

Research Report on RAGACOVAS Initiatives

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INTRODUCTION

As part of initiating action research on exploring ways of enhancing fodder innovation capacity, the FIP-II selected RAGACOVAS (Rajiv Gandhi College of Veterinary and Animal Sciences) at Puducherry, India as one of its key partner organisations (KPO). The action research formally started with an innovation capacity diagnosis workshop at Puducherry in January 2008. This workshop was attended by every major fodder relevant actor in Puducherry. This workshop identified promotion of fodder entrepreneurs as the best strategy to improve fodder availability at Puducherry in the context of urbanisation and reducing crop lands. It also recognised the need for forming a fodder development forum comprising various stakeholder groups to plan, implement and evaluate this action research and to bring about effective co-ordination among fodder relevant actors. The action research has been co-ordinated by the RAGACOVAS since its inception in early 2008.

This initiative started with forming a fodder development forum and identification of a village for action research. Five potential fodder entrepreneurs were initially identified. Various agencies assured support to these fodder entrepreneurs and an arrangement for sale and purchase of fodder through the dairy co-operative society (DCS) was also put in place. However both the fodder entrepreneurs and the landless livestock keepers (WSHG members) who have agreed to produce and purchase fodder respectively on credit through the DCS backed out as soon as the fodder became ready for harvest and the project had to re-negotiate arrangements among all actors at regular intervals to sustain this initiative. The different stakeholders participating in this action research also had to make changes in their ways of functioning to sustain this arrangement. The collective action pursued in this initiative also resulted in bringing about some behavioural changes among the different fodder relevant actors participating in this project. This paper explores some of these changes in institutions and patterns of interactions that has resulted through this experiment and the key role played by RAGACOVAS as a network co-ordinator.

CONTEXT

Cattle rearing is an important occupation for resource poor and landless families in peri-urban areas of Puducherry. Studies have shown that the majority of the landless cattle owners in the peri-urban regions of Puducherry (81%) are women. Income from livestock is the major source of income for the landless, whose only asset is cattle. Majority of these new generation livestock farmers are agricultural labour forced to take up dairying due to subsidised loans provided by the government to buy cattle. Urbanisation 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 like paddy are being substituted by crops like casuarina which requires less labour and needs less supervision. There is no practice of growing green fodder crops in Puducherry and the area under fodder cultivation is negligible. 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. Unless and until green

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fodder is produced locally and is made accessible to the landless livestock keepers, the fodder situation in Puducherry is unlikely to improve.

The diagnosis workshop with stakeholders organised at Puducherry in January 2008, decided to experiment with the following strategies in the proposed action research.

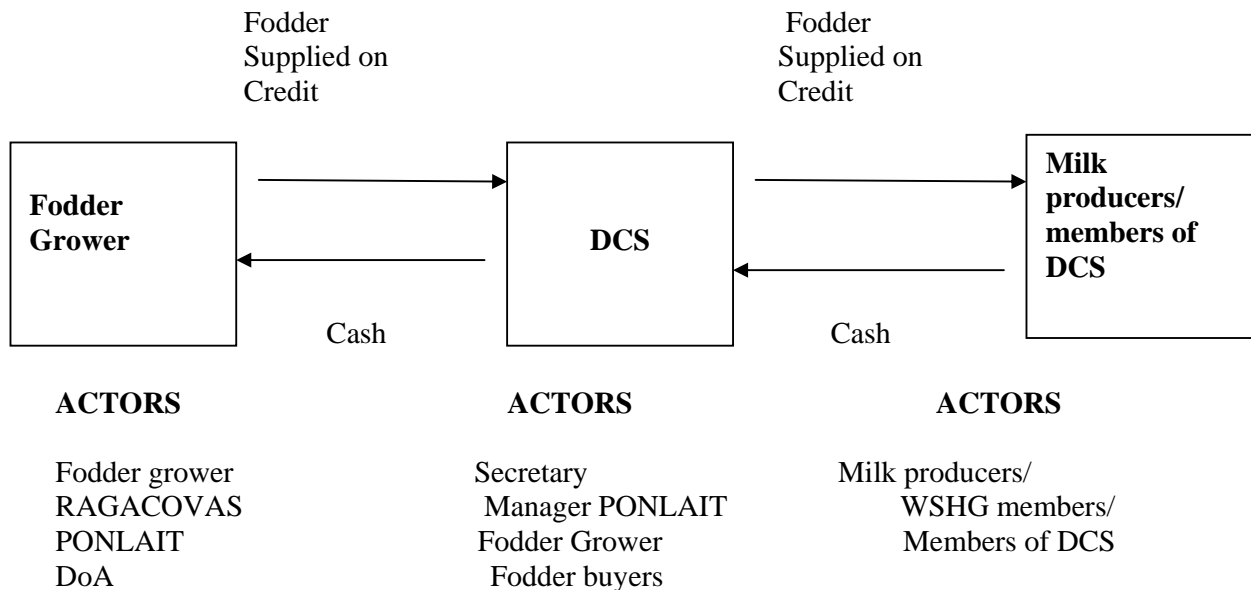
- a. Formation of a fodder development forum comprising all fodder relevant actors to design, implement and evaluate interventions, with RAGACOVAS acting as the coordinating agency
- b. Design an institutional arrangement linking fodder growers/entrepreneurs and fodder buyers (landless livestock farmers in this case).

