

# Designing, Implementing and Evaluating Public Works Programmes

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## Question

*What evidence exists on the scale and impact of public works programmes in development and humanitarian contexts and where are the evidence gaps? What are the key challenges in terms of design, implementation and monitoring and evaluation of public works programmes?*

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# 1. Overview

This helpdesk report aims to outline the scope, impact and challenges associated with public works programmes (PWP) in development and humanitarian contexts. PWPs have been implemented in a broad range of countries to help working aged poor people to cope with economic shocks or chronic poverty (McCord, 2012b). The majority of PWPs are effective in terms of increasing food consumption (Filipski et al., 2016; McCord, 2012b; Zimmermann, 2012). PWPs which run for a longer period are more likely to stimulate asset accumulation which helps the beneficiaries to improve their livelihoods (Gehrke & Hartwig, 2018; Subbarao, Del Ninno, Andrews, & Rodríguez-Alas, 2012). Overall, PWPs do not lead to sustainable employment, even when training is provided. The scale of these programmes is constrained by finances and administrative capacity at the local level. The effectiveness of PWPs is undermined by fraud and corruption. Monitoring and evaluation of PWPs is curbed by the unavailability of baseline data, lack of clarity in terms of assessing the costs of PWPs and the difficulty of assessing the medium-term and long-term impact of these programmes, as well as the indirect effects of the intervention on the environment and the local economy (Ludi et al., 2016; Subbarao et al., 2012).

The following findings emerged from the literature review:

- The use of PWPs expanded after the 2007-8 financial crisis.
- There are three main types of PWPs: short-term programmes help participants to cope with economic shocks, longer-term programmes function as a social safety net for poor households and public works plus models provide training with the intent that beneficiaries will graduate out of poverty (Subbarao et al., 2012, p. 25).
- The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is the largest PWP in the world.
- The scale of PWPs is curbed by constraints on budgets, capacity at local government level and private sector interest in labour intensive projects (McCord, 2012b).
- PWPs in India, Ethiopia and South Africa enabled beneficiaries to stabilise their food consumption (Zimmerman, 2012, McCord, 2012b).
- Short-term PWPs generally do not allow participants to save but longer-term programmes in India, Ethiopia, Namibia, Sri Lanka and Sierra Leone resulted in asset accumulation or increased micro-business activity among participants.
- In South Africa and Namibia beneficiaries generally did not find employment after the PWP ended even when training was provided (McCord, 2012b; Odhiambo, Ashipala, & Mubiana, 2015).
- The wage rate should be at a level which is low enough to facilitate self-targeting but it should be sufficient to enable beneficiaries to save or accumulate assets (Gehrke & Hartwig, 2018).
- Only very large programmes like MGNREGS have a positive effect on the market rate for rural wages which increased by 4.3% (Berg, Bhattacharyya, Rajasekhar, & Manjula, 2018).
- There were positive spinoff benefits from public goods (produced by PWPs) such as land use projects and flood defences in India as well as for soil, water and conservation projects in Ethiopia (Filipski et al., 2016). However, Ludi et al. (2016) found that in the medium-term watersheds and dams built in Ethiopia and Kenya, respectively had minimal impact on improving livelihoods.

- There is limited evidence on the cost of corruption, percentage of labour costs and labour markets in developing countries (Subbarao et al., 2012).
- There is a need for medium-term and long-term assessments (Ludi et al, 2016).
- Opportunity costs and indirect impact should be assessed (Subbarao et al., 2012).
- Baseline assessments are essential for measuring impact (Ludi et al, 2016)
- Data must be gathered regularly to facilitate effect monitoring and evaluation (McCord, 2018).
- Costs must be assessed in a consistent manner in order to permit comparisons across PWPs (McCord, 2012b)

PWPs must be adapted to cater for women, especially by offering flexible working hours and providing childcare (Tanzarn & Gutierrez, 2015). There is also a need for gender sensitive indicators. In South Africa the PWP was expanded to include the provision of early childhood development mainly to provide employment opportunities for women. However, the programme has been successful in terms of providing training but not creating jobs (Parenzee, 2016).

## 2. Objectives and design of public works programmes

PWPs are a key instrument for providing social protection and safety nets in developing countries. They are often the only form of social protection which is available for working-aged, poor people (McCord, 2012b; McCord & Slater, 2009, p. 10). The programmes target households with working-age people who are generally not eligible for cash transfers (Subbarao et al., 2012). Wages are typically set below market rates so that the programme is **self-targeting**, since it attracts beneficiaries from the poorest households (Gehrke & Hartwig, 2018, p. 114). One of the advantages of PWPs is that they are **adaptable** and can easily be tailored to a particular country's context and needs (Subbarao et al., 2012). There are three core types of PWPs (McCord, 2012b; Subbarao et al., 2012, p. 25):

### Short-term programmes

The primary objective of short-term PWPs is to provide temporary employment for the working age poor who are not able to find work or pursue their usual income generating activities because of a **crisis** or **disruption** in the labour market. Cash or goods are given in exchange for a set amount of work (McCord, 2012b). "Because these programmes tend to be designed and implemented at short notice in response to a crisis or sudden shock, they might typically focus on the maintenance of existing community infrastructure, assets or the provision of basic new infrastructure, such as restoring or maintaining rural roads, soil conservation, afforestation and social services." (Subbarao et al., 2012, p. 25). Short-term PWPs have been used in Ethiopia and Malawi to cope with environmental crises and food shortages. Likewise, the Maharashtra Employment Guarantee Scheme and Progrema Jefes y Jefes de Hogar (Jefes y Jefes) in Argentina provided relief during the drought and economic crisis, respectively in the early 2000s (Gehrke & Hartwig, 2018, p. 112).

