

## Public works as a solution to unemployment in South Africa? Two different models of public works programme compared

### Economics and Statistics Analysis Unit (ESAU)

This series of Briefing Papers will identify the main issues from research conducted within the Economics and Statistics Analysis Unit (ESAU) at the ODI.

ESAU has been established by DFID to undertake research, analysis and synthesis, mainly by seconded DFID economists, statisticians and other professionals, which advances understanding of the processes of poverty reduction and pro-poor growth in the contemporary global context, and of the design and implementation of policies that promote these objectives. ESAU's mission is to make research conclusions available to DFID, and to diffuse them in the wider development community.

#### So far in this series:

- Ageing in a Low-Income Country: Is an Old Age Pension Necessary and Affordable? Case Study of Sri Lanka
- Public Works as a Solution to Unemployment in South Africa? Two Different Models of Public Works Programme Compared
- Why Bangladesh has Outperformed Kenya
- What can the Fiscal Impact of Aid tell us about Aid Effectiveness?

Overseas Development Institute  
111 Westminster Bridge Road  
London SE1 7JD  
UK

Tel: +44 (0)20 7922 0300  
Fax: +44 (0)20 7922 0399  
rapid@odi.org.uk  
www.odi.org.uk/esau

### Introduction: Unemployment and public works in South Africa

South Africa has an exceptionally high rate of unemployment of 31% of persons currently seeking work, and 42% seeking work and who would seek work if employment prospects were less discouraging.<sup>1</sup> Economic growth since the end of Apartheid has sharply increased demand for skilled labour, but the demand for semi-skilled and unskilled labour has if anything fallen, leaving overall employment unchanged (McCord, 2002). Unemployment rates are similar in both urban and rural areas. Many of the unemployed have never been in regular employment. Unemployment is closely correlated with, and a prime cause of, persistent poverty (McCord, 2004).<sup>2</sup>

The lot of the unemployed is aggravated by the small size of the informal sector,<sup>3</sup> rural and urban. The African informal sector was repressed, except in the homelands, by Apartheid policies of strict licensing and ethnic zoning. With the end of Apartheid these restrictions were rescinded, but the development of informal enterprise remains inhibited by strict minimum wage and employment conditions regulations, physical insecurity and poor access to capital (Kingdon and Knight, 2004).

The post-Apartheid government of South Africa has sought solutions to this most serious inherited problem through employment creation. It set up the National Public Works Programme in 1994, as recommended by the National Economic Forum – a business and labour advisory body – including the existing Community-Based Public Works Programme (CBPWP) supervised by the Department of Public Works. The 1996 White Paper on Growth, Employment and Redistribution (GEAR) set the target of creating 100,000 new jobs each year through labour-intensive infrastructural works and service provision (McCord,

2002). The National (or Special) Public Works Programme and other smaller schemes were folded in 2004 into an Expanded Public Works Programme. In the provinces, public works departments have been encouraged to lay greater emphasis on using labour-intensive methods of infrastructure construction and maintenance.

The government's intention is that public works will simultaneously: (i) relieve poverty by creating employment – both temporary and permanent, (ii) provide work experience and training to the chronically unemployed, making them more employable, (iii) build and maintain roads and facilities of value to poor communities and the local economy in poor areas and (iv) involve and build the management capacity of local communities. The ambition of this agenda is without precedent elsewhere in the world (Adato and Haddad, 2001).

Various different models of public works programme have evolved in South Africa. The dominant model offers temporary full-time employment for two to four months, while the other programmes offer permanent part-time employment, often in road maintenance projects. In the first model, personnel are recruited to work using labour-intensive techniques – generally in construction projects – for provincial public authorities or their contractors. In the second model, local communities, or individuals chosen by them, are themselves contractors paid by the authorities for the tasks they fulfil, on the basis of annually renewed contracts. The 'Zibambele' ('doing it for ourselves') programme in KwaZulu-Natal is a good example of the second approach (McCord, 2004).

