

Pay it forward: Impacts of a rural livelihoods program with built-in spillovers

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Evaluating impacts of a Heifer program in Nepal

1. Women's self-help groups
2. Technical trainings on improved animal management
3. Livestock transfers = two doe goats + shared breeding buck
4. Values-based training with encouragement to “pay-it-forward”



Pay-it-forward (PIF): how it works



Comparison to BRAC's Graduation Program

BRAC Graduation program is a “bigger” push:

- Asset transfer is 2-4 times larger
- Cost 7-40 times more per beneficiary
- Beneficiaries receive regular food or cash transfers for a year
- Frequent home visits from program officers
- Choice over asset/livelihood (most chose livestock)
- Beneficiaries not expected to transfer benefits

Research questions

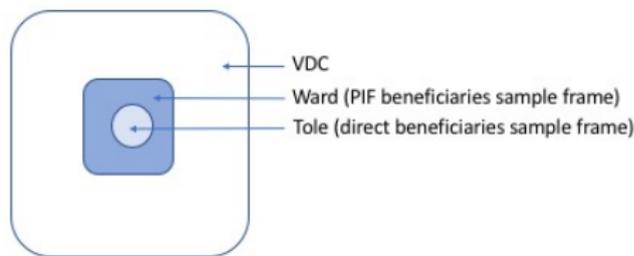
1. What is the impact of the program?
2. Do the impacts persist over time?
3. Does the pay-it-forward (PIF) mechanism spread impacts?
4. Are all program components necessary?
5. Is the program cost effective?

Research design: RCT

Cluster RCT with three variations of the program (plus control) to capture effects of program components

1. Full Heifer program
2. Heifer program without goats
3. Heifer program without values based training and PIF
4. Control (no Heifer program)

Research design: sub-populations



Sample includes two types of respondents:

1. **Targeted direct beneficiaries:** All households in the chosen central neighborhood
2. **Prospective PIF beneficiaries:** All other households in the selected village

Primary outcomes (summary indices)

Goat livelihood outcomes:

1. Goat herd dynamics
2. Goat production practices
3. Goat profit, gross revenue and investment
4. Women's empowerment over goat production

Household welfare outcomes:

1. Income
2. Assets
3. Women's empowerment
4. Financial inclusion
5. Mental health

Regression specification

ITT effects separately for direct and PIF samples:

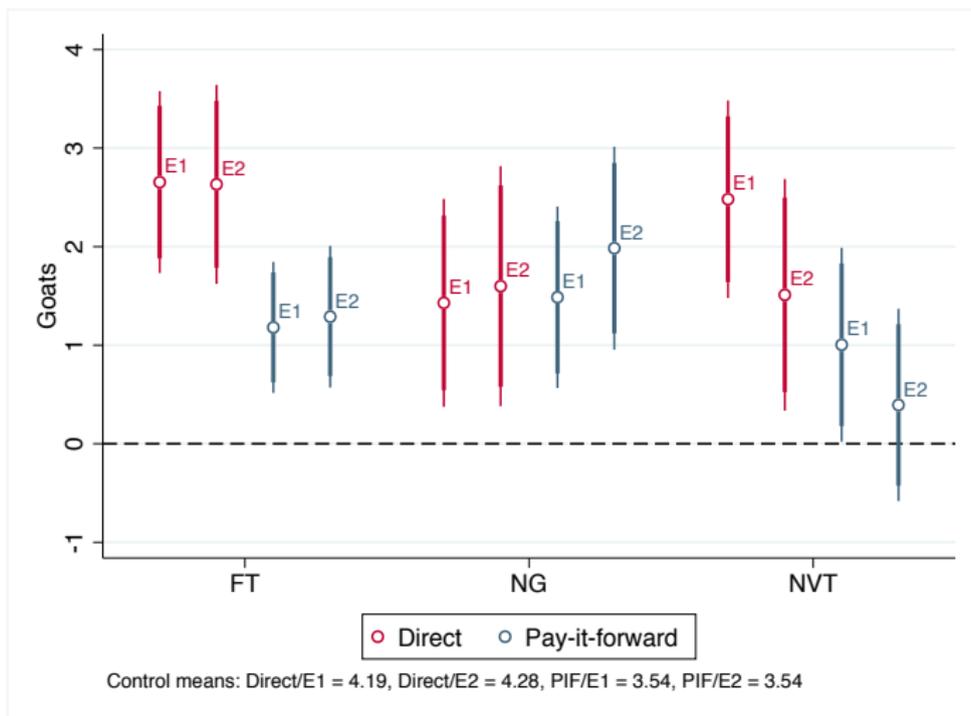
$$y_{hv}^t = \beta_0 + \beta_1 T_{hv}^{FT} + \beta_2 T_{hv}^{NG} + \beta_3 T_{hv}^{NVT} + \delta y_{hv}^{t=0} + \mathbf{X}'_{hv} \gamma + \mathbf{S}'_b \rho + \varepsilon_{hv}$$

