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# PUBLIC WORKS : Overview of International Experience

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**Training Course on “For Protection and  
Promotion: The Design and Implementation  
of Effective Social Safety Nets”**

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# Outline

- Defining Public Workfare
- Objectives Models and Rationale
- Benefits and Costs
- Design issues:
  - Targeting
  - Selection of beneficiaries
  - Benefits and wage settings
  - Share of labor cost
  - Other design features
- Monitoring and evaluation
- Examples: India, Ethiopia, Malawi, Sierra Leone. Ivory Coast
- Lessons & Challenges

# What are Public Works programs?

- Public works programs are safety net programs that provide temporary employment at low-wage rate mostly to unskilled manual workers on labor-intensive projects such as road construction and maintenance, irrigation infrastructure, reforestation, and soil conservation, and more
- Important to distinguish different Objectives and Models
- PS: There are also Public works programs essentially for infrastructure development, with employment/income generation as a secondary objective – Not covered here

# Models of workfare based on objectives/expected outcomes

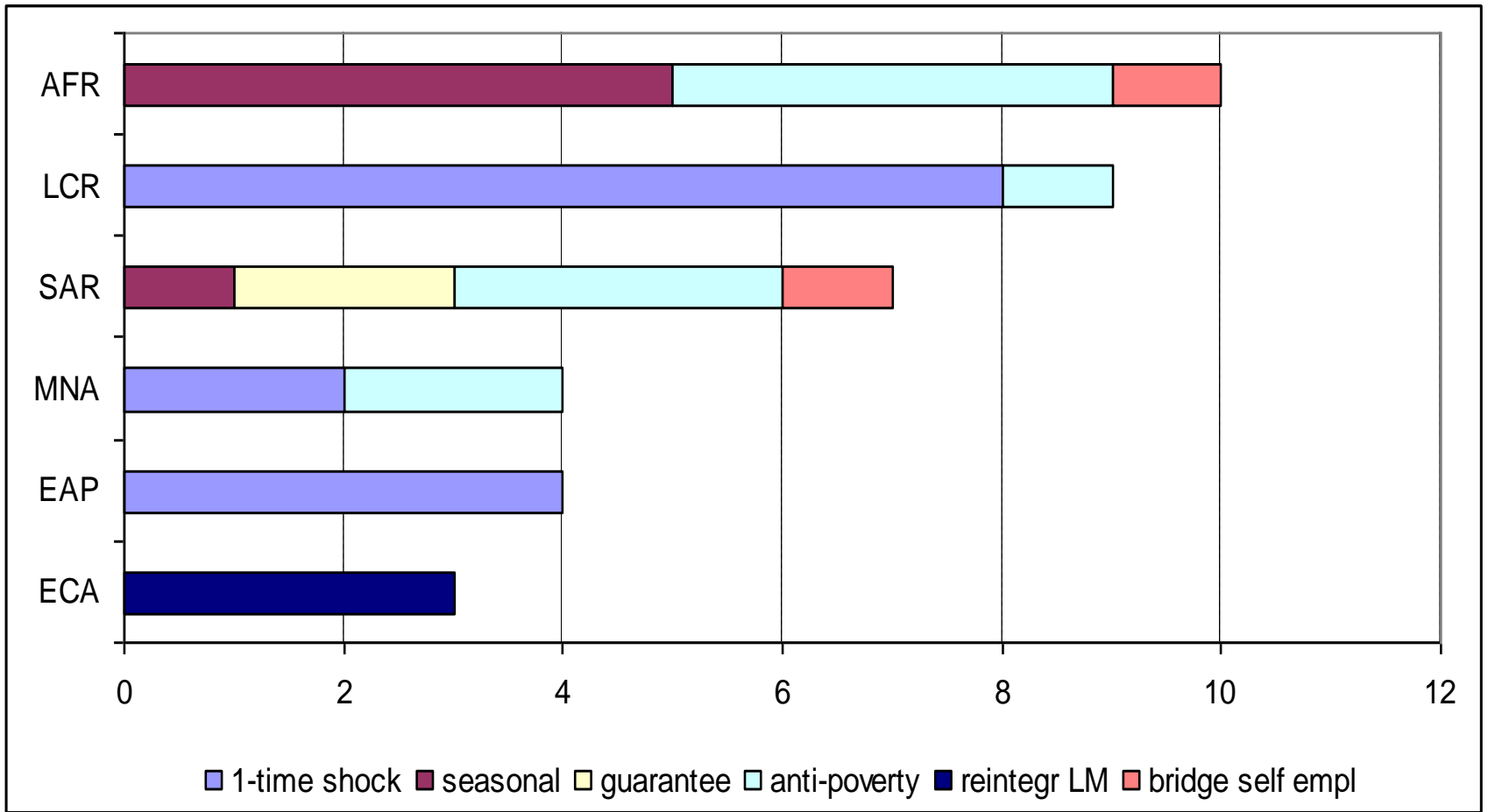
- Public workfare mainly as a short term safety net *to provide the poor with a source of income through temporary employment in labor-intensive projects that either create new infrastructure or maintain existing infrastructure; primary motive income support*
- Public workfare as a longer term safety net mainly as a poverty alleviation program, often providing *employment guarantee for certain number of days* (e.g., India's NREGA)
- Public workfare essentially for infrastructure development, with employment/income generation as a secondary objective
- Public Works Plus, i.e., employing individuals on a temporary basis on projects but with components for training, savings, etc. ,to graduate participants out of poverty by enabling them to gain access to longer term formal sector employment or self-employment