### Longer-term model

Longer-term PWPs which provide work opportunities on an ongoing basis function as a safety net which provides the poorest households with a reliable source of income for a longer period, usually 75 to 100 days (Subbarao et al, 2012, p. 25). In 2005 two flagship PWPs commenced in

India, the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and Ethiopia, the Productive Safety Nets Programme (PSNP) (McCord, 2012a). MGNREGS guarantees employment for a hundred days. Some programmes run all year, such as the Expanded Public Works Programme (EPWP) in South Africa.<sup>1</sup> These PWPs are sometimes referred to as **employment guarantee** programmes. The Bangladesh Employment Generation Programme provides employment for the poorest for a hundred days but without a guarantee. Longer-term PWPs generally aim to promote asset accumulation and may be complemented by other interventions such as agricultural support or micro-finance programmes (McCord, 2012a).

### Public works plus model

These PWPs provide temporary income generating activities but aim to enable participants to become employed after the intervention. The programmes provide skills training so that participants can **graduate** from poverty (Subbarao et al., 2012, p. 26). The EPWP in South Africa and the PSNP are examples of PWPs which anticipate that the participants will graduate out of poverty (McCord, 2012b, p. 57).

Sabbarao et al. (2012, p. 24) correlate the objectives and length of PWPs in table 1.

<i>Primary objective</i>	<i>Model</i>		
	<i>Short-term safety net</i>	<i>Longer-term safety net</i>	<i>Public works plus</i>
Mitigation of covariate shocks	X	—	—
Mitigation of idiosyncratic shocks	X	X	—
Poverty relief and food security	—	X	X
Bridge to more permanent employment	—	X	X

*Note:* — = not likely.

Table 1: Correlation between programme objective and length (Sabbarao et al, 2012)

PWPs offer a **double dividend** because they alleviate poverty through direct income transfers to the poor and/or deliver services which can stimulate economic growth (Gerkhe & Hartwig, 2015). In addition to employment creation, PWPs have the following outcomes: provision of public goods, spillover effects like promotion of social cohesion, post-conflict resettlement and environmental impact (Subbarao et al, 2012). PWPs may also provide links to community services such as education and health provision for children. For example, the social assistance pilot programme on labour and human capital in Djibouti includes nutrition and growth components (Subbarao et al, 2012).

The design of the PWP must address the labour market challenges faced by the participants and the pattern of impoverishment (McCord, 2012a). The following issues and choices are relevant:

<sup>1</sup> The EPWP in South Africa is innovative because it provides employment across four sectors (McCord, 2018). In addition to infrastructure, there are employment programmes in the environmental sector which focus on water conservation, removing alien vegetation, managing wetlands, sanitation and preventing wildfires. The social sector provides support services such as early childhood development, home-based care for terminally ill people and literacy training. Employment is also created through the non-state sector by supporting non-governmental organisations which provide a range of services to communities (McCord, 2018).

- PWPs must address either cyclical poverty or chronic poverty (McCord, 2012a).
- The choice of institutions selected for oversight and management of the funds affects the effectiveness of the PWP (Subbarao et al, 2012). When there is a lack of clarity of institutional responsibilities this can lead to a duplication of tasks, diffusion of responsibilities and confusing or ambiguous rules of the game (Subbarao et al, 2012). For example, the EPWP in South Africa is run through the provincial governments only to avoid duplication (ILO, 2018).
- The duration, timing and frequency of public works employment must be determined (McCord, 2012a). This includes the need for seasonal public-works activities and consideration of the institutional capacity of local government (FAO, 2013).
- The selection of the type of activities to be carried out. The type of project selected is informed by the objectives of the programme, the employment target and the involvement of women, youth or people with disabilities (Subbarao et al., 2012).
- The infrastructure needs of the country or region will also guide the selection of projects (Gehrke & Hartwig, 2018).
- Targeting methods for beneficiary selection. When the total number of beneficiaries exceeds the demand additional targeting mechanisms may be required (McCord, 2012b).
- Setting the benefit level in cash or kind and the number of daily hours of work performed (McCord, 2012b).<sup>2</sup>
- Training components and graduation strategies (McCord, 2012a).
- A reliable payment system is necessary since wages must be paid regularly (McCord, 2012b).

**Community involvement** in the PWP has several benefits: it allows communities to take ownership of the programme, it encourages a focus on activities which respond to the needs of the poor, the quality of work may be enhanced and there may be an increase in accountability and transparency of the PWP (Subbarao et al., 2012, p. 56). McCord (2018) also finds that community involvement enhances the effectiveness of the EPWP. Evidence from Ethiopia indicates that community participation at the outset of the project can positively affect the sustainability of the project. The local community should be involved in the selection of projects in order to foster ownership and buy-in (Gerkhe & Hartwig, 2015). The community can be consulted on the eligibility criteria used to select beneficiaries. For example, in 1996 project selection was made in consultation with traditional leaders in Yemen. Moreover, Subbarao et al. (2012, p. 58) observe that there were few implementation problems in sites where community engagement took place compared with those where there was no engagement.

