

## Livestock Service through Knowledge of Society: Mainstreaming Contribution of Women Knowledge Holders

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### Abstract

Sustaining farm income through effective, economical, and environment friendly technologies are imminent particularly in tropical countries. Enhanced expectation of people's aspiration, gap between haves and have-nots, and food security have been a challenge for public/private institutions to address. This gap can be bridged through indigenous knowledge system sustained by creative communities with resilience. However, successful intervention programs of engaging knowledge holders beyond documentation are limited. National Innovation Foundation, India has embarked upon larger research program in West Bengal (India). The primary objective was to generate meaningful evidence for promoting quality livestock health care through women knowledge holders. This is based on the Honey Bee Network philosophy that insists necessity to understand and imbibe values inherited by individual and/or community of knowledge system. The study highlights social capital gained by women knowledge holders which will form key determinant towards optimum utilization of these technologies. A model of incorporating indigenous veterinary medicine for benefit of farming community is illustrated. There is a need of supporting and reorienting veterinary service by public system to utilize and scale-up knowledge of society. Thus the study brings forth contribution of women knowledge holders within their social fabric. The paper articulates significance of social behaviour by conducting network meeting and an approach to engage hitherto less recognized technological alternatives for improvising quality livestock service.

### 1. Introduction

Developing countries have initiated programs for enhancing utilization of technology in different livestock production system. This has helped to generate technological demand and categorize farming community on the basis of rate of adoption of an innovation. There is a need to understand the production system before implementation of an animal health strategy (Etuk et al., 2005). A major challenge for research system is to characterize different farming systems for intensification (Robinson et al., 2015). Lack of community based strategies has been hindering agriculture conservation (Tschopp et al., 2010) and sustainable production. Further, in the entire process of technological intervention, values and norms of societies were not given due attention. Aspiration, an important socio-psychological phenomenon of self-development (Mali et al., 2015), has to be part of these activities. Listening farming communities has been a huge challenge to fulfil their needs and share values with empathy.

Rural societies in remote areas depend on plant based household remedies (Phondani et al., 2010). These indigenous practices can provide no or low cost remedies at farmer's doorstep (Ravikumar et al., 2015). Scientific experiments had proved utility of herbal medications to overcome livestock ailments (Kolte et al., 2008; Karangiya et al., 2016). Several research programs in the districts of Gujarat (India), viz. Amreli (Devwania et al., 2015), Gandhinagar (Bharwad et al., 2015; Kadivendi et al., 2015), Bhavnagar and Junagadh (Ravikumar et al., 2015a) indicated methodological approach for mainstreaming them. These reinforce importance of forming active utilizer system for agricultural development in less potential areas and for resource poor farmers (Roling, 1988). An eight steps model was also suggested for large-scale demonstration of indigenous technologies for effective utilization in farmer's field (Ravikumar et al., 2016).

The reciprocity towards documented knowledge in ethical manner has been articulated globally by Honey Bee Network (Gupta, 2006). The ability of community to organize



themselves for strengthening indigenous livestock system has been demonstrated which is important to sustain their wisdom. More than 50% of knowledge holders participated in network meeting in West Bengal were women (Ravikumar et al., 2015b). Society through creative communities can enhance the scope of such strategies (Surtia et al., 2016). This research paper articulates importance of learning from creative communities, their motivation, and inherent positive forces to forge partnership with them and the need for refinement, utilization of technologies by involving societies with specific reference to women.

## 2. Materials and Methods

The study was conducted in Purba Medinipur district of West Bengal (India) in 2013. Field investigation and personnel interview were conducted with identified knowledge holder(s) to document novel livestock medications. The research team had undertaken an active role in formation of Knowledge Network among knowledge holders of these regions. The primary aim was to understand nature of participation of knowledge holders specifically women healer and their interface with others. A regional workshop was conducted by seeking participation of knowledge holder at Bajkul, Purbamedinipur district. Efforts were made through this study to bring out evidence of social participation by women healers through their wisdom and to share with community. The study examined role of social capital in terms of influence and network in enabling effective implementation of technologies derived from Indigenous system. This research work examines reinforcement of technological solutions from indigenous knowledge system through network meeting and to suggest an approach for implementation. The study tried to observe need for suitable change in institutional working arrangements towards scaling of livestock technologies.

## 3. Results and Discussion

### 3.1. Significance of knowledge and social context

Smt. Shatadal Ghorai, a widow of 55 years old tried to help her community through folkloric knowledge. She was illiterate and sustain her by performing household chores seeking support from the village. Under these contextual difficulties, she learnt medications from her father. Villagers relied on backyard poultry farming for food security. The nature of observation while treating affected birds helped her to explain specific signs of diseased birds. She narrated clinical symptoms of an ailment affecting poultry. The conditions narrated by her were illustrative of birds suffering from acute respiratory distress. This may be due to decreased immunity thereby spread of secondary bacterial organisms due to stress. The novel indigenous livestock medication was found effective. Villagers

acknowledged her contribution in sharing and prescribing dosage in treatment of birds (NIF, 2015). Her medication enhanced immunity and protected birds against respiratory distress and secondary bacterial infection (Ghorai et al., 2016). Thus indigenous system provided necessary opportunity for Non Linear Innovation System [NLIS] approach (Kumar and Ravikumar, 2016). Development of technology through social knowledge can be mainstreamed by recognizing experimental spirit of communities outside formal system.