# Objectives

Objectives varied by countries:

- Mitigation of covariate one-time shock (e.g. drought) with temporary employment/income support as primary motive
- Mitigation of Idiosyncratic shocks
- Poverty relief and food security – employment guarantee schemes
- peace-dividend/social cohesion instrument in post-conflict countries (*new*): CAR, IC, Sri Lanka
- As a bridge to more permanent employment (training)

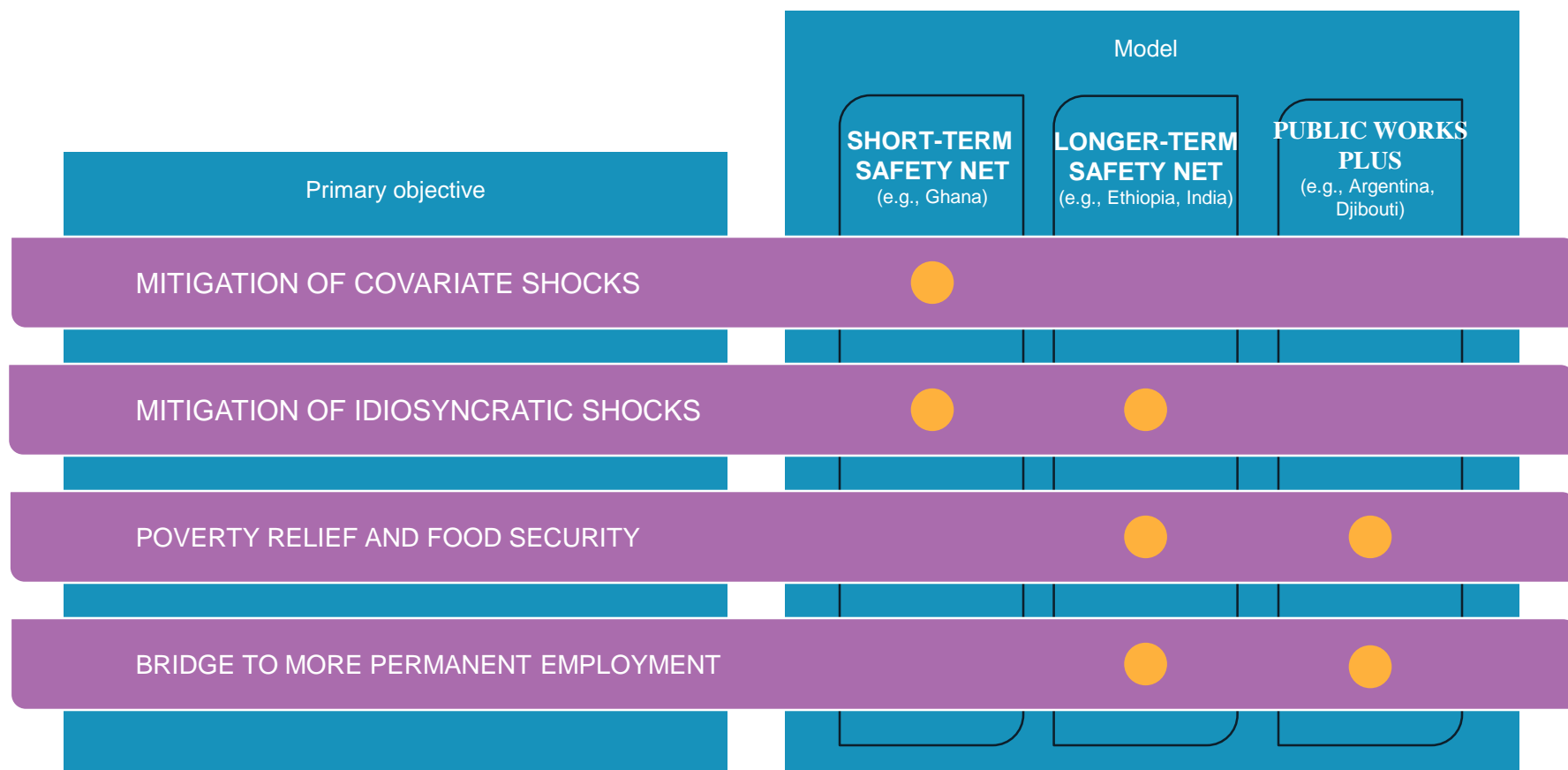
# Difference in objectives



# Models of workfare based on objectives/expected outcomes

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# Correlation of public works program models and objectives





# Rationale

- Quite effective in consumption-smoothing
