-based approaches (as on LBIPs) correspond to LIMCOV – and have greater potential for poverty reduction – while labour-intensive methods (as on EBSNs) correspond to WIDCOV, and are more effective at achieving broad-based poverty alleviation. The contrary position is taken by Subbarao *et al.* (1996), who argue in their assessment of public works programmes in the Philippines that wages offered are too high. A disadvantage of LIMCOV is that higher wage rates undermine the self-targeting function that low wages perform. On food-for-work projects, in particular:

"the effective wage rate is much higher than necessary. Many labourers are willing to work for as little as P60 per day. Not surprisingly, the program is attractive to the nonpoor. The wage needs thus be reset to match the poor's supply price to ensure self-targeting. ... The wage-setting procedures and project choices suggest that Food-for-Work projects are not primarily designed for poverty alleviation. ... wage policies are not designed to reach the poor as they are set higher than necessary" (Subbarao *et al.* 1996:32-35).

A rare case of both LIMCOV and WIDCOV being implemented within the same public works programme comes from a road construction project in Zambia (see Box 5).

²⁶ An early evaluation of Maharashtra's EGS concluded that 90% of workers remained under the poverty line (Dandekar and Sathe 1980), a consequence of guaranteeing employment but at a low enough wage to limit the number of applicants to manageable levels.

Box 5 Cash-for-work in western Zambia

Like many public works projects, cash-for-work in western Zambia had both livelihood protecting and livelihood promoting objectives. Apart from providing immediate consumption support to drought-affected farmers in the form of wages to purchase food, the project aimed to stimulate local trade and to enhance market integration by building feeder roads, thereby reducing food prices and improving food security at household, district and provincial levels. Evaluations concluded that the impact on current poverty was significant, especially in districts where workers were employed for lengthy periods. However, most of this income enhancement was a temporary effect; when the project ended, few workers found employment elsewhere and the only lasting impact was in terms of assets acquired with cash-for-work income.

The project was implemented in three districts. In Kalabo and Mongu workers were employed continuously for over a year, but in Lukulu employment was restricted to 20 days and workers were rotated every month. The reason was that rural poverty in Western Province stands at 86%, and it soon became clear that the wage could not be set at a rate low enough to self-target the poorest and equilibrate labour supply and demand. This differential employment policy resulted in differentiated poverty impacts. When the programme ended in 1997, the proportion of participating households still below the poverty line had fallen to 74% in Kalabo and Mongu, but remained at a (drought-induced) high of 97% in Lukulu. However, far fewer Kalabo and Mongu households had benefited from the programme, and resentment from excluded neighbours created serious social tensions. The higher earnings of Kalabo and Mongu workers allowed them to spend some income on investment items (mainly for agriculture, but also small businesses) and providing assistance to other households, whereas participants from Lukulu had little cash to spare after they had purchased staple food and groceries. This finding confirms a corollary of 'Engel's law' - that the marginal propensity to invest incremental income rises along with income.

Table 3 Cash-for-work earnings and spending by district, western Zambia

		Kalabo	Lukulu
Employment	Duration of employment	10 months	<1 month
	& Income		
	Cash-for-work income 1996	K 146,722	K 11,750
	Maize equivalent (90kg bags)	7.4 bags	0.6 bags
<hr/>			
Spending (<i>& of households</i>)	Bought food & groceries	100%	100%
	Bought items for house	78%	21%
	Helped other households	59%	12%
	Invested in farming	19%	0%
	Paid brideprice	5%	0%
	Purchased ox-cart	1%	0%

Note: K2,000 = £1. A 90kg bag of maize (=household needs for one month) cost K20,000

(Source: Devereux 2000)

Sustainable income enhancement

Although employment on public works tends to be low-waged and temporary, it is possible for workers to derive long-term income benefits. Sustainable poverty reduction through public works income transfers can be achieved in several ways, including: expanding coverage to increase the numbers of poor people who benefit, raising the wage rate, and extending the duration of employment to allow participants to accumulate sufficient income to 'graduate' out of poverty.

The nature of projects selected also influences the impact on household incomes. One food-for-work programme in India during the 1980s which emphasised agricultural assets, such as small-scale irrigation, was found to have dramatically increased agricultural production and household incomes. "The activities supported a threefold increase in cropped area. Agricultural output and household income increased between 39% and 70%" (USAID 1991a:7).

One of the most comprehensive and rigorous evaluations of a public works programme was conducted by the Bangladesh Institute of Development Studies (BIDS) and the International Food Policy Research Institute (IFPRI) in the mid-1980s. A classic of its kind, this study provides a methodological model that no later evaluation has emulated. It also found a range of direct and indirect positive impacts of food-for-work on production and incomes (see Box 6).

Box 6 Impacts of food-for-work on production and incomes in rural Bangladesh

"IFPRI researchers found that FFW infrastructure projects have a significant positive effect on food production, especially cereals. Cereal production was 44% higher than it would have been without the project, and the value of all crops was about one-fourth higher in project villages than in control villages. The difference is statistically significant. When linking crop production and inputs like fertiliser, IFPRI researchers found that marginal productivity was 48% higher for land and 27% higher for labour in FFW project villages. The conclusion from these higher rates is that FFW projects reduce risk in production of agricultural crops.

"The researchers reported that the net income of households was 55% higher compared to what it would have been in the absence of FFW. The total volume of employment generated by FFW support was equivalent to 17 days of additional paid work for every landless labourer in Bangladesh. The impact on employment in crop production, trade, construction and cottage industries was 9% higher for project villages and was statistically significant. Total household income from crop production and agricultural wages was 27% higher than in control villages. Income from cottage industry and trade was 1.5 times higher for households in FFW project areas. ...

"A later IFPRI study looked at the development effects of rural infrastructure, including FFW projects on markets, social development, agricultural production, employment, household income, consumption patterns, and savings and investment inclinations in rural households. They found positive effects in every category."