PROGRESS

Preparing the ground (February to August 2008)

A fodder development forum comprising representatives of all fodder relevant actors was formed in the stakeholder meeting held in February 2008. The group also identified the village *Sorapet* for implementing the action research. Subsequently several rounds of formal and informal discussions were held at the village to familiarise farmers on the approach followed in the project and to evolve an institutional arrangement for fodder production and marketing that is acceptable to both fodder entrepreneurs and fodder buyers. 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 could be offered by the different institutions and the offer to buy-back the harvested fodder by the dairy co-operative society (DCS), Sorapet.

The members of the women Self Help Group 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 (Fig 1).



Source: Rao *et al* (2009)

The roles envisaged by the different actors under this arrangement were as follows (Table 1).

Table 1: Roles envisaged and agreed upon by various actors in June 2008

Sl No	Actor	Roles
1	PONLAIT/DCS	Supply of fodder slips and fertiliser (basal dressing and first dose); Weighing and purchase of green fodder supplied by the growers @ Rs.0.95 per kg (Rs. 0.05 deducted as administrative charges); Maintenance of records on purchase and sale of fodder;
2	RAGACOVAS	Co-ordinate action research; Liaise with different agencies, fodder entrepreneurs and women SHGs Supply of one weighing machine to be set up at DCS.
3	Department of Agriculture	Financial assistance of Rs. 5000 per acre of green fodder to the fodder grower
4	RAGACOVAS & Department of Agriculture	Training to selected growers on agronomic practices of fodder crop; Field supervision at periodic intervals
5	Department of Animal Husbandry (DAH)	Provision of Rs.0.50 subsidy to every kilo of green fodder produced reimbursed to PONLAIT
6	Fodder entrepreneurs	Raising fodder slips as per instructions of DoA and RAGACOVAS; Harvesting green fodder and delivering the same in 10 kg bundles to DCS, Sorapert (at own cost)
7	WSHG	Prepare a list of members who wish to purchase fodder from DCS; Purchase fodder from the DCS at Rs.0.50 on credit.

Fodder slips were distributed to five farmers and the planting was also done during June-July 2008. Along with this, financial assistance and technical support was also provided. The first field where fodder crop was planted became ready for harvest by September 2008

First harvest of problems (September 2008 to December 2008)

Though the above plans looked very adequate and promising in the beginning, the arrangement started to wither by the time the first cutting was to be made. The major constraints that emerged were as follows:

- a. *Difficulty of arranging transport from field to DCS.* Fodder growers found it difficult to organise vehicles for transporting fodder from the field to the DCS. This was due to increased labour and bullock cart hiring costs.
- b. *Reduced enthusiasm among potential growers.* Growers soon started losing interest due to partial payment for fodder supplied (Instead of paying Rs.0.95, the growers were paid only Rs.0.45 as the PONLAIT hasn't received the subsidy amount of Rs.0.50 from the DAH).
- c. *Difficulty in ensuring continuous demand for fodder-* Reluctance of WSHG members to fully purchase the fodder made available at the DCS leading to wastage of supplied fodder. This was happening due to several reasons and interactions with women SHG members revealed some of these. These include, livestock keepers lack of conviction on the merits of feeding cultivated fodder (vis-à-vis open grazing and feeding of cut

grasses); day to day variation in demand for fodder, low price of milk and their perception of lack of transparency in weighing and testing of milk.