- Can perform an insurance function
- Can be rendered complementary to growth (via infrastructure building),
- Potential for self-targeting,
- Potential for regional/ geographical targeting,
- World-wide experience, including OECD, Africa, Latin America, South and East Asian countries

# Benefits and Costs

## Benefits

- Transfer benefits = wage rate, net of transaction costs – foregone income (*people are not idle*)
- Stabilization benefits if timing synchronizes with agricultural slack seasons (*reduction of migration*)
- Second round benefits from assets (*crucial*)

## Costs to the government

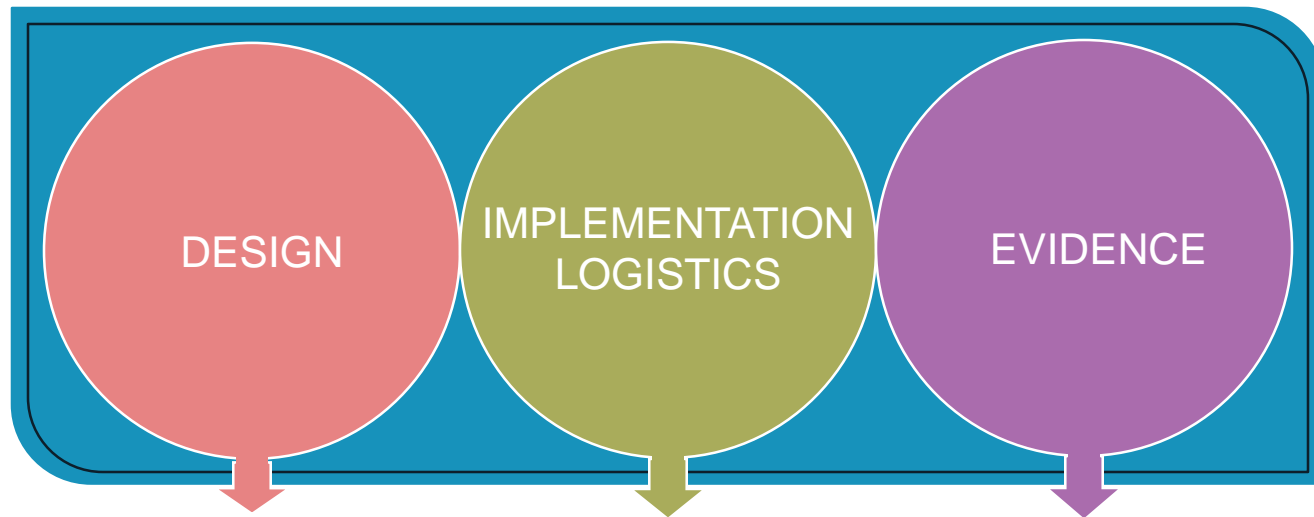
- Administrative costs + wage cost + non-wage cost