- y_{hv}^t is outcome for household h in village v at time t .
- T_{hv}^{FT} , T_{hv}^{NG} , and T_{hv}^{NVT} are treatment assignment dummies
- \mathbf{X}'_{hv} is vector of candidate controls to be selected by PDSLASSO routine (Belloni et al. 2014)
- \mathbf{S}'_b are strata bins
- Errors are clustered at the VDC (treatment) level

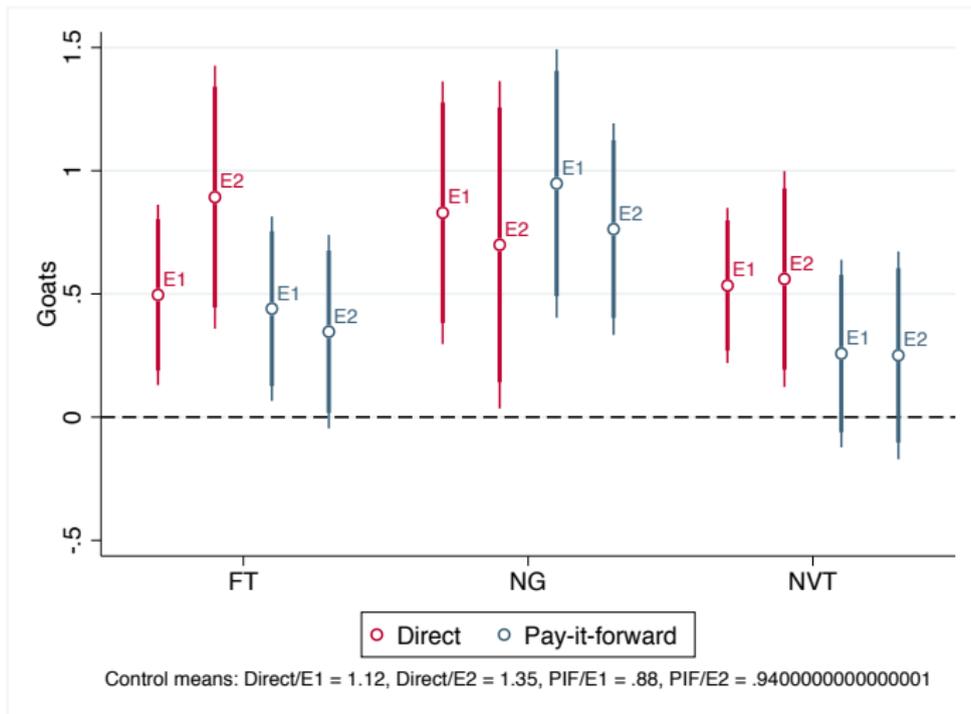
Results preview

1. What is the impact of the program?
 - (a) transforms goat enterprises
 - (b) improved women's empowerment and financial inclusion
2. Do the impacts persist over time? **yes.**
3. Does the pay-it-forward mechanism spread impacts? **yes.**
4. Are all program components necessary? **maybe not.**
5. Is the program cost effective? **yes.**