(Source: USAID 1991a:37, citing IFPRI/BIDS 1985, IFPRI/BIDS 1988)

An important by-product of LBIPs is the transfer of skills that should enhance the potential for workers to find better employment after the project than they were able to secure before, or to apply their new or improved skills in the informal sector or self-employment. The extent to which this actually occurs in practice is contested, and there are relatively few success stories to report. In Botswana, public works employment has given some participants the opportunity to 'upgrade' from low-paid alternatives or self-employment. "[For] the poor, who often engage in low-paying, marginal-wage employment, access to a project allows the participants to move to better-paying project work. ... The project thus appears to have contributed to moving some of the households to the middle-income group" (Teklu 1995:169).

In labour-intensive employment-based safety nets (EBSNs), the potential for upgrading existing skills or transferring new skills to workers is limited by the requirement to maximise employment and income transfers, but on labour-based infrastructure programmes (LBIPs) training participants is justified by the concern with producing assets of reasonable quality. These skills might be technical (to do with the nature of the work), or managerial (to do with the process of the work – e.g. bookkeeping), or there might be a broader level of empowerment (as in the Sri Lanka case in Box 7 below). This evaluation concluded that local artisans employed on infrastructure projects not only improved their technical skills but were empowered by being given responsibility over aspects of project management.

Box 7 Skills transfers on public works in Sri Lanka

"In Sri Lanka, very poor people were trained in simple skills like reading plans and filling in forms, so that they could go on to contribute to planning their own infrastructure and public facilities. At the implementation level, local artisans who were employed for their skills found that the responsibility they held in the small project, and the increasing complexity of projects which the community contracting entity could tackle, led to a gradual but noticeable improvement of skills. In tackling a sewerage system, artisans found themselves learning more about levelling and gradients than they had previously known. They learned partly by having to do the work, and partly through the technical assistance given by the NHDA technical staff assigned to oversee the project. These examples represent true technology transfer from the formal to the informal sector, enabling the poor to improve their conditions through increased productivity."

(Source: UNCHS/ILO 1995:185-186)

Some critics argue that public works should be used to enhance the value of labour by improving participants' human capital through training. For example, various evaluations of Maharashtra's EGS have applauded its effectiveness as a short-term safety net, but have criticised its limited developmental impact, despite the rural infrastructure created by EGS projects. One explanation for this is that the infrastructure created does not directly benefit the poor – either these assets are not pro-poor, or their benefits (e.g. irrigation) are 'privatised' by local wealthier groups. But another explanation is that the EGS does not prioritise skills transfer or training, and since the work is mainly unskilled, participants rarely 'graduate' to full-time employment. Focusing more on human capital formation could extend the value of public works employment beyond single discrete periods of employment to the intertemporal multi-period dimension. The main argument against this strategy invokes familiar trade-offs: the cost of providing training would reduce the alpha-ratio (the proportion of project resources transferred directly to participants as wages) and would therefore probably result in a lower level of employment.

The sustainability of public works impacts also depends on institutional arrangements. In general, stand-alone programmes with designated structures and project staff tend to be less durable than projects that are either initiated by, or fully integrated with, government structures. "A review of the ILO's experience with labour-intensive Special Public Works Programs in five countries found that problems of sustainability frequently resulted from the creation of independent institutional structures for programs external to the government system" (von Braun *et al.* 1991:15). It is no coincidence that the best-known, most successful and longest-running public works programmes – Maharashtra's Employment Guarantee Scheme, Bangladesh's Food-For-Work programme – are government programmes.

Income multipliers

'Multiplier effects' (or 'forward linkages') refer to the boost to workers' purchasing power created by the injection of cash – or food, which is fungible – into the local economy, which increases the general level of economic activity by being spent on goods and services, generating income and profits for others. The most important determinant of the extent to which public works earnings generate income multipliers is probably the level or value of income transferred. Public works projects invariably attract traders – roadside stalls and other small businesses are set up alongside road projects, retailers and hawkers appear on pay-days to sell food and groceries, second-hand clothes and consumer goods to the workers. On the other hand, the long-term sustainability of this economic stimulation is often limited. In the western Zambia road-building project (discussed above), several new enterprises were started during the project, and shop-owners reported that their turnover doubled on pay-days, but most closed down soon after the project ended, when the local market contracted to pre-project levels.

Despite isolated claims that public works earnings are treated as 'windfall income' by participants, there is no systematic evidence that public works income is used differently from other income. Most tends to be directed to current consumption (food and grocery items, health and education expenses), while some proportion might be saved, invested in livelihood activities (e.g. purchasing

agricultural inputs), or to pay off debts. Public works earnings can also provide start-up capital or working capital for business ventures (e.g. petty trading) by public works employees themselves.

Cash wages generate more significant income multipliers than food rations (which strengthens the case for payment in cash rather than food, provided market conditions allow). An experimental public works project in the chronically food deficit Wollo region of Ethiopia, where workers who were previously paid in food rations received cash wages for the first time in 2001, found that 94% of this income was spent on food. The cost of delivering cash wages was 40% lower than delivering food rations, so the programme was more efficient,²⁷ and a marked increase in local trading activity was observed, as traders arrived to meet the increased market demand for food. Cash-for-work participants consumed a wider diversity of food items than those receiving food-for-work rations,²⁸ they were paid quicker and they incurred lower costs in terms of collecting and transporting food to their homes. Although there was little evidence of capital formation or asset acquisition (e.g. livestock purchase) by cash-for-work participants, the reason for this was the short duration of the pilot project (4 months). "The potential of cash-for-relief for recapitalisation of destitute households needs to be explored within the context of a longer-term project" (Save the Children UK (SC-UK) Ethiopia 2001:8). An evaluation concluded that, where market conditions allow – where food surpluses are available locally at reasonable prices and traders are responsive to demand signals – cash-for-work should be preferred to food-for-work.

This review found no *ex post* evaluations that had been conducted some time after a public works project had terminated, to assess the long-term multiplier effects of either the income injection or the assets created for the local economy. Impressionistic evidence from my research in African communities where public works projects had been implemented is that these interventions arrive as 'bubbles' of opportunity and income that set up concentric rings of economic stimulation – so their immediate positive impact spreads much wider than participants and their households – but that this impact is largely limited to the duration of the project. When the project ends the bubble bursts, and little evidence of sustainable income enhancement remains some years – or even several months – later.