Costs to participants: transaction costs + forgone income

# Scale of operations: Person days of Employment (PDE) generated

- Botswana: 7 million person days
- India: pre-NREGA 1.1 million person days
- India: post-NREGA 2007-08: 1.44 million pde
- India: employment per person: 42/year
- Bangladesh FFW+TR.. 300,000 persons x 60 days
- Korea: 140,000 to 200,000 pde
- Argentina: Bottom 20% households

# Design, evidence, and Implementation



- Targeting methods
- Benefit levels, wage setting
- Institutional aspects, and funding
- Project selection
- Additional features, graduation

- Beneficiary selection
- Project selection
- Management information
- Financial reporting
- Worksite management
- Communications
- Procurement
- M&E

- Empirical data
- Operational materials
- 7 case studies
- More coming
- Even more needed

# 1. Approaches to targeting

- Geographic targeting
  - From regional to local
- Individual targeting
  - Self selection – Wage rate
  - Community selection
  - Reservations: e.g., quotas for women
  - Administrative selection based on criteria that predicts household's poverty (proxy means tests: targeting presentation)

## 2. Selecting Beneficiaries/Targeting

- ***Self-selection:*** Setting the wage rate below the market rate allows self-selection of the poorest into the program. This also saves on administrative cost of selecting the poor by other means and most important, prevents labor market distortions.
- Not always possible, for very good reasons
- ***What if the program is oversubscribed?***
  - PMT – rank households by income/expenditure proxy
  - Ration access by following rotation in several different ways:
    - Smaller, more frequent projects
    - Shorter hours in the same project
    - Eligible workers work for fixed number of days so everyone gets a chance to work
    - Eligible workers selected by lottery

### 3. Benefits and wage rate setting: Self targeting and transfer gains

- Evidence is overwhelming that a relatively high wage rate attracts the non-poor to the program and reduces distributional gains
- A relatively high wage leads to job rationing and even abuse of the program
- The best option is to keep the wage above the statutory minimum wage, but below the prevailing market wage....only Korea managed to accomplish this (see figure)

# More on Wage setting

- The level of the wage rate is critical for determining *distributional* outcomes,
- A number of options exist for determining the level of the wage rate:
  - Keep it below the ruling market wage
  - Keep it equal to the minimum wage
  - Keep it higher than the market wage
- In case of first option, self-selection is possible and inclusion errors could be avoided, but does not guarantee avoidance of exclusion errors especially if the program is over-subscribed
- Country circumstances vary a great deal; not all countries succeeded in the first option; not surprisingly varied experience



## 4. Share of wages/Labor intensity.

- Typically in low-income countries, it varied between 0.3 to 0.6
- Depends on the nature of the asset being created, and the agency executing the program
- Useful practice: assess labor content of various projects, and pick highest, in line with community preferences

## 5. Other design features

- Choice of assets: community involvement
- Seasonality – best to run during agricultural slack seasons –
- Gender aspects: program design can be adjusted to make it acceptable to women
- Public/private/NGO/Donor participation

# Monitoring and evaluation

## A GOOD M&E SYSTEM SUPPLIES FEEDBACK TO ENHANCE PROGRAM EFFECTIVENESS

Key impact evaluations are showing progress, mainly arising from income transfer. Impact of community assets are more difficult to discern:

- MGNREGS (India) wages for female casual workers have increased approximately 8% more in participating districts
- PSNP (Ethiopia) increasing food security and livelihood assets; especially when combined with other programs
- Jefes (Argentina) prevented an estimated additional 10% of participants from falling below the food poverty line, and allowed an extra 2% of the population to afford the food component of Argentina's poverty line
- More coming on: See examples of Malawi, Sierra Leone, and Ivory Coast