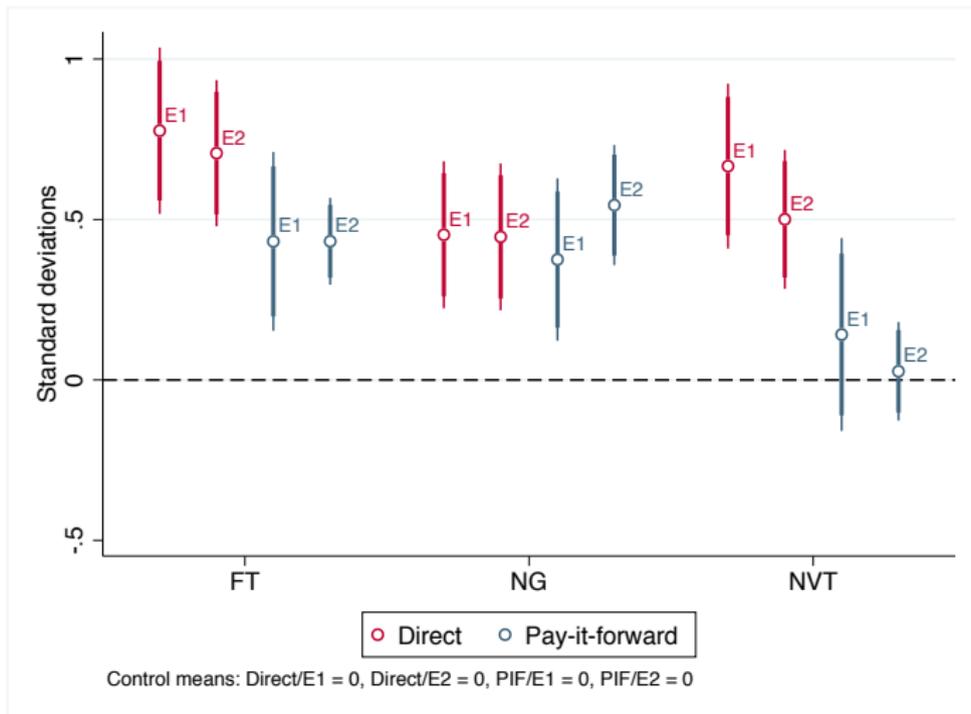
Bigger herds



Increased goat sales



Improved livestock practices

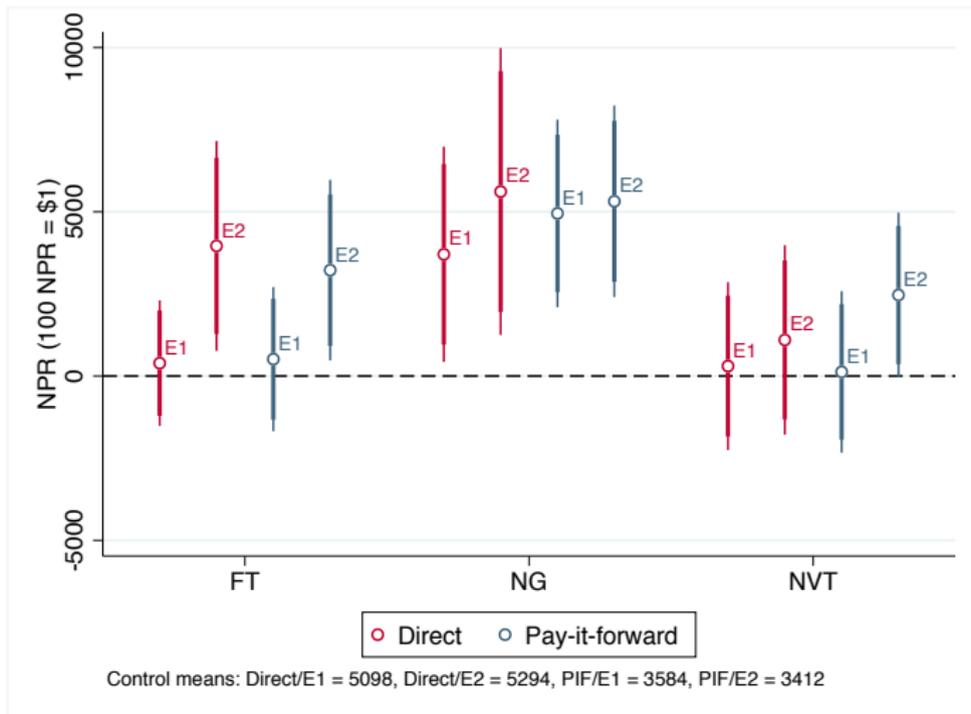


Unpacking livestock practices

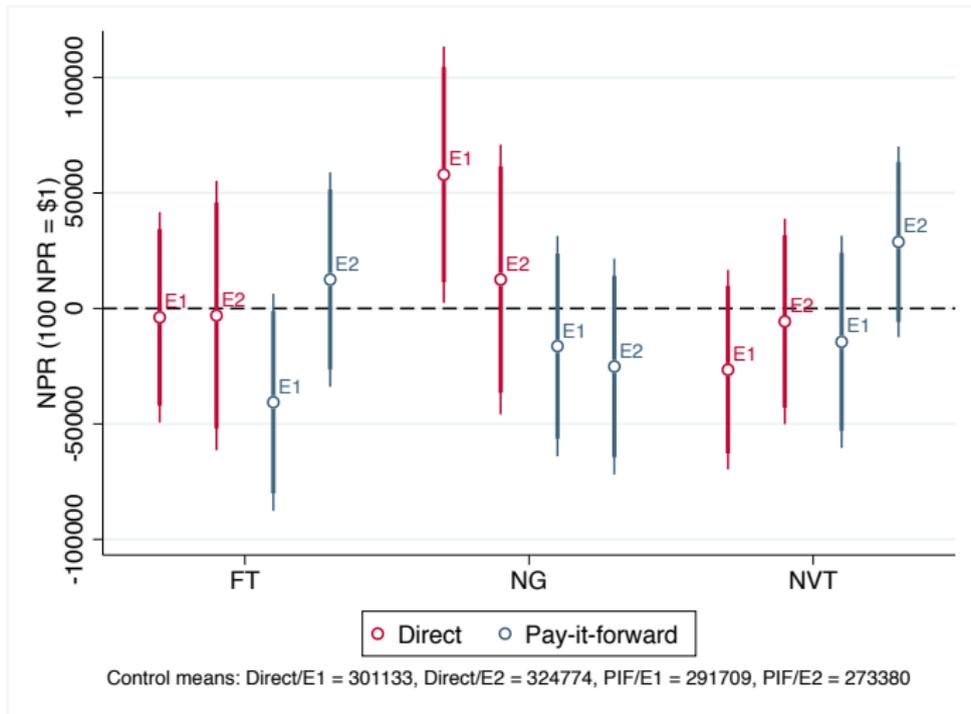
FT direct beneficiaries are (similar impacts for NG and NVT):

- improved pen – 51 p.p. increase
- remove manure weekly – 37 p.p. increase
- use manure as fertilizer – 20 p.p. increase
- use livestock medicine – 21 p.p. increase
- vaccinate goats – 20 p.p. increase
- use home fodder – 14 p.p. increase
- CAHW visit home – 37 p.p. increase
- use of mineral blocks – no evidence of impact