The questions for this note are whether, and to what extent, either model is likely to achieve any or all of the government's objectives, and what differences there are likely to be between the effectiveness of public works programmes in South

Africa and the many successful programmes mounted elsewhere in the world. Following a short introduction to the main objectives and characteristics of public works programmes in other developing countries, the note summarises the main findings of the surveys relevant to the question of programme concept and the impact of works programmes in the South African context.

The paper draws mainly on the results of sample survey-based research under ESAU auspices in the Limpopo and KwaZulu Natal provinces,<sup>4</sup> but also uses earlier research by the South African Labour and Development Research Unit at the University of Cape Town.

### What are public works programmes for and when are they successful?

Public works programmes have been used successfully in a wide spectrum of countries, for a variety of purposes. In Asia, they have been mounted in countries as diverse as Korea, Thailand, the Philippines, Indonesia, Pakistan and India (Subbarao, 2003). They have been extensively used in Latin America, for example in Argentina, Bolivia, Chile, Peru and Honduras. In Africa, apart from South Africa, public works programmes have been organised in Botswana, Ethiopia, Ghana, Kenya and Egypt. Some of these have been food-for-work programmes mounted with the assistance of WFP and other food aid donors to assist in relief and rehabilitation after disasters, or to undertake longer-term programmes of (generally) rural development. In others, participants' remuneration has been in cash. Projects have been for purposes such as building roads, canals or flood protection, water harvesting, terrassing hillsides, tree planting or improving slums.

In many cases, programmes have been mounted as a temporary remedial response to a loss of employment and livelihood by large numbers of people, arising from unpredictable natural disasters or adverse economic shocks. They have therefore fulfilled a basic *catastrophe insurance* or *safety net* function. Safety net programmes end as soon as beneficiaries have the opportunity to return to their normal occupations.

In other cases, the purpose of public works is to generate longer-term *supplementary income* for vulnerable people whose other incomes are very low and volatile, often by offering them work opportunities in periods of cyclical unemployment, e.g. during the slack agricultural season. The purpose of programmes in these cases is to relieve income poverty and to smooth intra-seasonal consumption, by providing insurance against the effects of job insecurity and temporary livelihood impairment. Local communities and district authorities mount programmes of this kind to implement their plans for infrastructural improvement and maintenance. The best known programme of this kind is the Employment Guarantee Scheme in the Indian State of Maharashtra, which has been in continuous operation since the 1970s.

There is no simple metric of the success of public works programmes because of the multiplicity of their

objectives. In general, however, they should be expected to:

- bring effective assistance their target populations, with little leakage to unintended beneficiaries,
- complete necessary projects of real and lasting value to the local economy, and
- be cost-effective in creating and maintaining assets and/or as channels for distributing targeted welfare benefits.

Condition (i) raises the issue of how best to target assistance – whether by relying on self-selection, or on administrative selection and rationing. If wages are set too high there will be excess demand for jobs, labour market distortion and participation by the non-poor. Access to employment opportunities then has to be rationed. Most commentators believe that it is best to set wages at or below the market level so that self-selecting participants are almost certain to be poor.

Condition (ii) requires that projects should be beneficial and sustainable. Local participation (or initiative) in project choice helps to ensure that projects will be locally beneficial. Sustainability, on the other hand, requires some recurrent budget provision to meet maintenance costs, often calling for budgetary expenditure by central or provincial government.

Condition (iii) requires that activities are chosen in which labour-intensive techniques are either more efficient, or at least as efficient as, more capital-intensive ones in producing completed works of equivalent quality (unless offset by savings in welfare programme costs).

### Surveys in Limpopo and KwaZulu Natal

The provinces of Limpopo and KwaZulu Natal have the highest unemployment rates in South Africa, with adult populations among the least well-educated. Headcount poverty rates increased sharply in both provinces between 1995 and 2000.<sup>5</sup> For the majority of households in the two provinces, income has traditionally come from agricultural employment and remittances from migrant workers. The public works programmes covered by the surveys were initiated in 2000, and implemented by the Roads Agency and Department of Transport in the two provinces respectively.