A few detailed examples:  
**India, Ethiopia, Malawi,  
Sierra Leone, Ivory Coast**

# India's NREGA – design features

- 100 days of work per rural household per year guaranteed upon demand
- State-specific agricultural minimum wages (cash) paid on piece rate basis (based on rural schedules of rates)
- State-specific minimum wage served as program wage
- Unemployment allowance if state fails to provide work for HH within 15 days
- Types of works eligible have a heavy focus on water/irrigation activities, as well as connectivity
- *Village level democratically elected bodies implement the the program with significant resource in control*

# NREG – experience to date (2)

- Female participation far higher than previous PW programs
- Objective of flushing money through GPs has been realized despite risks/flaws
- Appears that program awareness high relative to other public works and safety net programs
- Works carried out largely water conservation (60%), road connectivity (16%), land development (13%)
- Major issue: governance/corruption especially in some States (Bihar); inter-state variation in performance
- Next session provides more details on performance NREG
- Considerable state-level innovation – ICT; social audit; financial inclusion

# Two views on MGNREGA

- Currently controversy is raging on the effectiveness of the program – very senior economists Berkeley, Columbia, Harvard writing comments and rejoinders.....(Prof. Pranab Bardhan et.al, and Jagdish Bhagwati et. Al)
- Debate anchored on three issues: (a) What was the net wage gain and impact on poverty, (b) targeting– did it serve exclusively the poor, and (c) quality of assets
- First – evidence based on a sample survey of workers in the state of Bihar showed that though the wage was Rs.130, net wage gain was only Rs.50 since workers had to give up alternative employment of Rs.80; only 1% reduction in poverty (Ravallion)
- Others argue that it is unlikely since program is expected to operate in non-peak season – not supported by evidence

# Controversy....

- Second issue: targeting and self-selection
- Program requires workers to do hard labor attractive only to the poor, and non-poor are kept away....again evidence points out in some states 20 to 30% of workers were non-poor – possibly to sharp difference between market wage and program wage
- Third issue: Assets created are of poor quality....may be true in India's program –mandatory high labor content – village councils will little experience in infrastructure construction and with high mandatory labor intensity a recipe for poor quality, some argue  
.....
- Bottom line: all is not well with MGNREGA



# The Public Works Program in Ethiopia

## PSNP

The PSNP (2005-2015) aims to:

*reduce household vulnerability, improve resilience to shocks and promote sustainable community development in food insecure areas of rural Ethiopia*

This is to be achieved through a safety net system that:

- (i) provides timely, predictable, and appropriate transfers to beneficiary households;
- (ii) creates productive and sustainable community assets;
- (iii) stimulates local markets;
- (iv) establishes more effective responses to drought shocks; and
- (v) supports livelihood interventions that build assets, promote increased productivity, and encourage diversification at the household level.

# Targeting of the PSNP

- National program:
  - Eight Regions; 318 *woredas* (districts)
  - 8 million people
- Federal Government sets:
  - Targeting criteria: Chronic food insecurity (receipt of food aid for the past three years) is key
  - Quota: resource allocate to woreda determine by number of people receiving food aid over past 3-5 years
- Communities:
  - Carry-out targeting process through wealth ranking
  - Kebele Appeals Committee (KAC) hear complaints

# PSNP Transfers

- Once selected into the PSNP, households entitled to receive 6 (or 12) months of support determined by the household size over multiple years
- Transfers are provided to households:
  - Directly to households without able-bodied adult members
    - 5 days x wage rate x 12 months
  - Through participation in **public works activities**
    - Each household member allotted 5 days of work per month. Households decide which members will work
    - Thus in a 5-member household, if there is one adult labor, he/she provided with 25 days of work for six months
- Transfers are provided in food or cash:
- Public works are planned and designed to address underlying causes of food insecurity:
  - Watershed planning; focus on natural resource management

