# Blog 24; December, 2013

## Beyond technology dissemination: Why extension should also focus on policy change?

*Adoption of new knowledge and technologies is often constrained by institutional and policy challenges. Trying to promote new knowledge without addressing these challenges, often leads to poor results. Diagnosing these constraints and experimenting with new ways of addressing these constraints should be a priority for extension, argue Dr S V N Rao, Dr K Natchimuthu and Dr S Ramkumar.*

### CONTEXT

Cattle rearing is an important occupation for resource poor and landless families in rural and peri-urban areas of Puducherry. Cattle are the only asset for the landless poor and their contribution to the family income is quite substantial. Majority of the new generation livestock farmers are agricultural labour, forced to take up dairying due to subsidised loans provided by the government to buy cattle. Urbanization has led to conversion of farm lands for other purposes and this has led to reduced availability and high cost of fodder grass. Food crops (paddy) are being substituted by non food crops (casuarinas) which require less labour and supervision. There is almost no practice of growing green fodder crops in Puducherry and the area under fodder cultivation is less than 90 acres (PONLAIT Report, 2011). With increasing costs of fodder (especially paddy straw) and the low price for milk, farmers do not have adequate incentives to feed their cattle with purchased fodder.

### INNOVATION SYSTEM DIAGNOSIS

In January 2008, a facilitated fodder innovation diagnosis workshop was organised at Rajiv Gandhi College of Veterinary and Animal Sciences (RAGACOVAS) now Rajiv Gandhi Institute of Veterinary Education and Research RIVER), Puducherry. This was done as part of the Fodder Innovation Project-II

implemented in India and Nigeria during 2007–2011 (Hall et al, 2007). This workshop was attended by almost every stakeholder related to the fodder sector and these included officials from line departments such as Animal Husbandry, Agriculture, Krishi Vigyan Kendra (KVK), District Rural Development Agency (DRDA), Cooperative Milk Union (PONLAIT), a local NGO – MSSRF (MS Swaminathan Research Foundation) as well as the representatives from Women Self Help Groups (WSHGs) and land owners/farmers.

The diagnosis workshop noted that several of these organisations have programmes on fodder promotion focusing on distribution of seeds/slips, subsidies for fodder cultivation and training on fodder cultivation. The workshop concluded that unless and until green fodder is produced and made available locally to the landless livestock keepers, the fodder situation in Puducherry is unlikely to improve. The workshop called for formation of a fodder development forum comprising all fodder relevant actors to design, implement and evaluate interventions (with RAGACOVAS acting as the coordinating agency) and to design an institutional arrangement linking fodder growers/entrepreneurs and fodder buyers (landless livestock farmers in this case).

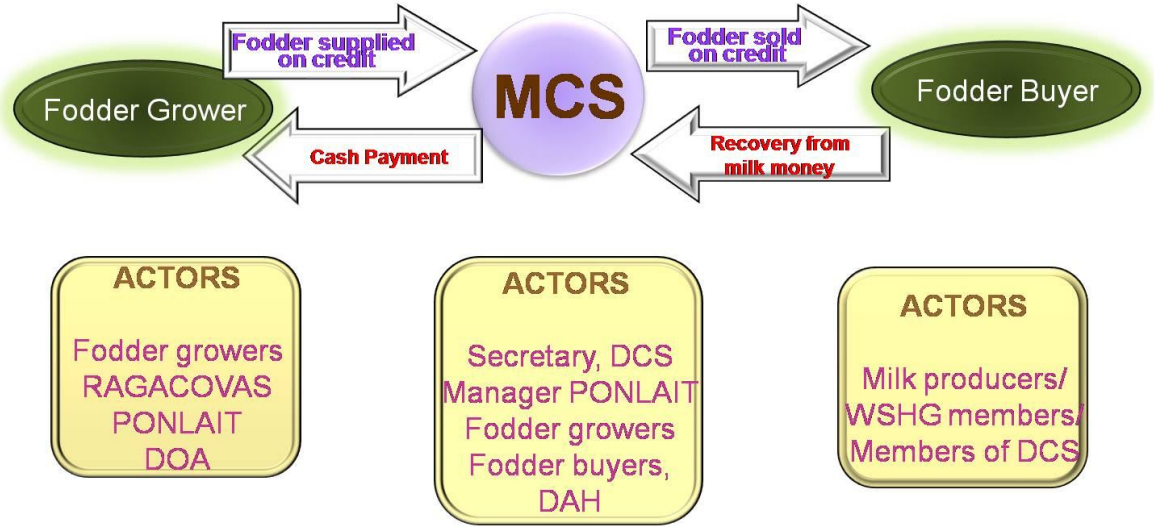

**Multi stakeholder forum:** A fodder development forum comprising representatives of all fodder relevant actors was formed in the stakeholder meeting held in February 2008. This multi stakeholder platform identified a cluster of villages to implement the project. This forum met on several occasions to review and finalise the plans of this action research. It also served as a monitoring and learning platform and helped promote joint working relationships on programmes outside this project too.