One explanation for this is the high proportion of public works income that the poor allocate to immediate consumption. Even where some propensity to invest public works earnings is recorded, this tends to be on recurrent costs of economic activities rather than capital goods – seeds and fertilisers for the current farming season, working capital for petty trading in local markets. Public works earnings are generally too low, and the consumption needs of participants too pressing, for major investment to be facilitated that would lift participants to a higher level of economic activity and generate sustainably higher incomes (e.g. purchasing oxen so that farmers can shift from hoe cultivation to animal traction). The 'LIMCOV' strategy proposed by Ravallion, as implemented in western Zambia (Devereux 2000) has the potential to lift a select few out of poverty, but at the cost of social tension (resentment from excluded neighbours) that offsets the 'trickle-down' effects that this higher income to the fortunate few might generate.

Labour market impacts

"The responses in private labour markets, to changes in the seasonal availability of labour due to public works, can hugely affect – double or destroy – the poverty impact of public works. Therefore, the impact on employment, poverty and output of such responses must be estimated (roughly, but with analysis of sensitivity to error) before starting work on major public works" (Lipton 1998:93).

²⁷ This finding is confirmed by a review of cash-for-work *versus* food-for-work projects, which concluded: "Cash-for-work can reduce program costs by 25% over food-based public works schemes by avoiding commodity-handling costs" (Ahmed *et al.* 1995:70).

²⁸ Since dietary diversity is recognised as a robust indicator of household food security status (Hoddinott and Yisehac 2001), it can be concluded that cash-for-work participants enjoyed enhanced household food security as compared to food-for-work participants, in this case.

In the 1970s and 1980s, concerns were raised about the possible 'disincentive' and 'dependency' effects of all forms of food aid, including food-for-work. In particular, it was argued that the work requirement could divert labour away from agriculture, undermining crop production and creating a class of rural poor who would become permanently dependent on public works employment. Although this concern persists, in practise it has usually been addressed by carefully designing public works programmes so that the provision of employment coincides with the 'slack season' in rural areas, when labour is underemployed and few income-earning options are available.²⁹

Shifts in the availability of labour because of public works can also influence local wage rates. The EGS in Maharashtra, for instance, has pulled up local agricultural wages by around 10%, which is beneficial for the rural poor in general. This is partly because the EGS reduces labour supply to private employment, and partly because the existence of guaranteed alternative employment increases workers' bargaining power over wage rates with private employers. Of course, there is also a risk that higher wage rates will reduce the demand for agricultural labour (Gaiha 1993:114), but given the low wages offered on EBSNs and the limited coverage of LBIPs, this risk is marginal. Given the very low agricultural wages that are paid in labour-abundant rural areas of Africa and South Asia, Lipton's concern that rising wages will result in "substantial displacement of unskilled workers by tractors, weedicides and bulldozers" (Lipton 1998:85) seems an unlikely scenario, and one for which no evidence can be found in the literature.

The mode and level of payment are also important determinants of a project's labour market impacts. If public works wage rates are set deliberately below local market wages (as on self-targeting EBSNs), then people are unlikely to choose public works employment except as a fallback option when no alternatives exist, and the upward pressure exerted on market-based wages will be negligible. If, on the other hand, public works wages are set above local average rates (as on some LBIPs), "this will conflict with the objective of maximising employment from a given budgetary outlay" (Guhan 1995:99). Given the stigma attached to food-for-work (as discussed earlier), public works projects that pay workers in food rations will also probably have negligible effects on local wages.

The case study from Zambia described in Box 5 above found that this cash-for-work project had been beneficial for agricultural production. In districts where workers were employed continuously and earned sizeable amounts of income, many participants hired agricultural labour and purchased seeds and fertiliser with their earnings. This behaviour had a number of spin-off benefits. Firstly, it provided income to a second group of workers – a significant employment multiplier. Secondly, since many female project participants hired male labourers to plough or weed their fields, this freed women from the most arduous agricultural tasks. Thirdly, since investment in agricultural inputs, including labour, increased because of cash-for-work income, agricultural output probably increased, contradicting conventional wisdom on the labour-displacing impacts of rural public works (Devereux 2000). None of these investment behaviours were recorded in the district where job rotation was practised, and earnings were used mainly to purchasing food.

Once again, this case study illustrates some basic distinctions between the 'LBIP model' and the 'EBSN model'. The LBIP approach generates higher levels of benefits and a range of positive multiplier effects, but for a smaller number of beneficiaries, than the EBSN approach.

IMPACTS ON POVERTY (3): ASSETS CREATED

Public works projects aim to provide two sets of benefits: immediate income, and durable assets that should, either directly or indirectly, generate future income – "short-term employment and long-term assets" (von Braun *et al.* 1991:15). On both counts, LBIPs have greater potential to achieve lasting impact than EBSNs. LBIPs tend to transfer higher levels of income to individual workers than EBSNs, and LBIPs are more concerned with creating useful infrastructure and other durable assets than are EBSNs. However, this claim is controversial. Public works in general have been heavily criticised as producing poor quality infrastructure that rapidly becomes unusable.

²⁹ As the World Labour Report 2000 notes: "labour-intensive infrastructure programmes ... are undertaken mainly during the lean season when small farmers and landless (hired) workers are not engaged in agricultural operations and have no alternative sources of employment" (ILO 2000b:161).

Many writers are dismissive about the income generation potential of public works assets: “longer-term poverty alleviation or development have been more difficult to achieve and ... doubts do persist about the benefits to the poor of the assets created through public works” (Keddeeman 1998:6). Clay (1986:1248) was similarly pessimistic: “Projects which are simultaneously highly successful in terms of employment and income generation, and have positive distributional benefits from asset creation in the long-run, are few in number.”