Staff members must have adequate incentives to administer the PWP well and information must be collected routinely so that performance can be continuously monitored (Subbarao et al., 2012). The design of the PWP is also influenced by **political economy** factors such as distributional choices and political institutions (Subbarao et al., 2012). In addition, there are political or **electoral benefits** which may encourage governments to favour PWPs (McCord,

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<sup>2</sup> The wage rate can be determined by considering the minimum consumption basket, which is an estimate of the amount of cash or basic commodities that the household needs in order to survive for one month. In most developing countries this is regarded as 2,100 kcal/person/per day (FAO, 2013)

2012a). McCord (2018) argues that the MGNREGS is protected by legislation which may curb politically motivated programme revisions.

### 3. Challenges for design and implementation

The following design and implementation challenges were highlighted in the literature:

- Determining the wage rate is a delicate process since it must not be so low that it attracts only the very poor, but it must also not be high enough to distort local labour markets (Zimmermann, 2012). Furthermore, low wages may be sufficient to help the beneficiaries to meet basic needs, but not adequate to promote asset accumulation which is necessary if participants are expected to improve their livelihood strategies after the programme has ended (McCord, 2012b).
- Constraints on technical capacity at the local level undermines the quality of implementation and the impact of the PWP (McCord, 2018).
- The PWP can be captured by **local elites** and benefits may be diverted from the poor to serve those who are better off (Subbarao et al., 2012).
- Community-based targeting may yield inconsistent results which affects access to the PWP (Subbarao et al., 2012, p. 58). This problem may be addressed by providing the community with guidelines. For example, in Cambodia the community were involved in selecting beneficiaries but they were given strict criteria to guide the selection process.
- Traditional **payment systems** have high delivery costs. Electronic payments have been used to reduce the cost of monitoring while also increasing transparency and accountability (Subbarao et al, 2012, p. 37).
- Payment delays are common. For example, 40% of wages are paid late due to the limited reach of financial institutions at the local level in the MGNREGS programme (McCord, 2018).
- **Fraud** and **corruption** undermined the effectiveness of PWPs as a safety net because they decrease the amount of resources which are devoted to beneficiaries (Subbarao et al., 2012). They also erode the credibility of the PWP including its political and public support. Opportunities for fraud are prevalent in PWPs. Fraud is a concern for beneficiary selection, and the number of hours or days worked can be manipulated. The literature on PWPs refers to **programme leakage** which describes how funds can be diverted away from legitimate use. Typical sources of leakage include the following: overestimation of work done, over-reporting of resources allocated to workers, appropriation of leftover funds or assets, differences in terms of wages paid in cash and the market value of wages paid in kind, ghost workers, favouritism in beneficiary selection and labour contractors who use market power to pay less than the stipulated programme wage (Subbarao et al., 2012). For example, the effectiveness of the MGNREGS is undermined by corruption as there are ghost workers and cases where wage increases were not passed on to beneficiaries (Zimmerman, 2012). When contractors are responsible for project reporting there are possibilities for corruption therefore social audits and spot checks are necessary (Subbarao et al., 2012).
- Payments of bribes or facilitation payments to gain access to the PWP may occur (Subbarao et al. 2012).

- PWPs may not appeal to women. The International Labour Organisation conducted a review of 43 employment intensive PWPs in 27 countries between 1995 and 2013 to examine **gender** effects. The study ascertained that women are more vulnerable to poverty and other threats (Tanzarn & Gutierrez, 2015). Women are also less educated and skilled than men and therefore face more barriers to entering the labour market. However, less than one fifth of PWPs consulted woman during the project identification phase and were therefore not sensitive to gender considerations, such as the fact that women have to balance employment with domestic responsibilities (Tanzarn & Gutierrez, 2015). Furthermore, just over half the PWPs took account of gender differences and adjusted the timing of the programme or provided childcare facilities in order to accommodate women.
- The provision of infrastructure is usually a secondary objective and public goods are often poorly maintained (Zimmermann, 2012).
- In South Africa the capital-intensive construction and engineering sector was resistant to the labour-intensive infrastructure model of the EPWP (McCord, 2018).

## 4. Scale of public works programmes

The use of PWPs as a social safety net increased after the 2007-2009 financial crisis which created hardships across the world (Subbarao et al., 2012). The World Bank funded programmes in over 24 countries and several governments introduced or scaled up their own projects (Zimmerman, 2012). It is possible to modify existing scalable PWPs in the event of a crisis so that they can provide relief during a macroeconomic shock. Existing programmes were scaled up in Cambodia, Ethiopia, Rwanda and Uganda (Subbarao et al., 2012). New programmes were set up in Djibouti, Latvia, Liberia, Nepal and Sierra Leone.

