Improving income and empowering self-help group members through a goat rearing initiative: Findings from a mixed-method study in Bihar, India

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Introduction

In recent years, there has been increasing focus on women's self-help groups (SHGs), a major portion of which is supported by the Ministry of Rural Development under National Rural Livelihood Mission that aim to improve livelihood opportunity and empower women. In the rural economy, rearing of goats function as a secondary source of income (CreativeAgriSolutions, 2018), often used for mitigating immediate risks and as a means of financial resilience for the poor households (Barooah, et al., 2016). Additionally, goats can prove to be significant assets for enabling women's access to and control over resources as they are mostly reared by women in poor households (Paudel, Meulen, Wollny, Dahal, & Gauly, 2009), thereby acting as an enabler/a pathway to greater decision-making in household economic endeavors, purchases, and mobility among others (Hegde & Deo, 2015).

Aga Khan Foundation (AKF) initiated a goat rearing initiative, Project Mesha in 4 blocks of Muzaffarpur, Bihar in 2016 with the support from the Bill & Melinda Gates Foundation. Following the intervention, the state rural livelihood mission, JEEViKA started implementing a similar model in a phased approach across 44 blocks in 13 districts in 2017, with the technical support from AKF. The project aims to transform women self-help group (SHG) members' lives by increasing their income through goat rearing, by empowering them at household and community levels and by improving goat health and management (GHM) practices and goat health in the community. The program key intervention activities included creating a cadre of community-based animal health workers (CAHWs), called *pashu sakhis* (PS) and training them on goat health and management and women empowerment. These PS once trained, provide knowledge on GHM and preventive services such as vaccination, deworming, castration etc to the women goat rearers (WGRs). The program also organized WGRs who were also JEEViKA SHG members, into goat producer groups (PGs), and focused on improving awareness on GHM practices through their engagement with PS in monthly meetings. The program facilitated market linkages by strengthening *chiks*' and traders' network and organizing a local market (*haat*). This paper aims to examine the effectiveness of the intervention on *pashu sakhis'* and women goat rearers' income and empowerment at household and community level.

Data and methods

The study employed a mixed-methods approach and collected data using quantitative surveys, qualitative in-depth interviews, meetings and training observations. The data was collected during January to March 2020.

Quantitative data collection

The quantitative data was collected from 206 PSs and 827 WGRs across both AKF and JEEViKA area. In AKF area, we adopted a multi-staged sampling approach for the selection of PS. In the first stage, two blocks namely Bochaha and Sakra were randomly selected from Muzaffarpur where the intervention was being implemented by AKF. In second stage, all PS who have worked for more than a year in the block

were listed. In the third stage, every fourth PS and her corresponding village were selected systematically to meet the target of 20 PS from 20 different villages in each block. In the area where the intervention was being implemented by JEEViKA, in the first stage, we selected four districts namely Araria, Gaya, Nalanda, and Rohtas purposively based on the duration of the intervention. These districts also represented different geographies of Bihar and captured the potential variation in the implementation and uptake of the program. All the intervention blocks within the selected districts were included and a census of all the PS was done, to meet the required sample of 160 PS. After the PS were selected, we selected four WGRs from the same village who received services from the selected PS. Of them, three WGRs belonged to SHG households and one WGR was selected from non-SHG households across both AKF and JEEViKA area.

Qualitative data collection

For qualitative data, we conducted 340 in-depth interviews (IDIs) in both AKF and JEEViKA area at various levels. At household level, we conduced IDIs with PS, WGR and their family members who supported in their goat rearing activities. At the organizational level, we conducted IDIs with AKF and JEEViKA program staff. For AKF, the IDIs were conducted with block managers (BM) for the two selected blocks and with one Development Officer (DO), Junior Development officer (JDO) and Management information system (MIS) officer in each block. For JEEViKA blocks, we conducted IDIs with District Project Manager (DPM) for the selected districts and with Block Project Managers (BPMs) and Livelihood Specialist (LHS) at the block level. We also conducted IDIs with two Community Coordinators (CCs) at each block. Other stakeholders, such as traders/*chiks*, veterinarians and pharmacists, were selected in accordance with availability wherein one from each of the stakeholder groups were selected per block. In addition, 28 PG meetings and 5 PS trainings were observed.

Findings

Findings from our study suggested that PS were trained on goat health and management (GHM) and women empowerment, in a phased manner. The quality of trainings to PS was good, however there was lack of practical trainings on GHM. The pace of trainings to PS was also found to be slow in JEEViKA area as compared to AKF area. Slow pace of trainings hinders PS to function efficiently and provide a full range of services. PSs were also linked to PGs and were mandated to organize a meeting with the WGRs every month where they provided information on GHM practices and services they provide. PG meetings also served as a medium for PS to engage with WGRs and could help in increasing the demand for her services. However, WGRs' attendance in PG meetings was found to be low, as 68% WGRs in AKF area and 45% WGRs in JEEViKA area attended PG meetings. We found that there was low provision of services such as castration, azolla etc., and WGRs' resistance towards certain services such as castration and payments (Table 1). In the month prior to the survey, provision of medical services such as deworming and herbal medicines was high except for vaccines in both the areas. However, proportion of PSs providing services such as liver tonic (78%) and castration (73%) was higher in AKF area as compared to 24% PSs providing castration and liver tonics in the JEEViKA area. In case of non-medical services across both areas, 66% - 76% PSs conducted PG meetings, and 46%- 53% PSs advised households on how to make goat sheds. Provision of services such as salt bricks, feed mixture, weighing goats, and azolla was low across both the areas. This clearly indicates that the proliferation of program and acceptability of PS in community was limited.