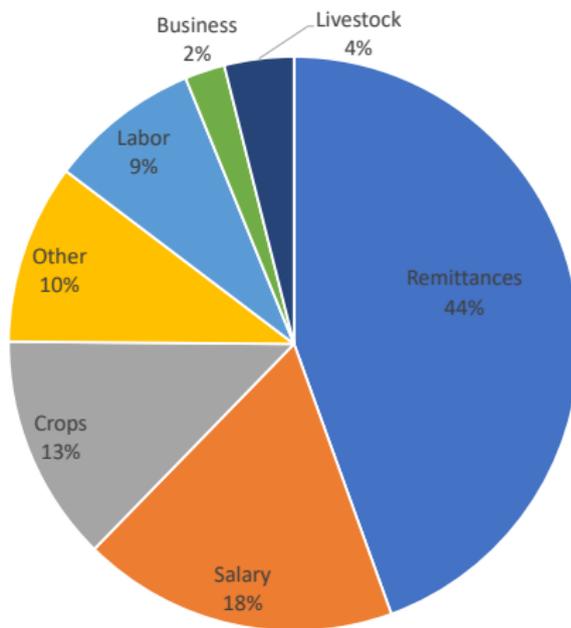
Higher goat profit, increasing over time



Total household income



Livestock income is not a substantial income driver.



Key take-away messages

1. The program transforms goat enterprises – Beneficiaries have bigger herds, improved livestock practices, more goat sales and higher profit from goat production compared to control households.
2. Women are more empowered - particularly in goat production decisions and through greater participation in groups - and have greater financial inclusion.
3. Impacts are similar, and sometimes *larger*, one year after the conclusion of the program
4. Weak evidence to suggest the goats are necessary for achieving impact.
5. PIF is working, rendering the program cost effective, despite small monetized impacts.

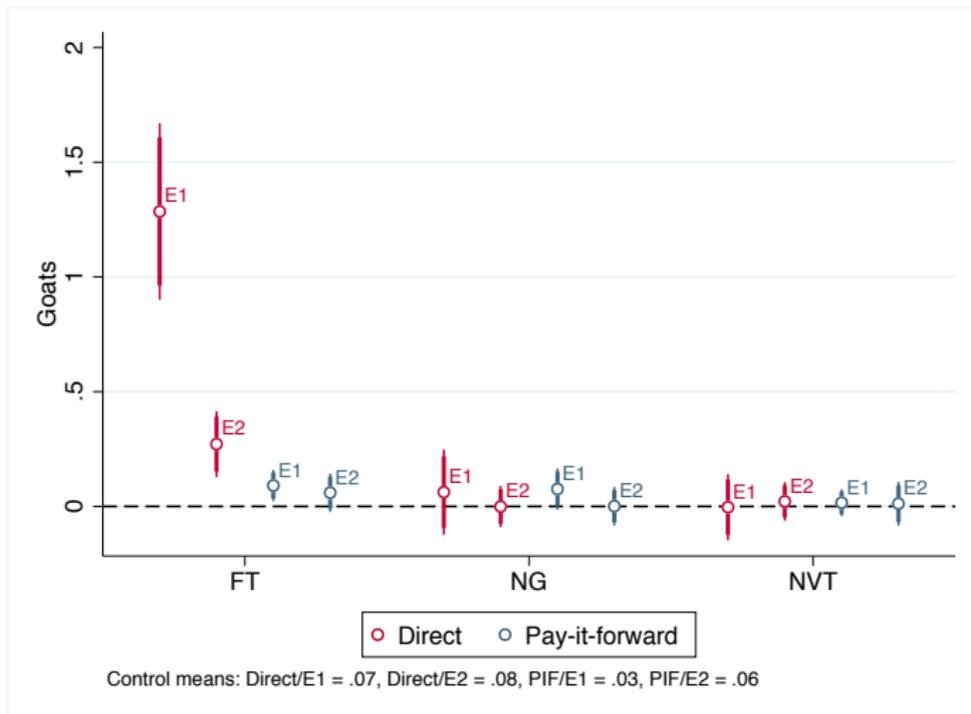
Thank you!

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Photo Credit: Heifer International

FT direct beneficiaries pay it forward



PIF beneficiaries receive goat gifts