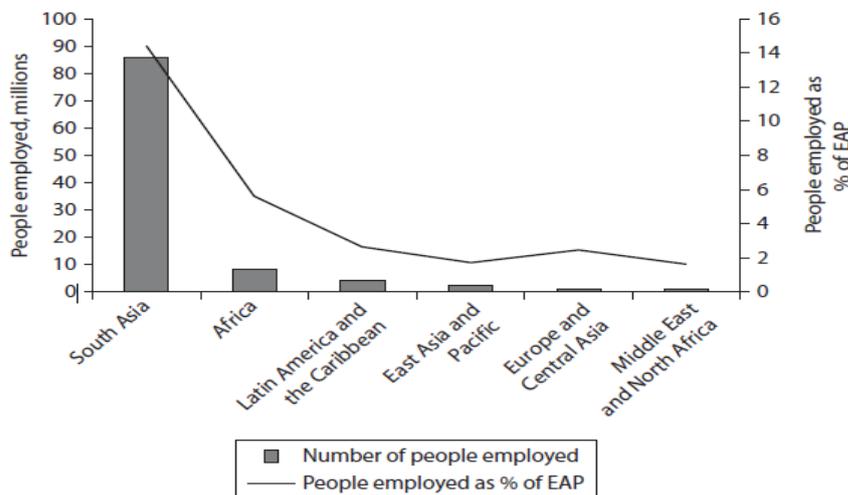


Figure 1: Distribution of PWPs (Subbarao et al, 2012)

Subbarao et al. (2012, p. 41) note that the largest number of participants is in South Asia, followed by sub-Saharan Africa, see figure 1. In low income countries the main objective of PWPs is to provide relief from poverty while in middle income countries PWPs are introduced largely to mitigate external shocks. PWPs tend to operate as active labour market interventions in upper middle or high income countries (Subbarao et al., 2012).

Estimates of the scale of PWP are as follows:

- The PSNP has assisted eight million Ethiopians (approximately 10% of the population) and is the largest PWP in Africa (Filipski et al., 2016)
- The MGNREGS has 80 million participants (Gehrke & Hartwig, 2018, p. 112). It is the largest social safety net in the world (Subbarao et al., 2012) and benefits one fifth of all households in India and one quarter of rural households (Berg et al., 2018).<sup>3</sup>
- There are 10 million participants in the Program Nasional Pemberdayaan Mandiri (PNPM) in Indonesia (Gehrke & Hartwig, 2018).
- There were two million beneficiaries in the Jefes y Jefas programme in Argentina (Gehrke & Hartwig, 2018).
- The current phase of the EPWP in South Africa has a target of creating six million jobs by 2019 (ILO, 2018).

Most PWPs in low income countries employ only hundreds of thousands of people and are therefore not able to act as an economic stimulus (McCord, 2012a). The scale of the intervention should be gauged in terms of the number of beneficiaries relative to the number of eligible households rather than in absolute terms. The following factors may influence the extent to which a PWP can be scaled up (McCord, 2012a):

- Capacity to identify, design and implement a large number of labour intensive projects.
- Technical expertise and administrative capacity.
- Incentives for regional or local governments to favour labour-intensive technologies.
- Capital and administrative costs.

The Karnali Employment Programme (KEP) in Nepal was not expanded into an employment guarantee scheme for the following reasons (Harris, McCord, & Sony, 2013):

- The implementation of an employment guarantee scheme was not a political priority.
  - Donor coordination with regard to social protection and public-works programmes was limited and there was insufficient donor interest in promoting the employment guarantee scheme.
  - There were constraints on the institutional capacity of the state especially at local government level to implement the programme.

Donors usually fund at least one third of the costs of a PWP and this poses a threat for sustainability. Subbarao et al. (2012, p. 53) found that governments contributed less than 11% of the total budget in 55% of the PWPs reviewed in their study. However, there are exceptions such as large-scale PWPs in Bangladesh and India which are entirely funded by the government. The MGNREGS is 90% funded by national government and 10% funded by local government (Subbarao et al., 2012) and accounts for 4% of the government spending in India (Berg et al., 2018). However, McCord (2018, p. 58) argues that MGNREGS is still unable to create sufficient

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<sup>3</sup> MGNREGS has minimum standards for worksites which are required to provide shade, drinking water and childcare (Berg, Bhattacharyya, Rajasekhar, & Manjula, 2018).

employment because of constraints on the budget as well as limited local capacity for planning and implementation.

## 5. Impact assessments

Berg et al. (2018) state that PWPs can have three effects on welfare:

- A direct effect on the participants.
- A labour market effect on the demand for labour.
- A productivity effect related to the provision of public goods.

### Direct effects on participants

#### Consumption smoothing

The fundamental social protection benefit of PWPs is consumption smoothing, whereby beneficiaries can use their earnings to buy food and other necessities during a crisis (in the case of a short-term PWP) or to cope with poverty (in the case of longer-term PWPs) (McCord, 2012b). The evidence of consumption smoothing is listed below:

- The MGNREGS has a positive effect on stabilising consumption (Beegle, Galasso, & Goldberg, 2017), although this PWP is estimated to have a small effect on reducing long-term poverty (Zimmerman, 2012).
- The PSNP has been effective in reducing food insecurity and raising agricultural yields. In addition, households are less likely to rely on child labour (Filipski et al., 2016, p. 20).
- McCord (2012b) found that food consumption rose significantly among PWP participants in areas where it was initially low. There was a significant drop in the number of respondents who reported missing meals most of the time or sometimes. There were knock-on effects in the local economy which were detected by a rise in micro-enterprises. In addition, McCord (2012b, p. 181) found that participation in a PWP had a positive effect on school attendance in communities where it was initially low.<sup>4</sup>
- The Malawi Social Action Fund (MSAF) is a PWP which enables participants to earn up to US\$44. The main aim of MSAF was to boost food security and complement Malawi's large-scale fertiliser input programme (Beegle et al., 2017). However, MSAF did not have a short-term effect on food security during the lean season. Although households in the MSAF worked 6.2 days more than those in the control villages, there was no improvement in the food security indicators<sup>5</sup> (Beegle et al., 2017, p. 8). There is no conclusive explanation for this unfavourable finding. Two possible explanation are that

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<sup>4</sup> McCord (2012b, p. 163) found that participants in the Zibambele and Gundo Lashu projects in South Africa were able to augment their earnings, which were significantly higher than the earnings of the control group. The average income of Zibambele participants who reported additional earnings was ZAR492 compared with ZAR 327 for the control group. Similarly, Gundo Lashu participants who reported additional income earned ZAR886 on average compared with ZAR674 for the control group (McCord, 2012b, p. 163).

<sup>5</sup> The food security indicators include log per capita food expenditure, log per capita food consumption in the last week, total household calories and number of food groups consumed. Data from these indicators were used to compute a food security index ranging from 1 to 4, where higher values indicate greater food security (Beegle et al., 2016, p.4).

the magnitude of the transfer was too small to improve food security or that the households spread consumption over the duration (four to eight months) of the MSAF leading to small, undetectable changes (Beegle et al., 2017, p. 22).

### **Asset accumulation**

One of the objectives of PWP is to provide participants with income which they can **invest in assets** that can provide them with a sustainable means of earning a living (Odhiambo et al., 2015). A review of 16 PWPs in developing countries found that standard **short-term** PWPs were not effective in terms of encouraging productive investments among beneficiaries (Gerkhe & Hartwig, 2015). The average income transfer was too low and unpredictable to encourage beneficiaries to increase their savings or investment in assets. However, participants in longer-term programmes like MGNREGS, the PSNP and similar PWPs in Rwanda and Cote d'Ivoire were able to increase their savings (Gehrke & Hartwig, 2018, p. 116). Similarly, Subbarao et al. (2012) found that in Sierra Leone households in the PWP were 16% more likely to participate in informal savings groups and 20% of beneficiaries used their earnings to buy animals, land, agricultural tools or mobile phones. In India there was a shift to more capital-intensive agricultural production among small-scale farmers (Subbarao et al., 2012, p. 20). In Namibia there was an increase of 9% and 3% in ownership of mobile phones and businesses, respectively (Odhiambo et al., 2015, p. 20). There is some evidence that PWPs in Sri Lanka and India enabled poor households to make riskier investments in new enterprises or plant crops which could be sold for higher prices (Subbarao et al., 2012).

Evidence from Ethiopia and Rwanda indicates that asset accumulation only occurred when beneficiaries were **continuously** employed on the PWP for a longer period, for example five years in Ethiopia (Gehrke & Hartwig, 2018; Subbarao et al., 2012). Similarly, McCord (2012b, p. 188) observes that medium to long-term interventions are necessary to encourage asset accumulation. The combination of PWPs with other types of interventions may promote asset ownership or borrowing. For example, the PSNP in Ethiopia is effective in increasing loans and the use of agricultural technology only when it is combined with the food security programme which enables beneficiaries to increase their access to credit (Subbarao et al., 2012). Subbarao et al. (2012) conclude that PWPs must be longer-term and combined with access to credit in order to stimulate savings.

### **Skills development and training**

The evidence suggests that training and skills development provided as part of a PWP can enhance participants' knowledge, but this may not lead to employment or improved earnings (Gehrke & Hartwig, 2018). Training and skills development are more likely to enhance the employment prospects of the participants if the training is relevant to the needs of the labour market and is of sufficient duration and quality (Gerkhe & Hartwig, 2015). Training provided as part of PWPs in South Africa and Argentina did not lead to increased employment in the short-term. However, similar programmes in El Salvador, Yemen and Ethiopia found that training led to enhanced self-employment or utilisation of the skills for subsistence farming (Gehrke & Hartwig, 2018).

The EPWP in South Africa has experimented with specialist training for specific skills shortages (McCord, 2018). One of the components of the EPWP is early childhood development as this was seen as an avenue of creating employment for women from poor communities. However, in

practice the early childhood development programme focused on providing training for women rather than creating job opportunities (Parenzee, 2016, p. 37). The participants received a stipend for attending training and this was viewed as a job opportunity. The Department of Social Development (which runs the programme) has not prioritised the creation of jobs for women exiting the training programme (Parenzee, 2016). Due to inconsistent reporting by government departments it is not conclusively known how many women were trained, estimates range from a few thousand to several thousand between 2009 and 2014 (Parenzee, 2016).