# Ethiopia: Impact evaluation

- Several econometric evaluations, mostly led by IFPRI with World Bank economists, have shown highly positive impacts on:
  - Reduction of food insecurity: 100 birr increase in PW payments received by the average household leads to a 0.2 month **reduction in food insecure months**
  - 100 birr increase in PW payments received by the average household leads to a 0.13 food group **increase in household dietary diversity**
  - 100 birr increase in PW payments received by the average household leads to a **14.4 per cent increase in monthly per capita consumption.**
  - Distress sales prevented - Lower percent of households reporting distress sales of livestock for food purchases
  - The PW transfer **increased livestock assets by 0.13 TLU for the poorest 20 percent households** and no impact on the rest of the relatively richer households
  - Significant increase in farm productivity (13% to 22%)

# Pattern of Watershed Development

- Planned, landscape-development approach
- Integrated watershed/rangelands development with social infrastructure: ‘The whole is greater than the sum of the parts’
- Ultimate goal: improved livelihoods
- Began in 2006
- PW Impact Assessments in 2009, 2011, 2013, 2015

As time passes the watersheds become more productive, and the sub-projects become more livelihoods-orientated. For example (person-days of work in one area):

	2006	2013	2014	2015
Soil & Water Conservation	70%	45%	40%	35%
Water Projects	5%	9%	11%	11%
S-S Irrigation	1%	2%	5%	9%

# Biophysical Impacts of Public Works

- Increased vegetation cover (increases of between 58% and 82% in 5 years)
- Increased water retention, spring yields and water-table
- Reduced run-off and soil-loss (32% reduction within 2-3 years)
- Reduced flooding on croplands
- Increased area of cropping land through land reclamation and bench-terracing
- By 2015, 91% of farmers now implementing PW SWC techniques on their own farming land.

## Some Social and Livelihoods Impacts

- Households report benefits from natural resources
  - **On existing rain-fed croplands**, increased crop yields: pulses +22%; cereals +66%, but attribution difficult. Estimated average increase due to PSNP PW: 9-10%
  - **Where PW makes irrigation possible**, more than +100% increase due to 2 or 3 crops / annum
  - **With PW land reclamation**, new cropping areas enable increased crop production.
  - **Area closure** enables 300% increase in women taking up bee-keeping

# MASAF3 PWP design

- MASAF PWP began in mid-1990s - Provides short-term work for the able-bodied poor
- Since 2004, designed to be inter-linked with fertilizer subsidy program. Improve food security and increase use ag inputs
  - operation during planting season, not traditional lean season
  - high wages, concentrated in a short spell of time
  - Road rehabilitation, afforestation
- Enhanced program in 2012/2013 in response economic and

	Original PWP	2012-2013 PWP
Wage rate	MK 200/day	MK 300/day
Duration	12 days/year, one cycle	48 days/year, two cycles
Coverage	265,000	593,000
Timing	Planting season	Planting season <i>and</i> harvest
Payments	Lump sum (after 12 days)	Each 12 days



# Selection of villages and households for PWP

- Geographical targeting:
  - Funding allocated to districts based on population and degree of vulnerability
- Decentralized program: local leaders propose projects to district councils and list is validated by MASAF
- For participating villages, households are chosen through a village consultative process
- Highly rationed -- only 10-15% of eligible beneficiaries are covered within target villages

# Analysis of Impact

- No impact on food security
  - No evidence of value added of additional 24 days (48 days planting+lean)
- No impact on fertilizer use
  - Higher receipt fertilizer subsidy (interlinkage)
  - Regional variation
  - No evidence of productive link/rationale timing during planting
- Targeting performance
  - Weak self-selection top-up at the onset of the program
  - Marginally regressive among village chosen beneficiaries r1
  - Participation unresponsive to shocks (weather/price)

# Why didn't food security improve?

- Take up: no effect on participants (vs those who were offered program)
- Opportunity cost of time (planting season)?
  - No displacement other work e.g. casual wage market (nor hours)
- Sharing PWP income: no effect on transfers/loans
- No difference in implementation/project types