## PILOTING A NEW INSTITUTIONAL ARRANGEMENT

Five farmers came forward to grow fodder on a commercial scale in 0.5 to 1 acre of their land, after they were convinced about the relative profitability of growing fodder, the technical and financial support that they could avail from different organizations and the offer to buy-back the harvested fodder by the dairy co-operative society (DCS), Sorapet.

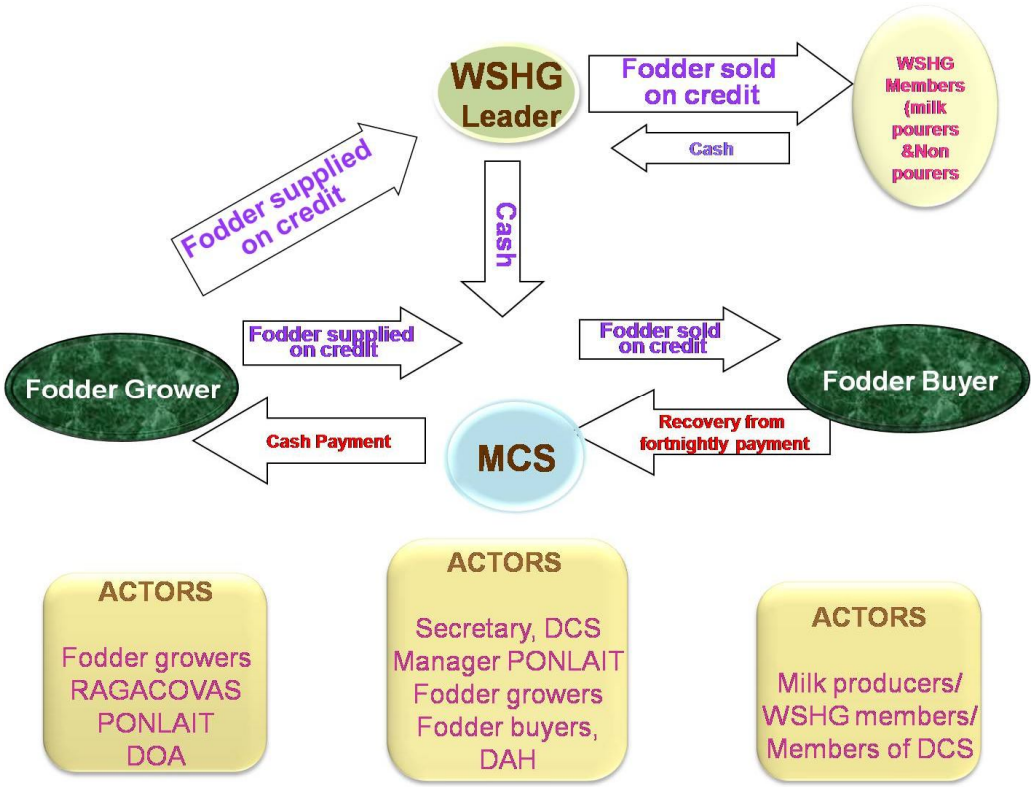
The members of the WSHG at Sorapet agreed to buy fodder from the DCS on credit. The Secretary, DCS agreed to receive fodder in 10 kg bundles and sell to the milk pourers when they come to deliver milk to the DCS. The Secretary would then deduct the amount from bills of the milk pourers and the same will be paid to the fodder growers

Accordingly, based on several rounds of discussions and interactions with farmers and milk producers, fodder was grown on two acres of land in the selected village and was harvested and supplied through DCS to milk pourers on credit basis later to be recovered from their milk bills and finally to clear the bills of fodder growers. Initially there was a component of subsidy from the department of Animal Husbandry (DAH) which was later withdrawn due to paucity of funds.




**Initial challenges:** The sale of green fodder was initially good and gradually fell owing to the subsidy pull. There were instances of wastage of fodder due to late arrival of fodder at DCS, thick stems of the Napier grass and also due to poor sales of fodder. The secretary DCS found it difficult to sell fodder to members with dry cows (non pourers of milk to the society) for cash instead of credit. Despite the efforts to include the cost of transportation in the project, this system of routing fodder through DCS did not work.