One problem with this type of criticism is a failure to differentiate between LBIPs and EBSNs. Much of the ‘make-work’ complaints that public works programmes have faced is really directed against EBSNs – but this is often misdirected, since EBSNs are focused more on maximising employment and immediate consumption support than on leaving durable assets behind after the reason for setting up the EBSN has passed. Complaints about low quality assets should instead be directed at LBIPs, where quality control and cost-effectiveness of labour-based methods are given higher priority by project managers.

Any claim that public works programmes have to make a sustainable development impact rests on the nature and quality of the assets they create. As Lipton (1998:73) notes: “public works do not enable permanent escape from poverty – unless accompanied by special measures such that the works programme itself builds up assets (savings, physical capital, skills, health, or infrastructure) owned by, or providing future employment income to, the poor.” So one precondition for the poverty reducing potential of public works assets is that these assets must have significant output effects. In this context, as we shall see, post-project maintenance of public works assets is critical.

A second precondition for sustainable poverty reduction through public works programmes is the extent to which these output effects are ‘pro-poor’ – or, conversely, are captured by local elites (Gaiha 1993:115). While income transfers accrue directly to individual workers, the benefits of assets created tend to accrue to entire communities – and sometimes disproportionately to the non-poor, who are better placed to take advantage of infrastructure such as roads and irrigation to enhance their livelihoods. This has implications for project selection: public works projects must be carefully selected and designed, preferably in consultation with the participants. Recognition of this fact led to WFP’s adoption of the ‘Gaeta principle’ in 1997: the benefits of assets created by food-for-work should accrue directly to the workers who created or rehabilitated these assets (Tajgman 1997). Another variation on this ‘principle’ is to produce assets that provide benefits to individuals, rather than communities. The principle of providing assets to individual beneficiaries is not new. “India’s Million Wells Scheme and its successors, recently linked both to JRY and to EGS, seeks to create *durable assets on small and marginal farms*, enabling poor farmers to generate subsequent self-employment income” (Lipton 1998:78).

In examining the impacts of assets created by public works programmes, this section draws a distinction between infrastructure (both physical and social) on the one hand, and other assets on the other. The section also examines the sustainability of the assets created by public works programmes.

Physical and social infrastructure

It is now widely accepted that enhanced physical infrastructure is a precondition for rural poverty reduction. Rural poverty is closely correlated with physical isolation or remoteness, and with lack of access to markets, towns and social services. A good proxy for remoteness is road density. A study in rural China concluded that road density was a significant determinant of household prospects of escaping poverty (Jalan and Ravallion 1998, cited by van de Walle 2000:3). The main benefit of physical infrastructure is improved accessibility of the poor to goods and services. So LBIPs that build or upgrade rural transport infrastructure (road networks, bridges), or service centres (school buildings, clinics), should contribute indirectly to poverty reduction.

Several studies have concluded that roads (whether constructed through public works or not) have had positive effects on poverty alleviation, but that these effects are indirect and difficult to quantify. Among the benefits are reduced travelling times, reduced travel costs, and the price effects

associated with market integration – reduced transactions costs increases profit margins for producers and sellers and reduces prices and smoothes price seasonality for consumers (Baulch 2001). In terms of household food security, the benefits of reduced price seasonality as markets become more integrated are considerable, while opportunities to sell produce can stimulate agriculture in previously isolated regions. While it might be the case that the rich are better placed to benefit from roads linking the community to larger markets, Keddeman's conclusion, "that roads are likely to reinforce existing social and economic structures and stratification processes", seems unduly negative (Keddeman 1998:19).

Available evidence from Lesotho, Madagascar and elsewhere suggests that "labour-based techniques can be more cost-effective than equipment-based techniques" (ILO 2000b:163) in terms of creating and maintaining certain categories of physical and social infrastructure, such as rural feeder roads and school buildings respectively.³⁰ Labour-based methods are often technically comparable and economically and socially superior to equipment-based methods, in sectors such as road construction in poor countries. A comparative analysis of road construction costs in southern Africa found that labour-based methods cost 79% of equipment-based methods in Zimbabwe and just 50% in Lesotho (Lennartsson and Stiedl 1995:17).

Islam and Majeres (2001:14-15) list "three reasons for taking the infrastructure and construction sector as a ... catalyser for employment-intensive growth":

1. "the lack or degradation of productive, social and access infrastructure retards economic development, and generally isolates ... poorer communities";
2. infrastructure represents a significant proportion of GDP, public investment and donor support (loans and grants) in developing countries;
3. the potential for labour absorption is particularly high in this sector: labour-based methods account for 50-60% of total costs in several country case studies.

Islam and Majeres (2001:16) point out that the case for labour-based methods as a cost-effective way of providing employment and creating high-quality infrastructure does not apply only to the well-documented case of road construction and maintenance. Other sectors where "labour-based alternatives to conventional technologies also exist" include "irrigation (canal construction, minor dams, etc.), drainage and sewerage systems, erosion control, soil and water conservation, land development, water supply schemes".

However, assessing the returns to physical and social infrastructure is problematic. Not only is its contribution to production and trade difficult to measure and attribute, it is difficult assessing precisely who benefits from community-level assets such as feeder roads. Often, any indicators of impact on the poor are indirect. For example, following the rehabilitation of roads, bridges and culverts in Bangladesh using food-for-work, a survey "found an increase in bullock-cart, bicycle and rickshaw travel" but not much increase in motorised vehicle traffic (USAID 1991a:7), which suggested that the observed increased usage was pro-poor. Another study of the developmental impact of food-for-work roads in rural Bangladesh recorded several positive impacts, including: "improved local communications, reduced travel times and transport costs, increased use of new farm technology, increased commercial activity, increased access to health services, increased use of family planning services, and increased primary school attendance" (USAID 1991a:37, citing Hogdon et al 1984).

The EGS in Maharashtra has been criticised for its bias in practice towards providing infrastructure that disproportionately benefit the relatively rich.³¹ On the other hand, some political economists have

³⁰ "In Lesotho, for example, a comparative analysis in the road sector showed that the labour-based technique was 37 per cent less expensive than the equipment-based one in remote mountainous areas. ... in Madagascar... labour-based road projects carried out by small-scale local contractors cost 30-80 per cent a kilometre less than equipment-based projects executed directly by the Government. In addition, they generate two to three times more employment and save up to 30 per cent in foreign exchange" (ILO 2000b:163).