# Sierra Leone's Cash for Work Program was designed to mitigate financial crisis impacts

- **Program Objective:** Increase access to short-term employment opportunities and improve employability of targeted youth
- **Secondary Objective:** Reduce social risk
- **Target group:** 25,000 youth (ages 15-35) in poor households across the country
- **Sub-projects:** community demand-driven menu of roads, agriculture, environment
- **Benefit:** 50 to 75 days of work at \$1.75 per day, small training element

# Impact evaluation

- Economic activity increases, even beyond program participation
  - Program **increases employment and income** (household income up by 29%)
  - Also **crowds-in employment** for other household members not in the program
- Households spend more on goods and services
  - Overall more spending on **food, hygiene, and home improvements**
  - Spending patterns vary by location, with more diverse spending in rural areas
  - Increased **spending on and utilization of health services** (12% more visits)
  - But **some negative spending patterns** and use of child health services only for boys
- invest in securing future earnings
  - Treated households create **new enterprises**
  - Spend more on **existing enterprises** (47% rural)
  - Accumulate more **livestock assets** (4.8 vs. 3.9)
  - Participate more in informal **savings** groups, increase savings in rural areas (25%)

# Results about targeting

## Self-targeting is a central mechanism for reducing inclusion errors

- Inaccurate wage setting: Most youth in low-productivity jobs - high labor surplus, low reservation wage, poor data
- Poor targeting performance: Beneficiaries not the poorest, wealth levels similar to the national distribution

## Rotation is a costless way to absorb excess demand

- Unofficial workers: unannounced visits found not all workers at 60% of sites, 13% of workers unregistered
- Information asymmetries: 20% unaware of days worked, inflated attendance reports with avg. 20 women
- Leakage/impact dilution: Average gain in HH income only  $\sim 2/3$  of the amount due

## Quotas may not fix the gender problem

- Empowers women, but also impose costs: More paid work & bargaining power, but 22% of women took under-5s to site
- May impose costs on HH: Other HH members worked more when beneficiary was male (social norms around work)
- Tradeoff with community needs: Did more agriculture to meet quota, but communities prefer roads

# Cote d'Ivoire Public Works Program: Objectives

- Emergency Youth Employment and Skills Development project (PEJEDEC) set-up in 2012 following the post-electoral crisis
  - Includes a public works component
- Employment as main objective of public works component:
  - **Provide temporary employment** opportunities to youths (short-term)
  - **Facilitate transition into more productive employment** upon exit from the program (medium-term)
- Secondary objectives:
  - Reduce youths' risky behavior in post-conflict setting
  - Contribute to infrastructure/roads rehabilitation

# Benefits and Targeting

- **Target group and coverage:**
  - 12,000 Youths (18-30)
  - 30% women
  - 16 localities throughout Cote d'Ivoire (urban areas)
  - Public Lottery to select participants among applicants
- **Main Benefits:**
  - **6-month job, ~6h per day, 5 days a week**
  - Youths work on road maintenance ('brigade' of 25 youths)
  - **Salary is minimum official daily wage:**
    - 2500 FCFA or US\$ 4.5/day,
    - Approximately 55,000 FCFA or \$US 100 per month
    - Paid on bank accounts
- Test of **complementary training** to facilitate exit from the program:
  - No complementary training (40 brigades)
  - Basic **entrepreneurship/self-employment training** (~100h) (45 brigades)
  - **Training on jobs search** and sensitization on **wage employment** opportunities (~ 80h) (45 brigades)



# Did the program achieve its objectives?

- **In terms of employment:**
  - Limited to changes in composition of employment in the short-term, no effects in the long-term
  - Increase in earnings in the short-term (35%), but only small share of transfer (~37.5%)
  - 12% increase in earnings in the long-term
  - Program has more ‘safety nets’ characteristics than employment program characteristics?
- **Secondary objectives:**
  - **Youth’s risky behavior in post-conflict settings:** Gains in psychological well-being, socio-emotional skills.
  - **Infrastructure rehabilitation:** benefits not measured
- **Main implications:**
  - **Need to clarify core program objectives**
    - E.g. relative role in employment vs social protection policies
  - **Scope to improve the targeting**
    - Official minimum wage is too high for effective self-targeting
    - The vulnerable benefit the most in the short and the medium-term. No trade-offs.
  - **Self-employment training seems to be the more promising “graduation” mechanism**
    - No value-added of jobs search training
    - Medium-term earning gains come mostly from group benefiting from self-employment training

To summarize:

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# What do we know from this varied experience?