When this issue was discussed in a stakeholder meeting, the WSHG leaders came forward to accept the responsibility of fodder distribution and collection of money from the fodder buyers with a resolution passed in their group meeting. The resolution was passed by the WSHG members based on the credibility they had on the officials and their recommendations. The fodder was accordingly delivered by the fodder grower at the doorsteps of the WSHG leader (Fig. 2). This system had solved two problems – one, even if the fodder was supplied late in the evening, the leader was able to distribute to the buyers (group members). Second, fodder was supplied to any buyer (irrespective whether they were members of the DCS or not) for cash. This system did work for few months to the satisfaction of all the stakeholders.




However, the fodder buyers especially the landless cattle owners had a grouse that feeding green fodder to cows was expensive and it should be subsidized. In all the meetings the issue of **"low milk procurement prices**" came up in one way or the other as it appeared to be a stumbling block for milk production-enhancement programmes.

**New challenges**: This system worked well as long as the WSHG leaders took active part in receiving and distributing fodder and collecting money from the buyers. Later, it suffered a serious setback when these leaders got engaged in local body elections. Though their involvement in fodder transaction, in a way, catapulted them to the political arena, they were no longer in a position to devote time for fodder transaction. Since WSHG members (lower stratum) and DCS secretary (upper stratum) were belonging to different communities the cooperation between them on fodder transaction was not up to the expected level. The fodder growers in both the experiments suffered due to delay in payments and sometimes wastage of fodder due to poor sales.

**Perceptions on feeding green fodder:** Cattle rearers preferred allowing their animals to graze on public or private lands (non cash cost) and dry fodder (paddy straw) rather than spending Rs. 20 (cash cost) every day to feed one cow on purchased/cultivated green fodder, however superior the latter may be in terms of quality, Total Digestible Nutrients (TDN), Digestible Crude Protein (DCP) and palatability. The reasons for their preference to paddy straw are that they can stock and use it for 4 to 6 months depending upon the season. Purchasing (during harvest season), transportation and stocking it could be completed on one day whereas the cultivated green fodder (heavier) needs to be obtained from the fodder producer or the DCS on a daily basis which they consider as laborious.

**Box 1: Institutions and policies matter**

**Milk testing**: The milk producers especially the WSHG members after feeding the green fodder continuously for two months to their cows perceived that the income through sale of milk to the DCS did not increase and they attributed it to the faulty testing of the milk in the DCS. They were unhappy with the milk testing as it is neither transparent nor done on a regular basis. Not a single DCS out of the 93 functional DCSs in Puducherry has an automatic milk collection unit which is considered as transparent and foolproof method of weighing and testing milk. Testing of milk in these DCSs is never done on a regular basis. In most of the DCSs the *milkotesters* are not working.Unfortunately the milk producers/DCS members have no say in "testing of milk" and in "price fixation" although theoretically they own the DCS and PONLAIT (Rao *et al,* 2009). So the livestock keepers are right in their hesitation to invest in purchase of green fodder, when they don't see any benefit.

**Price policy:** In almost all the stakeholder meetings, the issue of low milk procurement price was discussed but without finding any feasible solution to address this. Although, PONLAIT is empowered to fix milk prices, in practice the Government will fix the price which will be in favour of the urban milk consumers (more in number) rather than the few scattered rural milk producers or members of the DCSs. The procurement price of Rs. 17 per litre (even today) offered by PONLAIT is the lowest in the country. In other words, there is no incentive for farmers to invest in any new technology or practice as there is no commensurate return on their investment.

**Subsidies without other support**: The government of Puducherry has been implementing several schemes which include milch animal purchase, subsidies for green fodder production, calf feed, cattle feed etc. However, these schemes haven't helped increase the milk production in Puducherry. The gradual decrease in milk procurement by the DCSs from an average of about 50, 000 litres per day in 2001–02 to 29,000 litres per day in 2010–11 and purchasing milk from other states from zero to 73,000 litres during the same period (PONLAIT, 2011) clearly shows that the subsidies are not helping the state, the milk society or the producers. Moreover, this has also adversely affected the mind set of resource poor livestock keepers as they prefer low quality subsidized inputs over the good quality purchased inputs.