³¹ Amendments were passed by the state government in 1988 and 1990, that allowed EGS projects to include constructing agricultural wells for irrigation and planting tree crops on private land. However, "despite the

argued that this bias in the distribution of second- round benefits has been crucial for the EGS's continuing success and durability, because it has ensured political support from influential wealthy groups. "The rural bourgeoisie were therefore willing to acquiesce to a scheme that cost them little, invested in rural infrastructure that benefited landowners in particular, provided a significant source of patronage in rural electorates, and helped meet the reproduction costs of the agricultural labour force" (Joshi and Moore 2000:19). The importance of maintaining political support for public works and other redistributive programmes cannot be underestimated, even if this implies some equity and efficiency losses in terms of mistargeting of the benefits provided by these projects.

It might therefore be necessary to revisit the fashionable argument that public works participants should derive direct exclusive benefits from the assets they create. In the early days of public works, these programmes were criticised because they were perceived as mobilising cheap (even exploited) labour to build airports, highways and other infrastructure that would be used more by the rich than the poor. But the importance of transport and telecommunications in a globalising world is increasingly recognised by governments and donors (see DFID 2000). Airports are important in this context, yet nowhere are they built by the rich. Employing the unskilled and semi-skilled poor on labour-based infrastructure projects to construct 'macro-infrastructure' like airports is not unethical, provided employment terms and conditions are fair.

The physical infrastructure constructed or rehabilitated by public works programmes includes rural feeder roads – about 75% of Lesotho's road network was constructed using food-for-work (Shaw and Clay 1993) – boreholes, pipelines and microdams; afforestation, and clinics, schools and teachers' housing. Each of these assets contributes to economic development in different ways. Rural road networks are needed not only for transporting passengers and commodities, but also for market integration, which reduces price seasonality and enhances food security. Water supply projects provide water both for domestic use and for irrigation. Community afforestation projects are increasingly popular as a source of fuelwood (the most common source of light and heating for the rural poor) and for soil conservation.

Although EBSNs are usually viewed as social assistance programmes, while LBIPs are seen as more developmental in orientation, in reality this distinction is better characterised as a continuum rather than a dichotomy. Moreover, there is potentially a positive synergy between the need for social assistance and the developmental benefits of public works infrastructure. If public works assets succeed in raising local incomes in general, and the incomes of the poor in particular, then the need for public works and similar interventions will eventually disappear. The argument that well designed and effectively implemented public works programmes can reduce dependence on social protection assistance in the future has often been made in the literature, though it has rarely been achieved in practice.

"Because FFW resources support creation of assets and enterprises which produce long-term benefits, the activities can reduce need for further commodity support. ... [Food-for-work] offers opportunities for self-sustaining development and minimises dependence on outside food assistance. The fact that projects using FFW resources did not often achieve this in the past is a design problem rather than an inherent characteristic" (USAID 1991a:62).

An example of a food-for-work programme that attempted to exploit this potential synergy as an explicit strategic objective is provided in Box 8.

Box 8 *Livelihood promotion through public works in Ethiopia*

Soil and water conservation activities are among the most popular public works projects in Ethiopia, and are supported by WFP's Project 2488, the largest and longest-running food-for-work programme in Africa. Projects are identified that will raise agricultural productivity – land rehabilitation and terracing, micro-dams for irrigation and vegetable cultivation. "The long-term objectives of the project are to stabilise land productivity, increase farmers' incomes and improve food security ... through the rehabilitation of degraded land, protection of the environment, and the development of infrastructure in selected communities of chronically and severely food-deficit areas" (WFP 1998:7). The ultimate objective is to raise agricultural production until rural households achieve self-sufficiency and, except in drought years, food-for-work is no longer needed. In Tigray, the regional government carefully selected food-for-work projects that would ultimately reduce structural food insecurity. There were 500,000 food aid beneficiaries in Tigray in 1993, including refugees from Eritrea and South Sudan, but this figure was planned to fall by 50,000 each year (except in drought years), towards a target of 100,000 'core' beneficiaries by the year 2000. In practice, this target has proved difficult to achieve, but the objective of promoting the rural poor out of poverty through livelihood-promoting public works programmes was innovative.

(Source: Devereux 1999b)

Despite extensive soil and water conservation activities using food-for-work – and occasionally cash-for-work – in Ethiopia,³² environmental degradation remains a severe and intensifying problem in the rural highlands. Some observers have attributed this to non-participatory processes of project design and implementation. "One of the major reasons for the lack of sustained management of the soil conservation measures undertaken through FFW by the beneficiaries is the fact that beneficiaries are not part of the decision-making process in the implementation of FFW" (Biruk 2001:15). This finding reinforces the argument that maximising the impacts of asset creation through public works programmes requires maximising the participation of workers in project selection and design, not just mobilising their labour.

Apart from physical infrastructure, LBIPs can also produce valuable social infrastructure, such as school buildings and health centres. The argument for investing in social infrastructure has been strengthened recently by the growing recognition that investment in human capital (education and health) is a prerequisite for the poor to escape poverty – in other words, social infrastructure also generates economic returns. The difficulty of assessing the contribution of social infrastructure to poverty reduction is analogous to the difficulty with respect to physical infrastructure such as feeder roads: these benefits are indirect, difficult to attribute and virtually impossible to assign to individuals or households. The case for increasing social infrastructure through labour-based public works programmes is more easily made theoretically than demonstrated empirically.

Sustainability

As noted above, there is a widespread perception in the literature that public works necessarily involves trade-offs between the short run objective of poverty alleviation through income transfers and the long run objective of poverty reduction through asset creation. There are many possible reasons for this trade-off.