- Undoubtedly **provided transfer** benefits and consumption-smoothing after natural calamities
- Effective use in **post-crisis situations** (e.g., Korea, Argentina, Sri Lanka, Latvia)
- Encouraged **women's** participation (iff.)
- *Success* depends on careful attention to **design** and **implementation** logistics including creative approaches to targeting, community participation and oversight

# Common threads of impact evaluations: A few lessons and thoughts about cost effectiveness

- Targeting - Cost-effectiveness mostly depends on self-targeting performance:
  - Self-targeting may be insufficient to reduce inclusion errors in high poverty, high labor surplus context. Alternatives to rotations and lotteries?
    - Village level targeting and responsiveness to shock
    - Within village: verification of beneficiaries with PMT
- Wage rate and marginal rate of transfers affect cost-effectiveness
  - Affects the targeting and the impact. Higher wage higher transfer, but poor targeting and lower marginal level of transfer – Argentina 75% - CI 40%. Need more data on that.
- Size of transfer (days\*wage rate) needed to get impact
  - Malawi (daily 1-1.2\* 48 days) ~ \$48-58 (SCT \$125); Ethiopia \$61, Bangladesh \$69, Sierra Leone \$86, India \$163, Ghana \$190,
- Timing – Length and time of the year:
  - Malawi: program spread over 48 days over 6 months; Ethiopia 50days, Bangladesh 90 days, Sierra Leone 50 days, India 100 MASAF4 shifted focus 36 days to the lean season
- Value assets created - second round / middle to long term impact is essential:
  - Malawi Wage 60; IC Wage 60%
  - Identification projects: how to measure value added - yet we never try to document these carefully

# Impact evaluation in Niger – How to improve the impact of works over time

- Are PWP micro-projects used by communities in the middle/long term? Can accompanying measures increase durability of PWP infrastructures?
- Georeferencing + short survey for all ~380 micro-projects (up to 3 years old), light tool using project tablets+GeODK
- Detailed independent baseline survey on physical state of 225 micro-projects + maintenance and use by communities
- Intervention: Accompanying measures + capital injection
- Follow-up micro-projects survey + household survey
- Results expected early 2016

# CHALLENGES AND OPPORTUNITIES

1. **THE USE OF PUBLIC WORKS IS EXPANDING**  
PWs have emerged as a critical social protection response tool, in situations of increased risk and vulnerability. It has shown promise to promote gender empowerment through participation
2. **PUBLIC WORKS PROGRAMS ARE COMPLEX, BUT CAN BE CUSTOMIZED**

In addition to low income settings, public works now play an important role in middle income countries, fragile states, and countries facing social tensions, e.g., Arab Spring. This typically involves customization in design to expand program objectives beyond income support, i.e., promoting labor market participation and pathways out of poverty.

# CHALLENGES AND OPPORTUNITIES

## 3. INNOVATIONS ARE MAKING PROGRAM IMPLEMENTATION SMARTER AND MORE EFFICIENT

Many countries are developing stronger IT based MIS to automate program processes. This helps leapfrog implementation bottlenecks in facilitating beneficiary identification, tracking, payment, and program monitoring.

## 4. A COMBINATION OF PROGRAM LEVEL AND BENEFICIARY INPUTS CAN HELP PROVIDE THE CHECKS AND BALANCES NEEDED AGAINST ERROR, FRAUD, AND CORRUPTION

Combining top-down and bottom-up processes helps to promote transparency, and reduce issues of corruption that have pervaded public works schemes in the past.

## 3. EMPIRICAL GAPS REMAIN

More needs to be learnt about the effectiveness and impact of new experiences and new approaches and to address issues including governance and the impact on poverty and the labor market

# THANK YOU



**FOR MORE INFORMATION**  
[www.worldbank.org/safetynets/publicworks](http://www.worldbank.org/safetynets/publicworks)