Social realities should be taken into account before executing a development intervention. Reaching to each birds through specific institutional unit of formal system is difficult. Farmer's accessibility to institutional services was also limited (Justus et al., 2013; Samal et al., 2003). The region bestowed with outstanding folkloric knowledge has to capitalize on these systems. In many regions of the World enhancing support to smallholder farmer is difficult and it affects the coping mechanisms of local livestock industry (Ndhlovu and Masika, 2013). The non-responsive of local treatment and non-availability of traditional healers were other major constraints faced by the livestock owners (Gujar et al., 2015). It was in this perspective that protecting livestock health through community owned folkloric medications assume pragmatic. These knowledge systems had evolved to well-recognized resource constraints along with risks and uncertainties (Beckford and Barker, 2007). Indigenous system of veterinary medication has been operating with less or no monetary incentive in these social systems. With increasing concern on environmental health and poor industrial response to livestock sector, utility value of knowledge system has been changing. It is appropriate to have an update on these products or processes for developing and strengthening suitable models and frameworks (Simula et al., 2015).

### 3.2. Nature of social participation

A workshop was conducted in the study area wherein healers participated and shared their wisdom. The rationality of their behaviour helped the investigating team to know details of technologies and their implications. It was found that women knowledge holders stepped out of their homes to meet and discuss with other custodians of knowledge. This is important as in developing countries women have lesser degree of leadership role (Sraboni et al., 2014). Smt. Shatadal Ghorai, a poultry healer, could able to negate such norms through her knowledge and strived for equity with ease. Studies by Thakur et al. (2012) conducted in hilly regions reflected that majority of households had backyard poultry farming experience wherein they did not find difficulty in selling of poultry produce and women had greater control over it. They were confident in using indigenous medications in treating of livestock (Phondani et



al., 2010) as they noticed the disease better due to their close association with them. Women were first observers owing to their close association in most activities related to livestock including home remedies (Tiwari and Pande, 2010). Thus, it has to be reiterated that women's participation can enhance productivity of rain-fed ecosystem and reduce vulnerability (Nirmala et al., 2012). These social interactions among creative communities can help to relate among themselves. The network meeting conducted by research team provided evidence wherein healers acknowledged learning from each other. It was also noticed that the nature of reciprocity among them was immense and responded with ethical standards of recognizing each other's contribution.

The desire to meet other healers to share their experience was likely through trust developed during course of the activities. These positive synergies helped National Innovation Foundation, India to form network of knowledge holders in these regions. Social network and social participation are important components of social capital (Willy and Holm-Muller, 2013). The social capital gained out of these activities can be reaped for initiating suitable collective action. The study revealed that these social network and social influence were maintained based on knowledge without any external support. There are several steps to combine traditional healing system with contemporary medicine (Vansintejan, 1984). The research team tried to institutionalize the social capital obtained through healers' participation. However, for managing and sustaining these efforts public support is needed. A horizontal linkage among livestock healers through social participation may be one of the steps in effective implementation. This will help as livestock healers have desired knowledge and skill in sustaining them. There is a need to undertake effective research to understand the nature of motivation of healers who in spite of difficult social setting sustain creativity.

### *3.3. Method of scaling-up*

The need of farming community can be addressed collectively by technology providers, viz. indigenous and formal systems. Indigenous system can provide opportunity for community to own their technology. These healers are present in most societies (Cheikhyoussef et al., 2011) who share their wisdom/practice. Community participation can be mobilized through goodwill generated out of these low or no cost technologies (Ravikumar et al., 2016a). This will help in managing resources and extending livestock services in a sustainable manner. Studies by Nair et al. (1999) indicated that veterinarians treated livestock with indigenous medications depending upon their experience, place of working without completely depending on modern medicine. The nature of linkages among indigenous healers, owners and livestock service providers have to be

strengthened. Public support is needed for enhancing the benefit and sensitizing users on indigenous wisdom. This is in agreement with Steinfeld (2003) as livestock sector requires proactive policies to support small-scale farmers. In most circumstances, these indigenous technologies survive through demand of livestock owners who can ill afford to take risks. Institutional innovations are needed in maximizing use of agro-ecological, human and financial resources for sustainable intensification (Schut et al., 2016). Sustainable production system as referred by Walters et al. (2016) should 'supply human needs, enhance environment and natural resource base, increase efficiency of resource use, improve economic viability of farming and quality of life for producers and society'. The effective interaction between formal institutional service providers and folkloric livestock healers were limited. This will enhance the scope of greater survival and discovery of the knowledge that can be put to use not only in niche specific areas but widely.

Thus these socially desirable technologies need to be incorporated in livestock development programs. Effective resources need to be allotted for encouraging wider diffusion of these novel technologies (Pani, 2016). Livestock extension service strategies are yet to be evolved in strengthening the knowledge system through successful demonstrations at diversified farm fields. Farmers in tropical countries try to supplement their income by keeping different species of livestock. There is a dearth of study to measure the impact of livestock ailment on livelihood and health including human values of rural poor. Poultry health plays a key role in poverty reduction, and development strategies need to incorporate human health as one of the components (Rist et al., 2015). Livestock health programs have to strategize these systems through holistic approach so as to complement public/private livestock service. This can be implemented by imagining the utility of folkloric wisdom by stakeholders. Organizing the local knowledge networks and their social influences plays a crucial role in scaling-up of indigenous system. There is an unique advantage of involving these practices as livestock production is predominantly a women-centric activity.

## **4. Conclusion**

The technological gap in livestock production can be minimized through indigenous system. Women knowledge holders can learn under difficult social situation and demonstrated their ability to participate socially. This needs to be considered by formal system for providing quality livestock service. Creative spirit of informal knowledge holders and experimental nature of society can be harnessed for utilization and scaling-up of technologies for wider application. The study reiterates potential of these low cost technologies.



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