Firstly, the non-labour cost of providing materials, training and supervision and other non-wage items inevitably competes with the objective of maximising employment and income transfers directly to the poor. The higher the non-wage component in the project budget, the lower the level of employment that can be offered. Whether this trade-off – between the short-run gains to the poor from a high wage component and the construction of assets of permanent value – is acceptable to policy-makers depends on their immediate and long-term ambitions for project impacts (Lipton 1998:80). On Maharashtra's EGS, for instance, a ratio of unskilled labour to equipment costs of 60:40 is set as a target for all projects. "This guarantees that labour costs are the largest single cost within each project and makes sure that the project is a transfer of income to workers, not to capital owners" (Wilkes 1997:35). On the other hand, EGS employees may derive lower long-run benefits if the assets

³² "In the 1980s ... more than 1 million km of soil and stone bunds were constructed on agricultural land, close to half a million kilometres of hillside terraces were built, 80,000 hectares of hillsides closed off and 300,000 hectares afforested" (Stahl 1992:286).

created by these projects are not useful or sustainable. In this context, the 'virtue' of EBSNs having low capital components (which is good for immediate poverty alleviation) can equally be seen as a drawback (bad for longer-term poverty reduction).

Secondly, there are persuasive arguments against 'overloading' any single intervention with too many objectives – in this context, using public works projects as a mechanism for employment creation, income redistribution and creation of assets. Drawing on an analysis of food security programmes in Africa, Sijm (1997) warns that the danger of trying to achieve multiple objectives through one type of project is that none of these objectives will be satisfactorily achieved.³³ Von Braun *et al.* (1991:14) argue that the attempt to simultaneously "maximise poverty alleviation ... jointly with the provision of growth and development-oriented public goods" through public works projects "may result in trade-offs". A review of public works programmes conducted in 1975 concluded that: "public works programs designed primarily to augment their employees' regular incomes or to relieve a disaster situation met their objectives more efficiently than those designed to absorb long-term structural employment or to create assets at low cost" (Burki *et al.* 1975:97, quoted in Keddeman 1998:5).

Thirdly, using unskilled labour to produce physical assets at low cost risks producing low quality assets with limited and unsustainable benefits. Ravallion (1991) argues that: "employment schemes are designed mainly to alleviate current poverty, not to create assets; that is a useful by-product, but there are better ways to do it". Even on LBIPs, a major concern is that the quality of physical assets created might well be substandard, such that the asset generates negligible returns and rapidly falls into disrepair and disuse. Some degree of quality control should be the norm on labour-based infrastructure projects.

Clearly, neither EBSNs nor LBIPs cannot be expected to produce infrastructure that is intrinsically capital-intensive – e.g. telecommunications or power stations – but in any event, these assets generate limited direct benefits for the poor. If public works are to maximise direct benefits for poor communities, projects of low capital intensity and high local relevance should be selected – rural feeder roads, community woodlots, microdams and hand-dug wells. Also, assets created by public works should be easily maintained by the local people (e.g. 'village-level operated and maintained' (VLOM) water-points) rather than generating dependence on technical expertise and spare parts that may be difficult to obtain once the project is completed. "Many RPW schemes are biased in favour of creating infrastructure but not towards maintaining it adequately. As a result, facilities created by public works often fall into disrepair and, consequently, are underutilised" (Gaiha 1993:121).³⁴ Subbarao *et al.* (1996) argue that project budgets should include provision for post-construction maintenance if the asset is to generate sustainable benefits.

"The long-term employment and income creation effects of public works programs is largely contingent on the sustainability of assets. To prevent asset loss, a maintenance strategy (organisation, financing, monitoring and evaluation) needs to be designed in the project formulation stage" (Subbarao *et al.* 1996:35).

The principle of involving local communities directly in all stages of the project cycle is increasingly accepted as 'good practice' for effective developmental interventions. In the context of LBIPs, community participation is especially important at project identification stage, since consultation with the people who will contribute their labour can ensure that any assets created by the project will benefit these specific groups. Experience from Indonesia and the Sahel confirms that assets created under food-for-work were better implemented and maintained when local communities selected the projects themselves and projects were designed in a participatory 'bottom-up' manner (USAID

³³ South Africa's National Public Works Programme (NPWP), for instance, has several objectives, including: "short-term job creation; the creation of assets or environmental improvement via labour-intensive means; sustainable job creation through skills training; and local institutional capacity building and community empowerment through participation in infrastructure projects" (Haddad and Adato 2001:1).

³⁴ A case in point comes from Tanzania's labour-intensive public works programme, which recorded "a substantial loss of created assets due to the lack of regular maintenance work" (Teklu 1995:162). In one region, 2,903 km out of 3,700 km (78.5%) of public works roads deteriorated so severely that they needed rehabilitation a few years after construction.

1991b; USAID 1991a).³⁵ Working closely with local institutions – farmers’ associations, women’s groups, village development committees – has the added advantage of enhancing local ownership over the project and the assets it leaves behind.

Recently, it has begun to be realised that the sustainability of assets created under employment-intensive methods is related to issues beyond the nature of the project itself. Three crucial factors are: domestic *political commitment*, *institutional arrangements*, and *incentive structures*.

□ *Political commitment*

It has already been noted that it may be necessary to accept a degree of ‘benefit leakage’ to the non-poor in order to ensure political support for anti-poverty programmes, including public works. It is also important that the national government actively promotes these programmes – ideally, they should be located within government planning cycles. Foreign donors can provide financial support, but this is not sufficient to guarantee a project’s sustainability. “Domestic political support is an important element for ensuring longer-term sustainability and impact of the programme and donor involvement can only be temporary at best” (Keddeman 1998:7).

□ *Institutional arrangements*

Successful public works programmes require a strong institutional base, preferably within government structures, otherwise they remain as stand-alone projects which will probably collapse once the project cycle ends. In addition to food or cash wages and non-wage inputs (capital equipment), technical support, management and administrative capacity are needed. This is especially important for LBIPs, where the quality of infrastructure assets is prioritised, otherwise the durability of construction projects will inevitably be compromised. In some cases, NGOs and local institutions have been used to provide administrative and management oversight for public works programmes (USAID 1991b:14), but these projects are vulnerable to shifts in donor priorities.