## PROJECT OUTPUTS

Even with all these challenges, the project had some positive influence on fodder growers. One fodder grower who raised fodder on one acre of land for sale realised the benefits of feeding green fodder to his cattle and discontinued selling green fodder to the DCS/WSHGs. It is economical for him to feed his cattle with *ad libitum* green fodder rather than feeding with paddy straw which is costlier than green fodder. Similarly one old lady who had three repeat breeding cows felt happy with feeding green fodder (grown on 30 cents of leased land) to these cows as all of them were conceived. A farmer has been raising fodder on seven acres of land and supplying it daily to a nearby *gaushala* which is maintaining about 270 cattle. He also sells limited quantity of fodder to milk producers of his village.

A traditional betel nut cultivator after incurring heavy losses turned to fodder production and recovered from the losses. This fodder entrepreneur used fodder cultivation as a stepping stone to enter into supply of canned drinking water to nearby villages, a more profitable venture compared to fodder production. This also reflects on the low economic status attached to fodder production by the farmers of the Puducherry region.

Not a single farmer (other than the fodder entrepreneur who is supplying fodder mainly to *gaushala*) is growing fodder to sell it to the landless dairy farmers in the village. The landless continue to send their cattle for grazing on poor quality grasses which they consider as a good substitute for green fodder. They even now feel that it is worth depending on grazing rather than getting additional milk through purchased green fodder. It all depends upon their perceived economics which seems to be working out for them, the reason why they are still rearing dairy cattle. Due to financial crunch, the government has withdrawn all subsidies and the dairy farmers are at the receiving end. Shifting of occupation from dairy farming to goatery is quite discernible mainly because of very good demand for chevon (goat meat) and low price for milk.

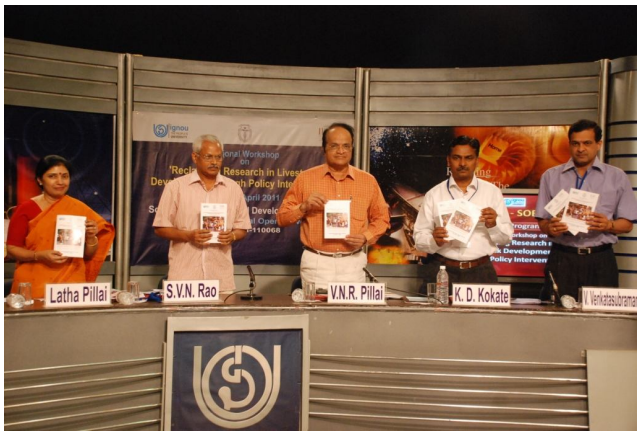
## WHERE DO WE GO FROM HERE?

**Beyond technology dissemination**: Poor livestock keepers need access to good quality green fodder and many of them are now convinced about the technical supremacy of feeding their animals with green fodder. But they are not in a position to buy and feed their cattle with green fodder, without addressing the two basic issues of milk testing and milk prices. Any other types of programmes promoting fodder technology, subsidised seeds/saplings, trainings and demonstration will not have any major impact.

**Engagement with policy issues**: The project team strongly believes that extension should play a pivotal role in influencing policies rather than focusing only on technology dissemination as the former has a strong influence on technology dissemination, as evidenced by this project. In this case, none of the stakeholders in the state have a say or influence on price fixing policy, although everybody was convinced that the milk prices need upward revision. The milk and feed price ratios are decreasing over the years indicating thereby that the prices of feed are increasing at an increasing rate than the prices of milk (Tamizhkumaran *et al*, 2012). In most of the dairy developed countries, the prices of milk are linked to feed prices. However in India the policy of milk–feed ratios to fix the milk procurement prices is not being adopted.

**Research on policy issues affecting technology update**: There could be several such instances where technology dissemination is constrained due to lack of an appropriate policy. It will be useful if researchers bring out evidence of such instances to sensitize policy makers. Or else it will be the usual story "policy makers not aware of the research constraints; researchers not concerned about technology dissemination and sensitizing the policy makers is not the job of extension." Undertaking an innovation system diagnosis helps in raising these issues upfront.

The project team organized a workshop on "Reclaiming Research in Livestock Development Through Policy Interventions – 12 Innovations in Livestock Development which Need Policy Support" in collaboration with Indira Gandhi National Open University (IGNOU), International Livestock Research Institute (ILRI) and Rajiv Gandhi College of Veterinary and Animal Sciences (now RIVER) in 2011. A platform was provided to selected researchers to present their research output (which is getting bogged down due to lack of appropriate policy) to policy makers (Rao et al 2011). The recommendations made during the workshop evoked a mixed response.





***Either we may have to organize more such interfaces or should do something differently. We look forward to your views and experiences in this regard.***

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