- d. *Difficulty in ensuring continuous supply of fodder.* The fodder crop failed in two farmers' plots. One due to poor germination of slips and the second due to lack of sufficient attention by the grower during the crop establishment phase. With the increasing cost of labour and transportation, farmers were not willing to supply fodder at 0.95 per kg. They were in effect receiving Re.0.45 per kg as the second instalment of subsidy was not released by the DAH due to financial crisis.

Experimenting with new ways to deal with emerging problems (September 2008-April 2009)

Efforts to solve these emerging problems/issues were made by talking to individual fodder growers, calling their meetings, interactions with WSHGs and through discussing the progress in stakeholder meetings. Following attempts were made to solve some of these problems.

On transportation, the DCS agreed to organise transport and deducting Rs.0.10 paise per kg from the price paid for fodder. Later the project decided to pay for the costs incurred by the DCS on account of transportation @ Rs.100 per trip per day. Though PONLAIT hasn't received the subsidy from the Animal Husbandry Department, it finally agreed to make the full payment to the fodder growers (However the farmers had to wait for few months to get this money from the DCS).

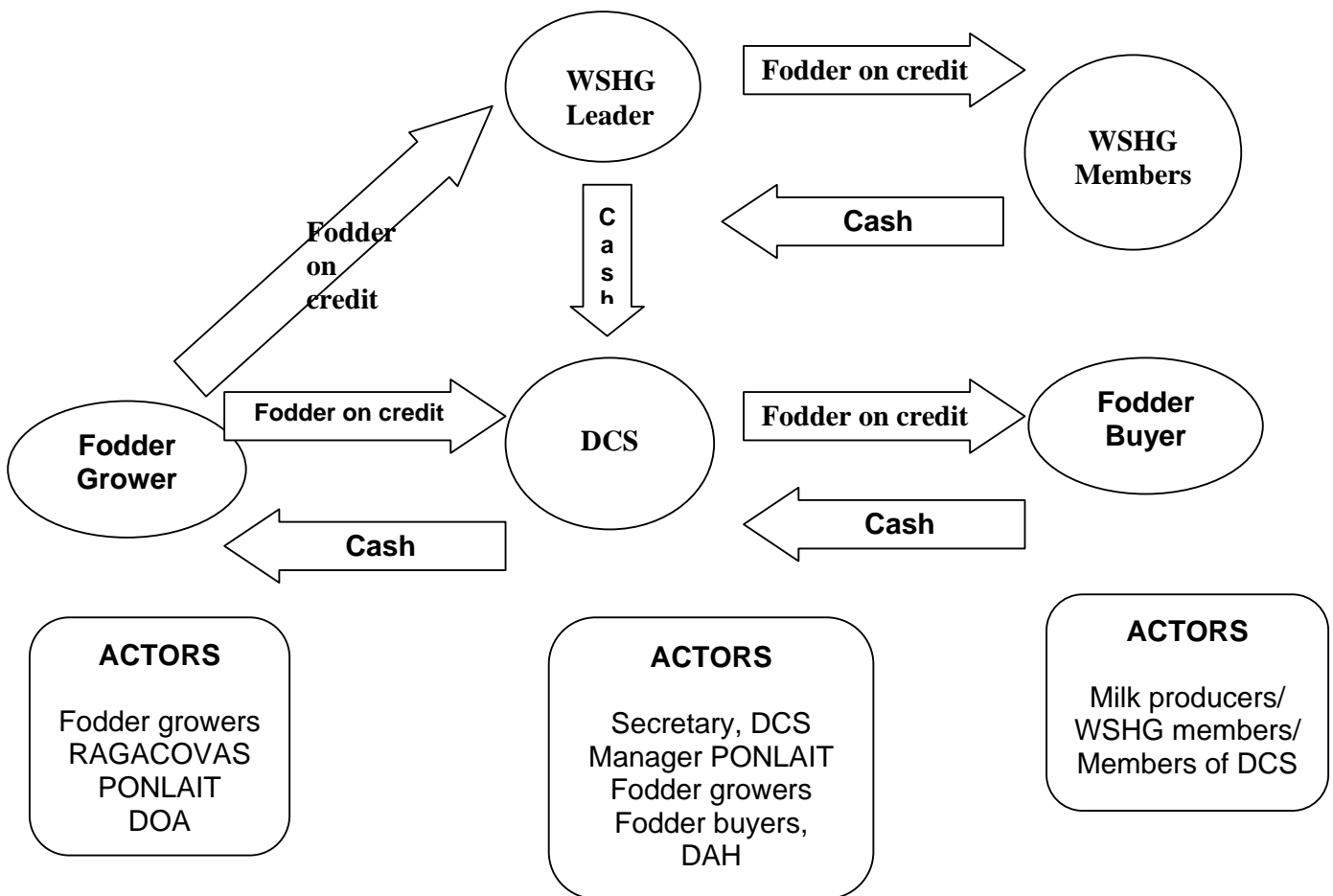
As the demand for fodder was fluctuating leading to wastage of fodder at the DCS, the requirement was subsequently reduced from 1 tonne per day to 0.5 tonnes subsequently but still all fodder was not getting sold out. It was then decided to ascertain the actual demand for fodder in the morning when the producers arrive to supply milk and inform the growers so that they only supply the quantity of fodder demanded. The growers were also encouraged to look for alternate source of demand and the neighbouring DCSs were contacted for sale of fodder.