□ *Incentives*

Economists regard the work requirement plus low wage rates as a *disincentive*, deliberately designed to deter the non-poor from applying for public works employment (Besley and Coate 1992:250). It is also possible to manipulate wage rates to achieve positive incentive effects. Incentives relate both to work performance and to outputs. Firstly, higher wages will attract better workers, and relating payment to productivity (paying on a piecework basis) will produce better quality assets. Secondly, providing assets that local communities genuinely need will create incentives to maintain these assets. This might imply ensuring that workers derive real economic returns from the assets they help to create, rather than creating public goods or social goods that all community members use but no individual has an incentive to maintain. One reason for the failure of public works programmes in the past to produce assets of lasting value might have been the assumption that the rural poor are willing to work for the ‘common good’ rather than for themselves. This assumption might instead create incentives to produce low quality assets, since this would generate follow-up employment by requiring regular maintenance.

³⁵ USAID-funded food-for-work projects in the Sahel were found to have had developmental impacts in only a few cases – planting trees to stabilise sand dunes was one rare success story – but in other cases the infrastructure was of low quality and was not sustained.

Box 9 WFP's "new approach to sustainability"

In 1998, the World Food Programme commissioned a series of papers examining the developmental impact of its project food aid interventions. One of these papers considered the meaning of 'sustainability' in food assistance, and set out "A New WFP Approach to Sustainability: Sustainability for People, not Projects". In the context of food-for-work projects (or "support to productive asset creation"), five principles were established "if these benefits are to be sustained":

- ❑ "The intervention is environmentally sound – the natural resource base should be maintained to produce benefits over the long term without reducing its productive capacity;
- ❑ Recurrent costs will be met, primarily through community self-help participation or user fees, so that the benefit stream continues over the long term;
- ❑ Minimum technical standards are ensured – interventions should be designed that use local materials, require low capital inputs, need low maintenance and utilise local knowledge;
- ❑ Appropriate technical and financial support is available, either from partners or as part of WFP direct project support costs; and
- ❑ Interventions are socially and culturally appropriate. Normally the intervention would help to strengthen local social structures."

(Source: WFP 1998:8)

NEGATIVE IMPACTS OF PUBLIC WORKS PROGRAMMES

Evaluating the 'total impact' of public works requires examining the unintended consequences as well as the intended outcomes of the project. Some of these unintended consequences can be negative: for instance, public works might inadvertently promote child labour, or it might increase the workload on overworked women. This section briefly examines these negative impacts.

Child labour

The Minimum Age Convention of 1973 states that: "No person under the age of 15 should be employed or work". However, as Radwan (1995:36) points out:

"child labour is an extreme manifestation of poverty because it is the poorest families that need their children's labour to survive. But child labour also perpetuates poverty because it prevents children from acquiring the skills and education that would equip them for gainful employment".

Children are often found working on public works or accompanying their parents while they work on public works projects instead of attending school. According to an IFPRI survey in Niger in the early 1990s, child participation in rural public works was high: children under 15 constituted $\pm 25\%$ of the total workforce. Some children aged just six were working a full day and earning food wages. Most of these children were accompanying their mothers and working alongside them. "These children are working for a salary when they should generally be attending school. But, there are few rural schools and the alternative to paid public works is usually unpaid household or farm-based chores" (Webb 1995:187). Another example comes from urban Mozambique:

“A 1997 review mission of an urban roads project in Mozambique involving female workers found that the project employed some girls below 14 years of age, and also that some women worked while carrying children on their backs. Measures proposed that (i) underage children should be immediately removed from the workplace and, if at all possible, supported in attending school; and (ii) the women should be assisted with some support for child care through an advance on their wages which were to be paid monthly and on time.” (Source: Tajgman and de Veen 1998:33)

Alternatively, child labour might substitute for adult labour when adults neglect their farms or income-generating activities, in order to participate in public works projects. These problems are not specific to public works, although bad design (e.g. running public works during the farming season) can exacerbate conflicts over labour time. In recent years, growing concern about child labour in the development discourse has resulted in stronger efforts to ensure that children are not drawn directly into employment programmes (e.g. on ILO's Employment-Intensive Investment Programme), and these efforts should be encouraged. Nonetheless, it remains the case that few public works programmes pay sufficient attention to the indirect impacts of their intervention on child labour burdens, child care, or children's education. This is another area where better design can achieve better outcomes.

Gender impacts

The ILO's Employment-Intensive Investment Programme (EIIP) recognises that women, despite being over-represented among the poor, have fewer opportunities for remunerative employment than men.

“Therefore, the EIIP has given great attention to the inclusion of women in employment-intensive infrastructure works, where in the past men have tended to predominate. For example, women's participation has reached 37 per cent in programmes in Botswana, 25 per cent in Madagascar and up to 60 per cent in Lesotho” (ILO 2000a:1).

Where both cash-for-work and food-for-work employment are offered, it is common to find men dominating the former (by free choice) and women dominating the latter ('constrained choice'). In Niger, for instance, rural food-for-work projects are dominated by women (60-80%), while urban cash-for-work projects are dominated by men (99%).

“Many women have expressed a desire to participate, but their involvement is constrained by the volume of male demand. ... the offer of a cash wage in an environment of high unemployment brought men into competition with women for limited work places. Unemployed men quickly filled the available positions, squeezing women out of the projects” (Webb 1995:179, 186).

As argued earlier, it is vital to understand the sociocultural context when projects are designed and implemented. Current conventional wisdom asserts that gender quotas should be introduced on public works projects (though in some contexts women are prevented from working outside the home at all), to ensure that women benefit directly from employment creation and to empower them economically. But the work requirement imposes heavier time and effort costs on poor women – who are typically already overworked – than on poor men, who are more likely to be underemployed.