The surveys were conducted in 2003 in Capricorn District in Limpopo province, and in various districts in KwaZulu-Natal where the Zibambele programme was in operation. They were conducted in a single round, thus without the benefit of baseline statistics. Samples were drawn from a population of current and former programme participants. These numbered 1700 in Limpopo and nearly 13,900 in KwaZulu Natal.

In toto 676 households were interviewed, comprising 4800 household members. There were significant differences in the average characteristics of the two samples. Participants in Limpopo were on average 35 years old. Two-thirds of them were dependents; almost

all had been educated – two-thirds having reached Grade 8 or higher; and half were female. In KwaZulu Natal nearly 95% of the sample was female; the average age was 45; two-thirds were heads of household; and one-third had no education.

After preliminary analysis of questionnaire responses in the two provinces, focus groups of interviewees were convened to discuss initial findings, prior to the formulation of final conclusions.

## Main survey findings

### *Sustainability*

The 'Zimbabwe' model used in KwaZulu Natal design is clearly more sustainable in its financing and the duration of benefit to participants than the model applied in Limpopo. Zimbabwe participants are under annual renewable contracts and are paid from the recurrent budget of the provincial public works department, so long as they are able to fulfil their part-time work assignments. Recurrent budget financing is more secure in the longer term than capital budget financing for discrete projects, as used in Limpopo. Beneficiaries of the Zimbabwe model thus enjoy greater long-term income security.

### *Targeting: impact on employment*

In Limpopo, the criteria have been those laid down in national policy on public works programmes, requiring that 60% of participants should be women, 20% youths and 2% disabled. In KwaZulu Natal, the main selection criteria used have been poverty and, secondarily, whether households are female-headed.

The surveys found that the programmes had been imperfectly targeted on the unemployed, with some job substitution occurring. Remunerations and conditions of employment have been good enough to make administrative selection of participants necessary.

Broadly defined unemployment rates in the (rural) catchment areas in the Limpopo and KwaZulu Natal are 60% and 58% respectively, i.e. well above the national average. Many adults in both provinces are discouraged from job-searching by the low likelihood of finding accessible regular employment. Among current and former participating households, unemployment is reduced to 54% and 47% respectively in the two provinces. This indicates temporary effectiveness in achieving the objective of unemployment reduction during the period of employment.

However, a good proportion of participating survey respondents – 33% in Limpopo and 28% in KwaZulu Natal – stated that they had given up other income in order to participate. This was mostly low-paid casual employment or subsistence agriculture, though 6% in Limpopo had given up regular wage employment. There is therefore evidence of a degree of substitution – or 'deadweight loss' – associated with the programmes. This is due to the generosity of their wage rates relative to alternative income sources, and to the guarantee of

employment they offer.

Remuneration in Limpopo is task-based at the rate of 30 Rand per task. Tasks are defined on the basis of what an average worker can do in one (5-hour) day. The wage rate is equivalent to the minimum wage, minus a negotiated discount, and provides participants with a monthly income lying between average earnings in regular and casual employment, and above earnings from subsistence agriculture. In KwaZulu Natal, participants, who are part-time, are expected to work for only 8 days per month for which they receive just over R40/day, in line with the minimum daily wage. This is in excess of average daily earnings in other activities, apart from full-time regular employment.

There is local excess demand for participation in works programmes in the two provinces, because of poverty, unemployment, the casual nature of alternative employment, the relative generosity of wage rates, and the certainty that wages will be paid. Participation has therefore been rationed, with participants selected according to set criteria.

### *Targeting: focus on the poorest?*

The ex ante headcount rate of poverty among participant households depends on the poverty line chosen to measure it. A poverty line widely used in international comparisons is \$2/day (in 1993 international prices). There are conflicting estimates of what this should mean in local prices of 2002, when the survey was undertaken. For the purposes of this note, the equivalent is taken to be R280 per month per adult equivalent.<sup>6</sup>

In Limpopo, average monthly income per adult equivalent in participating households was assessed at R292, fractionally above the \$2/day standard. In households with members who had ceased participating, average monthly income per adult equivalent was found to have dropped below the poverty line at only R181. Household incomes in Limpopo are widely dispersed about the mean, so that some previously non-poor households participated in the programme. The majority, however, were poor beforehand, and became poor again when they ceased participating. Even when participating, many remained poor.