With the government withdrawing the Rs.0.50 subsidy, the price of fodder supplied through DCS was raised to Rs.1 per kg. Milk producers were agitated at the withdrawal of this subsidy without any increase in milk procurement prices and this also led to reduced sale of fodder through the DCS. Growers were not willing to supply fodder at less than Rs.1 per kg. Discussion among milk producers, RAGACOAVAS scientists and PONLAIT staff on ways of reducing the cost of production of milk, led to close scrutiny of current feeding practices adopted by milk producers. The scientists offered better and cost effective rations with increased use of cultivated fodder and the producers agreed to try these new rations.

RAGACOAVAS organised two rounds of trainings for milk producers on dairy cattle management with special focus on feeding practices. This helped in reducing a lot of misconceptions on feeding prevalent among the livestock keepers and in ensuring more demand for cultivated fodder. To ensure continuous supply of fodder, contacts were made with others who are growing fodder so as to better connect the buyers and sellers of fodder. The project also started supporting those farmers and groups in the region (outside Sorapet) who are willing to grow fodder.

New shoots of opportunity (May 2009 onwards)

Once convinced about the value of feeding cultivated fodder, the women SHG members started discussing among themselves on taking a more pro-active role in procurement and distribution of fodder. Issues pertaining to fodder wastage and uncertainty in demand of fodder were discussed in a stakeholders' meeting held in April, 2009. The leaders of WSHG thought it appropriate to pass a resolution in their meeting to provide continuous supply of fodder to WSHG members. The women SHG members passed a resolution in their meeting to take direct responsibility for receiving fodder from growers at one common place (WSHG leader's house) and for its distribution to others. The SHG would then give the list of their members who purchased fodder to the society for deduction of the amount in the milk bills and supplying this to the grower. From those who are not pourers of milk at the society, the WSHG will collect money. This has been going on smoothly and this has enabled 25 members of the women SHG to feed green fodder to their cows on a continuous basis. This arrangement in a way resulted in green fodder feeding trials by the poor cattle keepers. To ensure continuous availability of fodder to this group, the project has successfully linked other fodder growers to this group.