In the western Zambian case study, heavy manual labour requirements and onerous work norms on a road-building project compelled women to 'subcontract' men with ox-carts to help complete their tasks, in exchange for half their cash-for-work income. The programme was also held responsible for several incidents of domestic strife and even marital breakdown, either because of conflicts over the use of cash-for-work earnings or because of extra-marital relationships at roadside work camps. There are other ways in which transferring resources directly to women can lead to sub-optimal or even perverse outcomes, such as the appropriation of women's incomes by their husbands, or the abrogation by men of their responsibilities for household provisioning.

This does not mean that public works programmes should abandon gender quotas, or that they should target men rather than women. But it does strengthen the argument for investing time and effort in preliminary research and consultation – specifically, listening to the participant community during the design stage of any development intervention – in order to ensure a more sensitive project design that will meet the articulated needs of local people.

CONCLUSIONS AND IMPLICATIONS FOR POLICY

This paper has argued that the term 'public works programme' in practice covers a range of labour market interventions, the two dominant categories being 'employment-based safety nets' (EBSN) and 'labour-based infrastructure programmes' (LBIP). This paper has further argued that a failure to differentiate between these categories in terms of their objectives has resulted in criticism of their design or impacts that is often unfair or misdirected. While it is true that some public works programmes have been badly designed and implemented, project-specific critiques should not be generalised to a dismissal of all PWPs. Employment-based safety nets can and do achieve important welfarist goals; labour-based infrastructure programmes can and do achieve important developmental goals.

Some of the most hostile criticism of public works programmes is directed against EBSNs – their low wages (often paid in food rather than cash) and apparently unproductive heavy labour are widely regarded as demeaning and exploitative of the poor. Again, some of this criticism may be valid, but there may also be defensible reasons for these design choices in specific contexts. LBIPs, on the other hand, pursue different objectives and display very different design choices. Many of these choices reflect unavoidable trade-offs. Given a fixed programme budget, for instance, either the wage rate or the desired level of employment can be set, but setting one of these variables automatically determines the other. *It is important for those who design and implement public works programmes to be clear and explicit about the rationale and priority objectives of each project, and to motivate their design choices accordingly.*

The debate on **targeting the poor** provides a case in point. Public works programmes stand accused of paying unethically low wages (or subsistence rations) for self-targeting reasons. Self-targeting is certainly a feature of many EBSNs, and is justified in terms of the need to transfer scarce public resources to the poorest (i.e. to minimise leakages) in contexts of chronic food insecurity or emergencies. However, not all PWPs ration access to employment by offering below market wages. Some EBSNs recognise that their work requirement excludes the labour-constrained poor, so they offer rations or employment days in proportion to household size. Also, LBIP wages are increasingly market-related and alternative targeting mechanisms – such as community selection, or job rotation – are preferred. *As a general principle, this trend towards 'fair wages' rather than 'low wages' should be encouraged and, wherever possible, workers' preferences for mode of payment (cash or food) should be respected.*

In terms of **employment generation**, there is no doubt that public works programmes have created millions of temporary jobs and billions of workdays for the poor in South Asia, sub-Saharan Africa and Latin America. EBSNs have been particularly effective in countries such as India, Bangladesh and Ethiopia, where chronic poverty, agricultural seasonality and acute vulnerability to livelihood shocks (such as drought and floods) makes the availability of public works employment an attractive fall-back option for the rural poor. The most successful EBSNs are those that are flexible and responsive to demand, such as Maharashtra's Employment Guarantee Scheme, which (in theory) scales up or down from year to year according to the numbers of job-seekers. On the other hand, most EBSNs provide only short-term unskilled employment, they do not build transferable skills, and they make little discernible impact on the structural unemployment and underemployment that characterises poor developing countries. *It must be concluded that EBSNs are more effective as a mechanism for transferring income than as a sustainable labour market intervention.*

LBIPs, by contrast, prioritise 'quality' of employment over 'quantity'. Many LBIPs offer market-related wages and provide on-the-job training, thereby generating higher potential for various employment multipliers. LBIP employees are more likely than EBSN workers to hire others to work on their farms or informal businesses, to spend their earnings on a range of goods and services beyond subsistence items, and to use their LBIP experience and acquired skills to find productive employment after the

public works project ends. *Although in terms of scale their coverage is necessarily smaller than EBSNs, LBIPs have the potential to achieve significant and sustainable employment impacts, both directly through providing 'real jobs', and indirectly through employment multipliers.*

The impact of a public works programme on **poverty reduction** is mainly a function of its scale and the value of income transferred to participants. At the household level, the critical factor is how much (net) income this employment generates, which depends on the duration of employment multiplied by the wage rate. Obviously, the higher the wage and the longer the contract, the greater the likelihood that the household will save and invest some of this income in productive enterprises and assets; the lower the wage and the shorter the contract, the greater the likelihood that all this income will be consumed. As with many other design issues, there is no simple 'right' or 'wrong' solution to this unavoidable trade-off: instead, a difficult policy choice must be made. For EBSNs that are intended to stabilise consumption during emergencies, low wages and broad coverage might be the optimal combination. For LBIPs that have longer-term ambitions, transferring more income (and skills) to fewer participants has the potential to permanently lift these households out of poverty – but at the cost of excluding large numbers of equally deserving poor households from the project. *In general, EBSNs have the potential to achieve broad-based, short-term poverty alleviation; while LBIPs have greater potential to achieve sustainable poverty reduction, but for a smaller group of beneficiaries.*

In terms of **asset creation**, LBIPs have a clear advantage over EBSNs, because LBIPs *optimise* employment, while EBSNs *maximise* employment. In the past, public works projects were often criticised as 'make-work' (creating nothing of lasting value) or were accused of mobilising cheap labour to construct assets (such as airports) that benefited elites rather than the poor. More recently, LBIPs – and, to a lesser extent, EBSNs – have prioritised the creation of physical and social infrastructure, such as feeder roads or school buildings, using cost-effective labour-based construction methods. Several principles are suggested to maximise the pro-poor benefits and sustainability of public works assets. *Assets created by public works projects should be selected in consultation with participants to reflect local priorities; benefits should accrue directly to project participants; and adequate provision should be made for essential maintenance of assets after the project ends.*

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