In KwaZulu Natal, average monthly income per adult equivalent in participating households was found to be R145 (with a median of R115) i.e. way below the \$2/day standard. Here the distribution of income is more concentrated than in Limpopo, implying that the great majority of participating households remained deep in poverty, even with their Zimbabwe wages.

In short, there was a pronounced and effective poverty-focus in the KwaZulu Natal programme, but some beneficiaries in Limpopo were non-poor.

### *Impact on income and living standards*

The net impact of public works employment on beneficiaries' assessed incomes has been significant, although below potential because of substitution for

other income-earning activities. The public works wage was sufficient to raise average monthly income per adult equivalent in Limpopo by R120 and in KwaZulu Natal by R73. Given substitution, however, the net financial gain for the 33% of workers in Limpopo who said that they had forgone other income averaged only 33% of the wage. In KwaZulu Natal, the 28% of workers who forwent other income raised their net incomes by 52% of the wage.

These figures suggest that, in KwaZulu Natal, household income may be of the order of 30% higher than it would be without the Zibambeke programme. In Limpopo, average household incomes may be some 30–50% higher when participating in the programme than otherwise.

The surveys revealed, in well over half the households interviewed, evidence of higher expenditure on periodically purchased items such as clothing, cycles, agricultural tools, and on transport, education, debt repayment or financial assets during the period of household members' participation. Of the (older, poorer and part-time) beneficiaries in KwaZulu Natal, over 80% spent more on education and clothing, two-thirds increased their financial savings, and about half spent more on transport and debt payments. In Limpopo, the households of the (younger and better-educated) beneficiaries used more of their (transitory) income on home improvements, consumer durable or producer good expenditure, and on burial society subscriptions. This is contrary to the normal expectation that consumers save much of their transitory income, and consume more when they believe their permanent income has increased. The implication is that the KwaZulu Natal beneficiaries feel more vulnerable and more in need of insurance against future misfortune and disability than those in Limpopo, for reasons of prior income level, opportunity and age.

#### *Longer-term impact on incomes and the local economy*

The survey in Limpopo confirms a conclusion already reached in previous enquires into the impact of public works schemes in South Africa, that beneficiaries of temporary employment revert to unemployment when their jobs end. Provision for job-related technical training, as in Limpopo, has not been a passport to higher subsequent employability, or even to self-employment. The persistence of high unemployment among former participants is due to the high excess supply of unskilled and semi-skilled labour in the local labour market, and to poor local information about employment opportunities further afield. The ineffectiveness of training is ascribed to the fact that the skills imparted are not those which are in short supply in the South African economy. Programme participants also made little subsequent headway in micro-enterprise. Only 12–14% of interviewees had set up or expanded enterprises. Factors discouraging micro-enterprise development were the prevailing poverty of the local economy and lack of access to capital for business development.

The effect of temporary public works employment on the wider local economy has therefore also been ephemeral. Temporarily higher incomes have largely

been spent on higher consumption, part of which has brought income benefits to local producers of goods and services. In Limpopo, most beneficiaries buy food from local suppliers, and the number of market traders and snack vendors increase in project areas, but only while projects last.

The pattern is rather different in KwaZulu Natal where, though beneficiaries can expect continuing income from public works, incremental earnings are mostly spent in towns where wages are paid, rather than beneficiaries' villages. There is some indirect benefit to the local economy from easier access due to the better maintenance of rural roads, but this has not been quantified.

#### *Cost effectiveness*

Costs per workday in South African public works programmes have varied widely, ranging from R40 in the Working for Water programme, to an average of R183 in the CBPWP, and R229 in the National Public Works pilot programmes and transport sector programmes (Adato et al., 1999). In these programmes, labour costs have ranges between 11% and 73% of total costs. This suggests that many South African programmes have been cost-ineffective as instruments for employment creation, but leaves unanswered the question of their cost-effectiveness in constructing and maintaining infrastructure and community facilities.