## Employment

One of the objectives of PWP is to provide beneficiaries with work experience which may enable them to find employment when they leave the programme (McCord, 2012b). The evidence pertaining to employment is discussed below:

- A study conducted by the ILO found that PWPs in Latin America enabled women and less educated participants to find jobs but there were no effects for men and those with higher education (ILO, 2016).
- In Namibia the PWP did not lead to enhanced employment of the participants. Roughly one third of the participants had some form of employment prior to joining the PWP and the same percentage had employment after the intervention (Odhiambo et al., 2015). However, the study concludes that the PWP was successful because it provided 69% of participants who had no prior work experience with temporary work. The unavailability of jobs was the most common reason given by beneficiaries for not finding jobs.
- In South Africa limited training and employment opportunities undermines the extent to which EPWP beneficiaries can graduate into secure employment (McCord, 2018).

**Type of Work Given up by PWP Workers, by Sex** (percentage of workers)

	Male	Female
Regular wage employment	3.49	4.65
Casual wage employment	6.98	0.00
Subsistence labour/farming	17.44	20.93
Non-farm activity	1.16	1.16
Domestic activity	18.60	8.14
Other	11.63	5.81
Total	59.30	40.69

Table 2: Opportunity cost of participation in the Namibian PWP (Odhiambo et al., 2015)

Odhiambo et al. (2015, p. 19) is one of the few studies which investigated the **opportunity cost** of joining the PWP. Table 2 reveals that subsistence labour or farming and domestic work were the activities that were most likely to be given up in order to take part in the Namibian PWP. Less than 5% of males and females gave up regular wage employment because of the PWP. In South Africa around seven out of ten participants reported giving up casual wage labour, subsistence labour and domestic work to participate in PWPs. Very few respondents gave up regular wage employment in order to join the PWP (McCord, 2012b). Women were more likely to give up domestic work. Focus group discussions revealed that there were very limited employment opportunities in the areas targeted by the PWP and that the employment given up was generally informal, casual and paid in kind. The key benefit of PWPs in South Africa was

that they provided regular employment (McCord, 2012b, p. 167). Focus participants preferred predictable income flows from stable employment even if the income was lower than what they might earn from sporadic, informal employment (McCord, 2012b). “The implication of this argument is that the insurance function of a PWP is critical. However, a PWP can only provide this insurance function if it offers some kind of credible guarantee of employment on a sustained basis.” (McCord, 2012b, p. 169). The study concludes that participation in the PWP reduces the depth of poverty endured by the participants, even though some still remained below the poverty line (McCord, 2012b).

## Labour market effects

Very few impact evaluations have examined the effect of PWPs on **wages** and the demand for labour (Subbarao et al., 2012). In general, the wage rate must be low enough to attract those in need of temporary work but high enough to provide a meaningful level of transfer. The extent to which PWPs affect wage levels and employment depends on the initial wage gap between the programme and the labour market (Gerkhe & Hartwig, 2015). If PWP wages are set above the market wage then the programme can reduce the supply of labour to the private sector (Subbarao et al., 2012, p. 23). The extent to which private sector wages will be affected depends on local labour market conditions and the size of the PWP. If the PWP sets wages above the market rate for a considerable period of time and offers employment to a large number of people than the price of labour tends to rise (Gehrke & Hartwig, 2018, p. 114; Subbarao et al., 2012). However, if there is a high level of unemployment and the PWP duration is limited then local wage rates will not be affected (Subbarao et al., 2012). For example, in Liberia there was a high labour surplus thus the PWP did not have a lasting impact on wage rates.<sup>6</sup> In Namibia there was an increase in wages during the PWP but the minimum wage was not reached in spite of the increase (Odhiambo et al., 2015).

Overall, larger, **longer-term PWPs** have more discernible effects on the wage level in the private sector (Gerkhe & Hartwig, 2015). These PWPs are only able to affect wage levels in the private sector if they employ a sufficient number of workers for relatively long periods (Gehrke & Hartwig, 2018). MGNREGS is a large PWP which is estimated to have increased general agricultural wages by 4.3% per year between 2000 and 2011 (Berg et al., 2018, p. 240).<sup>7</sup> The effect was strongest in the states which were traditionally strong implementers of the programme (Rajasthan, Andhra Pradesh, West Bengal and Kerala), thus highlighting the importance of institutional factors (Berg et al., 2018, p. 247). The effect was also strongest during the agricultural season when there is high demand for rural labour.

In India **women** generally earn 25% less than men for agricultural work. Hence, it was anticipated that the MGNREGS which pays equal wages to men and women might have a positive effect by raising the overall wage rate for rural women. However, an analysis of the effects of the MGNREGS on market wage rates by gender found that the market rate for women’s wages remained stable and did not improve (Berg et al., 2018, p. 248).

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<sup>6</sup> It must be noted that the PWPs in India and Yemen had considerably more beneficiaries than the programme in Liberia.

<sup>7</sup> Other studies estimate an increase in wages of 6% or 5.3% due to the MGNREGS and the difference is attributed to the use of different data sources, dependent variables and estimation methods (Berg et al., 2018).