WSHG members for the first time, started thinking about ways and means of reducing the cost of production as there has not been any change in the procurement price for milk to compensate for the rising cost of inputs. The nutritionists provided a comparative economics of farmer rations (presently being used) and alternative feed rations incorporating the available ingredients with a specific view of reducing the cost of milk production. It needs to be studied whether they are taking advantage of these rations and to what extent they would be able to reduce the cost of production.

Another women SHG at Porayur initiated by an NGO the MSSRF approached RAGACOVAS to explore opportunities for growing fodder in leased land as an income generation option. The project supported the SHG by providing technical support and liaising with other agencies to obtain other support (input, financial assistance). The SHG leased in 40 cents of land from the village panchayat to grow hybrid napier and the group has so far harvested 3.5 tonnes of green fodder. The fodder is sold at Re.1/- per kg among the SHG members most of them are rearing livestock. Excess if any is sold outside the group. Now this group has taken 50 cents of adjacent land on lease for growing fodder and generate income through sale. In September, the plantation was completed with the inputs supplied by PONLAIT under the guidance of RAGACOVAS.

A traditional beetal leaf cultivator (for the last 35 years) who incurred heavy loss approached RAGACOVAS for assistance to grow fodder on his one and half acre of leased in land. He has no cattle and he expressed his willingness to grow fodder and sell it to the cattle owners in and around his village, Manaveli. He finally turned out to be a good fodder entrepreneur and he succeeded in making a livelihood out of green fodder cultivation. Earlier he used to harvest and transport fodder to his village for sale. Now the fodder is being sold in the field itself. In a month he will harvest the fodder for about 20 days giving a gap of 10 days for the fodder to grow upto a reasonable height. He is also selling the fodder @ Rs 12 per a bundle of 10 to 12 kg of green fodder. For the last one and half a year he is successful in selling the fodder and earning about Rs.12,000/- per month on an average which is sufficient for his household expenses. In 11 months his gross income through sale of green fodder was about Rs.1,35,000. He is ready to expand the area but land is not available for lease.

In a way this project could experiment with all the three types of people involved in fodder production / consumption in the villages as identified in the diagnostic survey. These groups are land owners with cattle (less in number), landless cattle owners (substantial numbers) and landowners with cattle (very less). Through this project interventions, fodder was grown by landed people (as an alternative crop) and make it accessible to poor cattle owners with or without the involvement of DCS or WSHG.

DISCUSSION

Over the last 18 months, the network of fodder relevant actors led by RAGACOVAS has experimented with promoting commercial cultivation of fodder at Puducherry and developing an arrangement that could ensure the poor women livestock keepers access to cultivated fodder. The process has indeed been very messy and challenging. The network has been trying to address every new problem that has propped up during the last 18 months and has been reasonably successful in addressing many of these. It has also resulted in clear articulation and demand for new kinds of support. Though it couldn't do anything to increase the procurement price of milk, it tried to address this by exploring ways of reducing the cost of production of milk. The network has however succeeded in developing new capacity for

collective action that was not there before the initiation of the project. The elements of this capacity are explored in this section.

Multi-stakeholder processes

The first activity implemented by the project after the initial diagnosis workshop was the establishment of a “Fodder Development Forum” by involving all stakeholders involved in fodder promotion at Puducherry (DAH, DOA, DRDA, PONLAIT, MSSRF, KVK, Fodder cultivator, women SHG) with RAGACOVAS as its convenor to plan, implement and monitor the project. It also formed a core group by nominating one member from each of the stakeholders to facilitate smooth functioning of this multi-stakeholder forum. This core group met 12 times formally during the last 18 months to discuss progress, address difficulties and plan new initiatives. As most of the stakeholders are involved in this initiative as active participants, it was more of multi-stakeholder action platform than a mere multi-stakeholder platform. As you can see from Table 1, each one had to play an important role in this initiative. All of them tried to play their roles, except the DAH who failed to provide subsidy as the Government of Pondicherry discontinued the subsidy support of Rs.0.50 per kg of fodder. However, some of the network members had to play additional and different roles during the process. Some new actors also emerged. These are illustrated in Table 2.