Table 1: Provision of GHM services by pashu sakhis in last month

Services provided by PS	AKF (n=41)	JEEViKA (n=165)
Medical services		
Deworming	87.8	65.5
Medicines (herbal)	85.4	55.8
Castration	78.1	24.2
Liver tonic	73.2	24.2
PPR vaccination	34.2	21.2
ET vaccination	9.8	5.5
Goat pox vaccination	2.4	5.5
Non-Medical services		
Organizing PG meetings	65.9	75.8
Advice on goat sheds	46.3	52.7
Weighing of goats	24.4	32.1
Providing feeder	17.1	13.9
Salt bricks/ feed chat	7.3	7.3
Azolla	7.3	18.2
Hooves trimming	4.9	13.3
Providing breeding bucks	2.4	24.2
Insurance	0	10.9

A logistic regression analysis on number of GHM trainings PS received and her knowledge on GHM practices showed that PS who receive all 3 GHM trainings are 5-6 times more likely (OR=5.8, CI= 2.7-12.5, p<0.001) to have correct knowledge on GHM. Since in JEEViKA area, only 20% have received all 3 trainings, that may have implication on their level of confidence and thereby low provision of medical services. PSs were supposed to first survey all the goat rearing households in the village, which served as their consumer base. The study found that the number of goat rearing households (both SHG and non-SHG) ever surveyed and served in last month was found to be low (figure 1a), which had negative implications on PS' incomes. The difference in average income for PSs in the month prior to the survey was found to be significantly higher in the AKF area [INR 1567] compared to the JEEViKA area [INR 1357] (figure 1b).

Fig 1a. Household coverage by pashu sakhis

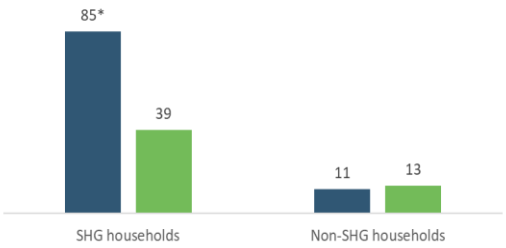
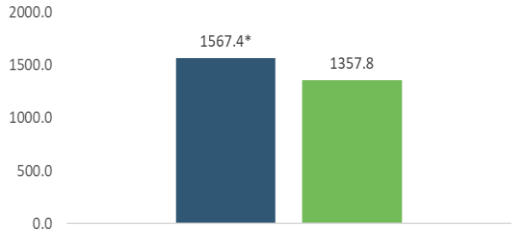


Fig 1b. Average monthly income of pashu sakhis



Source: Pashu sakhi quantitative data, Population Council, 2020

Findings from the qualitative IDIs suggested that WGRs perceived that their income has improved as compared to when they started goat rearing. They also perceived that their income increased due to increased goat flock, weight of goats and higher milk productivity since their association with the program. One of the WGRs mentioned that:

> *"There has been a change in our family. We have a shop from where we get some income, but the main income is from the goats. We can educate our children."*

IDIs with PS suggested that they were dissatisfied with their low incomes and declining stipends. One of the PSs mentioned:

> *"I used to get some stipend initially and it was fine. But gradually the money started decreasing. So, the problem is that the money has been reducing even though I am working as hard as I used to do earlier."*

However, their mobility has increased within the community resulting in increased confidence and better knowledge. They also gained respect and recognition within the community and talked about personal growth. Another PS mentioned that:

> *"Earlier, I did not know anyone in the village, and no one knew me but today, when I go out, they call me from the distance and talk to me. I get respect and all the women listen to me and they talk to me very nicely."*

Conclusion and recommendations

Despite being an important source of income, high morbidity and mortality of goats, and disproportionate distribution of livestock extension functionaries that prefer catering to large ruminants as compared to small ruminants, may act as a barrier in establishing it as a viable occupation option for rural women. Despite these gaps, models involving CAHWs are being increasingly adopted to provide economic opportunities to women and empower them. This study showed that this program helped in improving women's income, their control over resources, their role in household decision making and mobility, thereby empowering them.

Similar interventions involving CAHWs could encourage rural women to train as CAHWs. Training them on gender equality, gender-based discrimination and women empowerment, and encouraging them to talk about these issues at home and in WGRs collectives can empower them and go a long way in reducing the gender-divide. Training CAHWs on soft skills, entrepreneurial and financial skills and enabling them to establish micro ventures can further help in improving their confidence and income. Forming trade groups or WGRs collectives can help in providing rural women a collective voice while negotiating with local traders and can help making the market value chains more inclusive. Registering such collectives under farmer producer companies can also help in providing additional opportunities for improving women's incomes and their financial stability.