## Productivity effects

The provision of **public goods** such as roads or other infrastructure is anticipated to enhance productivity by facilitating trade (Gehrke & Hartwig, 2018). Similarly, agricultural infrastructure such as flood control systems, irrigation, cereal banks and storage facilities may raise the level of agricultural output. For example, irrigation projects in Indonesia and Java led to an increase in rice production (Gerkhe & Hartwig, 2015, p. 30). The MGNREGS in India had the greatest overall impact for land development projects which are labour intensive and require long-term employment (Gerkhe & Hartwig, 2015, p. 34). However, not everyone benefits evenly from such public goods. For example, landless rural dwellers will not benefit from irrigation but they may benefit from flood control defences. Moreover, in Rwanda 20% of public goods were damaged or destroyed by floods or landslides. The durability of public goods may be enhanced by involving the community at the outset in the planning phase so that they feel a sense of ownership which may encourage them to maintain the infrastructure (Gehrke & Hartwig, 2018).

Filipski et al. (2016) is one of the few studies that attempts to measure the **multiplier** effect of a large-scale PWP, the PSNP in Ethiopia. A case study analysis of eight sites encompassing pre- and post-intervention surveys of beneficiaries, community surveys, business surveys and site visits was conducted. Econometric analysis was used to estimate the average size of the project impact at local and national levels. The following results were obtained (Filipski et al., 2016):

- The soil, water and conservation structures increases crop yields by 2.8% (this is a statistically significant increase at the 5% level).
- There was no statistically significant effect for road construction on crop yields.
- Irrigation increases vegetable production by 60%, but since not all the irrigation facilities are provided by the PSNP the estimate is adjusted to 12%. There were no statistically significant results for other types of crops.
- The local multiplier effect of the PSNP in terms of an increase in total output for the eight sites ranged from 1.5% to 13.7%. This finding suggests that the impact of the programme on local production varies notably depending on local economic conditions (Filipski et al., 2016, p. 59).
- It was estimated that on average (across the eight sites) livestock output increased by 4.6%, local retail increased by 14.5% and service provision increased by 2.4%.
- The impact on real household income across the eight sites ranged from 9.5% to 19%.
- The PSNP has potential to create positive and negative spillover effects depending on the structure of the local economy, however the net impact was positive in all eight test sites.
- Using complex simulation models to estimate the national impact of the PSNP it was determined that the total output increased by 0.91% on average. The average increase in real household income was 3.9% at the national level.
- Overall, it is estimated that the PSNP leads to an increase in real GDP of 0.682 -1.36%.

An assessment of the medium-term impact of environmental infrastructure produced by PWPs in Ethiopia and Kenya on livelihoods yielded disappointing results (Ludi et al., 2016). The study was conducted five years after the projects were completed, the results were as follows:

- An assessment of six watersheds in six randomly sampled sites in Ethiopia found that the infrastructure was still intact and functional. There was a visible environmental impact in

terms of more grass and shrubbery compared with neighbouring sites. There was no evidence that soil fertility has improved.

- Only a small number of households in Ethiopia benefited from the environmental rehabilitation (Ludi et al., 2016, p. 4). There was no evidence that agricultural production had increased. Only a few individuals experienced some improvement in their livelihoods as a result of the watersheds (Ludi et al., 2016).
- An assessment of 20 randomly selected dams in Kenya found that there were shortcomings with the structural integrity of the dams. The dams were poorly maintained and the water was contaminated by livestock. The dams functioned poorly and did not increase the availability of drinking water (Ludi et al., 2016, p. 5).
- In both projects the medium-term impact of the public goods on livelihoods was negligible (Ludi et al., 2016, p. 6).
- Both projects were regarded as success stories prior to the medium-term impact study conducted by Ludi et al. (2016) and this success was politicised.

## 6. Evidence Gaps

The following evidence gaps were mentioned in the literature:

- The actual evidence that quantifies the extent of corruption or programme leakage is limited or unavailable for most developing countries (Subbarao et al., 2012, p. 149).
- It is difficult to obtain information on the percentage of labour costs (McCord, 2012b).
- Gender sensitive indicators are necessary for gauging the impact of the programme on gender equality and women's empowerment but Tanzarn & Gutierrez (2015) find that only 14% of PWPs in their study utilise gender sensitive indicators.
- The nature, quality and length of the jobs are overlooked in impact assessments (McCord, 2012b).
- Medium-term impact assessments are required (Ludi et al., 2016).
- Evaluation of long-term impact requires additional data and sophisticated techniques. Consequently, not many evaluations have assessed the long-term impact of PWPs (Subbarao et al., 2012).
- Zimmerman (2012) argues that the long-term effects of PWPs on poverty are not well understood.
- Secondary and indirect impact should be assessed but this seldom occurs because they are difficult to measure and may manifest in the long-term.
- There are potential social gains from the assets created, for example improved access to markets or higher school attendance because of roadworks programmes (Subbarao et al., 2012; McCord, 2012b).
- There is limited knowledge on the workings and structure of local labour markets in developing countries and this inhibits understanding how PWPs influence these markets (Zimmerman, 2012).