Tentative estimates have been made of the cost-effectiveness of labour-intensive, non-mechanised, techniques for road maintenance in KwaZulu Natal (McCord, 2002). The Zibambeke programme seems to have been more cost-effective than maintenance using conventional mechanised methods, which incurred equipment rental, operation and maintenance costs, at least prior to July 2001. Thereafter, Zibambeke productivity norms were reduced, almost doubling the unit labour cost, which probably altered the balance of the advantage. The cost-effectiveness of public works in South Africa is thus prone to vary from programme to programme, and from time to time.

#### *Effect of public works on aggregate unemployment*

Until 2001–02, the total number of positions in the principal public works programme (the CBPWP) rarely exceeded 30,000, absorbing less than 0.25% of broadly defined unemployed workdays. Only a tiny minority of these positions have been permanent (McCord, 2003). With the increased programme funding (R15 billion over five years), the government now hopes to create 100,000 to 200,000 temporary jobs per annum. This could increase total public works employment (on a full-time basis) to perhaps 1–1.5% of unemployed workdays.

Therefore, although billed as a major policy response to unemployment, public works on the scale planned seem unlikely to do more than dent the surface of the problem. The corollary of this is that public works programmes in South Africa – unlike, for example, the Employment Guarantee Scheme in Maharashtra which has raised the slack season market wage – are unlikely to have

any significant impact on the markets for unskilled and unskilled labour. The principal source of distortion preventing these markets from clearing is South Africa's relatively high statutory minimum wage.

## Conclusions

The second section of this paper identifies four objectives sought by public works programmes in various countries – insurance against catastrophe for vulnerable poor people, income supplementation for poor people through employment creation, construction of physical assets of value to the poor, and stimulus to the local economy in impoverished areas. In South Africa, there is no catastrophe insurance objective; instead, public works are intended to reduce unemployment and raise incomes, both by creating jobs immediately and by making the chronically unemployed more employable through work experience and training. The second section also identifies three conditions for success – participants should be in groups targeted by policy, assets created should be of genuine value to the poor, and works should be cost-effective. How far does South Africa succeed by the standard of these criteria?

The findings of surveys in Limpopo and KwaZulu Natal confirm the well-known difficulty of simultaneously attaining multiple policy objectives using a single policy instrument. The public works programmes in the two provinces have not solved the problems of unemployment and poverty for participating households, nor have they laid the bases for sustained growth in local economies.

- Public works have certainly contributed to the construction and maintenance of infrastructure and community facilities, but their cost-effectiveness and strategic importance to poverty reduction are not yet established.
- The simultaneous pursuit of poverty reduction and labour market objectives has led to incoherence in targeting and some loss of efficiency in the pursuit of both aims. For greatest impact on poverty, female household heads should be given preference. The objective of raising the longer-term employability of the unemployed would be better served by giving a stronger preference in selection to unemployed youths, i.e. those with the greatest capacity for learning and subsequent job search.
- Poverty reduction has been more effective in KwaZulu Natal where poverty (as perceived by local communities) has been an explicit selection criterion and there has been high participation by women. There is a distinct gap between mean household income and the poverty line. The Limpopo programme (like those in the Western Cape) has not been so effectively targeted on the poor: the income range of participating households has been wide, encompassing some non-poor.
- Under current labour market conditions and institutions, the effect on unemployment of temporary full-

time public employment is ephemeral. Programmes on the scale envisaged under current government funding plans cannot be more than marginally effective as a response to South Africa's chronically high levels of unemployment. The research casts serious doubt on whether participation in temporary employment programmes of the Limpopo type impart relevant skills to, and so increase the longer-term employability of, participants.

- Public works employment has partially substituted for other income-earning activity, and therefore had some deadweight cost – though less so in KwaZulu Natal than in Limpopo – because of the attractiveness of the conditions of employment, in terms of both hours and remuneration.

The Zibambele model is clearly a superior response to the challenge of persistent poverty among people unable to migrate in search of work and who receive limited income from other sources. It provides a significant reliable and sustained source of supplementary income. It unquestionably relieves the poverty of participants; and, with the higher expenditure on education and nutrition which it induces, it also reduces the risk of poverty for the rising generation. In these ways it is South Africa's equivalent to the Maharashtra Employment Guarantee Scheme.

The benefits of temporary full-time employment, an instrument used elsewhere as a safety net for the victims of short-term loss of livelihood, are more elusive in the South African context. Their contribution to poverty reduction and employment creation is inefficient and short-lived. They are best used as work experience and apprenticeship schemes for unemployed but mobile and potentially employable youths, though the advantages of pursuing even these objectives are circumscribed by poor employment prospects.

## References

- Adato, M. and Haddad, L. (2001) *Targeting Poverty Through Community-Based Public Works Programmes: A Cross-Disciplinary Assessment of Recent Experience in South Africa*, Discussion Paper No. 121, Food Consumption and Nutrition Division, International Food Policy Research Institute, Washington, DC.
- Hoogeveen, J. G. and Özler, B. (2004) 'Not Separate, Not Equal: Poverty and Inequality in Post Apartheid South Africa', World Bank, Washington, DC, mimeo.
- Kingdon, G. G. and Knight, J. (2004) 'Unemployment in South Africa: The Nature of the Beast', *World Development* 32 (3), pp 391–408.
- McCord, A. (2002) *Public Works as a Response to Labour Market Failure in South Africa*, Working Paper No. 19, Centre for Social Science Research, University of Cape Town, South Africa.
- McCord, A. (2003) *An Overview of the Performance and*

Potential of Public Works Programmes in South Africa, Working Paper No. 49, Centre for Social Science Research, University of Cape Town, South Africa.

McCord, A. (2004) Policy Expectation and Programme Reality: The Poverty Reduction and Labour Market Impact of Two Public Works Programmes in South Africa, ESAU Working Paper No. 8, Overseas Development Institute, London.

Subbarao, K. (2003) Systemic Shocks and Social Protection: Role and Effectiveness of Public Works Programmes, Social Protection Discussion Paper No. 0302, World Bank, Washington, DC.

## Endnotes

- 1 Statistics South Africa defines as unemployed by the broad definition those who (i) have not worked in the previous week – in the formal or informal sectors, (ii) are available for work. The unemployed by the narrow definition must also (iii) have taken active steps to find work in the previous four weeks.
- 2 According to World Development Indicators (World Bank), 14.5% live below \$2/day at international prices.
- 3 Approximately 20% of the labour force (Kingdon and Knight, 2004).

4 Reported in McCord (2004).

5 From 36% to 47% in Limpopo and from 32% to 46% in KwaZulu Natal (Hoogeveen and Özler, 2004)

6 To translate '\$2/day' in 1993 prices into local currency in prices of 2002 when the survey was conducted, the procedure is to first find the local currency equivalent of PPP\$2.15 in 1993 prices at the conventional exchange rate, and second to adjust this for domestic consumer price inflation. The Rand/PPP\$ conversion rate for 1993 calculated from World Development Indicators is 1.23. However, some authors (Hoogeveen and Özal, 2004) have used a factor of 1.67. Low income consumer prices in South Africa roughly doubled between 1993 and 2002. The ratio of adult equivalents to household members is approximately 0.58 (corresponding to 3 adults and 6 children). On the basis of a PPP\$ 1993 conversion rate of 1.23, '\$2/day' translates into R279/month/adult equivalent. If a conversion rate of 1.67 is adopted, '\$2/day' translates into R379/month/AE. The poverty line used in McCord (2004) is a higher one – R486/month/AE. On this basis, nearly all beneficiaries – 99% in KwaZulu Natal and 89% in Limpopo – were found to be poor, even with income from public works.

© Overseas Development Institute 2004

### For more information contact:

John Roberts (j.roberts@odi.org.uk), Overseas Development Institute, 111 Westminster Bridge Road, London SE1 7JD, UK, Tel: +44 (0)20 7922 0300 or visit [www.odi.org.uk/esau](http://www.odi.org.uk/esau)