## 7. Monitoring and evaluation

According to Sabbarao et al. (2012, p. 132) “Monitoring is a continuous process of collecting and analysing information to better understand how well a programme is performing against expected outputs. Evaluation is an objective assessment of programme effectiveness that uses specialized methods to estimate net results or impacts, and/or to identify whether the net benefits (impacts) of the programme outweigh its costs. Programmes with strong M&E [monitoring and evaluation] systems benefit from feedback on programme functioning. Such feedback allows midcourse correction to effect improvements in programme design and delivery so as to enhance its impact.” The Food and Agriculture Organisation recommend that the monitoring and evaluation process for PWPs address the following questions (FAO, 2013):

- Do the beneficiaries, communities and stakeholders receive adequate information?
- Are there mechanisms to avoid negative spillover effects or disruption of existing traditions of voluntary collective work?
- Does the PWP accommodate the needs of women or vulnerable groups?
- What is the household impact of the PWP?
- Has the PWP affected employment patterns, local market prices or wage rates?
- Is the PWP achieving its stated objectives?
- Is there a mechanism to ensure that assets will be maintained over time?
- Are payments received on time?
- Are payments accurate and easily accessible to beneficiaries?
- Are the targeted beneficiaries being reached by the PWP?
- Are communities involved in developing selection criteria and is adequate information regarding the selection process available?

Specialised evaluation methods must be used to assess the effectiveness of PWPs. These include **process** evaluations<sup>8</sup> which assess if the programme has been implemented as designed, **targeting** evaluation to assess if the PWP has reached the intended beneficiaries and **impact** evaluations which determine if the PWP has had the desired impact on the beneficiaries (Subbarao et al., 2012).

### Challenges for M&E

Impact assessments of PWPs often utilise a survey methodology with a quasi-experimental design. Ideally, an assessment of the impact of an intervention on poverty should assess household income before and during the programme and this data should be compared with that of a control group (which is not exposed to the intervention) during the same period (McCord, 2012b). However, in practice **baseline** data on household income before the intervention is usually not available and other less optimal approaches are used to estimate the effect of the programme on household income. In addition, several impact assessments do not take account of the **opportunity cost** (or income foregone) as a result of participating in a PWP. This

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<sup>8</sup> Process evaluations are useful for making corrections to the programme. The cost of the process evaluation should be built into the programme since it is an essential component of the M&A process (McCord, 2012b).

generally occurs because a baseline assessment which could have gauged the value of income foregone did not occur (McCord, 2012b). Moreover, underreporting of wage income is a common problem in household surveys which could lead to an overestimation of the contribution of wages from the PWP as a share of total wage income (McCord, 2012b). Larger sample sizes are needed to obtain statistically significant results (Ludi et al., 2016). Even though rigorous impact assessments (incorporating baseline studies) have grown they are not universally employed. The temporary nature of some PWPs and the difficulty and expense of collecting data curtails the feasibility of rigorous assessments (Subbarao et al., 2012). This problem can be overcome by using innovative research methods, for example shorter surveys which focus on key issues like targeting and impact (Subbarao et al., 2012). Survey data should be complemented with **focus group** data in order to gauge preferences regarding the quality of employment (McCord, 2012b, p.169).

PWPs are assessed mainly in terms of the total cost of the programme relative to the number of jobs created either in terms of **cost per job** or the wages transferred to beneficiaries (McCord, 2012b, p. 50). However, the accuracy of such assessments is compromised by the availability of information on costs and outputs as well as inconsistency in the calculations across the literature. There is no consensus with regard to the appropriate set of costs which should be included in an analysis of public-works programmes. Consequently, it is not possible to compare costs across PWPs.<sup>9</sup> In addition, costs for some components of the PWP are not included in the budget, especially if these components are undertaken by other branches of government. There is some concern that PWPs may therefore have sizeable hidden costs (McCord, 2012b, p. 55). For example, the World Food Programme and the United States Agency for International Development do not include the cost of food in the budget for food-for-work programmes.

Systems for monitoring and evaluation should be incorporated into the programme design at the outset (Subbarao et al., 2012). It is necessary to establish a results chain as a tool for mapping programmes and developing objectives and indicators from this. PWPs involve several institutions and extensive coordination is required in order to share information (Subbarao et al., 2012; McCord, 2018). Centralised implementation can create problems for data collection when multiple ministries are involved (Subbarao et al., 2012). Poor linkages between the system and the monitoring activities can hinder project monitoring. This was the case for the Malawi Social Action Fund programme (Subbarao et al., 2012, p. 167). In the early stage of programme development, it may be difficult to collect both input and output indicators. For example, in Ethiopia the PSNP did not have capacity to collect this information (Subbarao et al., 2012). These difficulties may be alleviated by simplifying the techniques used to collect data on critical indicators. For example, simple scorecards or random sampling of projects may be used instead (Subbarao et al., 2012). Even a long-established PWP like the MGNREGS is still affected by poor record-keeping at the local level (McCord, 2018).

The challenge for impact evaluations of PWPs includes defining the outcome of interest clearly and determining how to measure it (Subbarao et al., 2012). For example, the data gathered on the MGNREGS focuses on outputs rather than outcome indicators, which would be more useful for impact evaluations (McCord, 2018). Furthermore, two problems hinder attempts to estimate the impact of PWPs on growth and poverty reduction: (1) it is extremely difficult to attribute

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<sup>9</sup> Some studies have attempted to overcome this difficulty by specifying the number of workdays created but the lack of consistent terminology still creates ambiguity (McCord, 2012b).

poverty outcomes to the mechanisms and design options within the PWP and (2) poverty reduction must be gauged relative to the opportunity costs of the participants which are difficult to estimate (Gerkhe & Hartwig, 2015).

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