Table 2: Changing roles of stakeholders

Sl No	Actors	Changing Roles related to fodder promotion		
		Pre-project	Envisaged Initially in the project	New roles taken up
1	PONLAIT/DCS	Supply of fodder slips and fertiliser (basal dressing and first doze);	Supply of fodder slips and fertiliser (basal dressing and first doze) to fodder entrepreneurs; Weighing and receiving green fodder supplied by the growers; Sale of fodder to DCS members and deduct the costs from the monthly bills; Maintenance of records on purchase and sale of fodder Make payments to fodder growers based on the quantity supplied	Assessing demand for fodder from SHG members and inform fodder entrepreneurs Liaise with other DCS for assessing demand for fodder. Deduct payments from the DCS/SHG members based on the list supplied by the WSHG Pay the subsidy amount promised initially to the growers from its own resources as the DAH has backed out from this promise
2	RAGACOVAS	Demonstrations in select farmer fields; field supervision	Convenor of fodder development forum; Co-ordinating support and services of different agencies to fodder entrepreneurs; Training fodder growers in select agronomic practices and field supervision	Training women SHG members on feeding practices (involved the faculty of six departments of RAGACOVAS) Supporting other groups and individuals even outside select villages by linking them to other service providers and field supervision Monitoring the fodder fields and ensuring the supply of fodder to WSHG members Organising animal health camp involving Teaching hospital of RAGACOVAS, DAH, DCS and Cattle owners Financing the costs of transporting fodder from farmer fields
3	Department of Agriculture	Provision of subsidy of Rs.5000 per acre of fodder grown by farmers	Subsidy of Rs.5000 per acre to fodder entrepreneurs selected by the project Training to fodder entrepreneurs and field supervision	

4	Department of Animal Husbandry	Subsidy of Rs.0.50 per kg of green fodder to milk producers through PONLAIT	Subsidy of Rs.0.50 per kg of green fodder to milk producers through PONLAIT	This was not done as the government stopped this subsidy
5	Fodder entrepreneurs	Growing other crops or raising fodder for own use	Raising fodder slips as per instructions of RAGACOVAS and PONLAIT Harvesting green fodder and delivering the same in 10kg bundles to DCS, Sorapert (at own cost)	Liase with DCS for transporting harvested fodder to DCS Look for alternate sources of fodder demand Supply fodder directly to women SHGs and get payments from the DCS
6	WSHG, Sorapet		Prepare a list of members who wish to purchase fodder from DCS; Purchase fodder from DCS at Rs.0.50 on credit.	Purchase fodder directly from fodder growers supplying fodder to the WSHG and sent the list of buyers to DCS for deducting payments. Distribute purchased fodder among SHG members and sell the additional supply to non-members and collect payment
7	WSHG, Porayur			Took land on lease for fodder cultivation Access subsidies and inputs from other organisations Get technical advice and field supervision from RAGACOVAS Sale of produced fodder in the village (WSHG members and non-members). Access fodder from other sources for distribution among the existing customers when fodder from own field is not available
8.	New Fodder entrepreneurs			Traditional beetal growing farmer started cultivation fodder as commercial venture with RAGACOVAS and PONLAIT support Harvesting and selling fodder initially in and around the village Now selling on the field itself @ Rs.12 per bundle of 10 to 12 kg. Fodder growers growing fodder as part of mini dairy units started selling fodder to DCS and WSHG On seeing these developments, more farmers coming forward to grow fodder as a commercial crop

The multi-stakeholder process of individual and joint consultations, reviews, planning meetings, trainings and joint implementation of activities in the field led to development of better relations and mutual trust among the various actors. Previously all these actors have been working in isolation implementing schemes or interventions mandated by their respective organisations³ (Sulaiman, 2008). This project provided a forum for the different actors to come together on a common platform to discuss issues related to fodder, plan interventions under the action research, implement and evaluate the arrangements. All these actors participated in almost all the 12 formal meetings organised during the last 18 months and this indicates the quality of relationship and their intimate involvement in the project. The regularity and the quality of interactions has also resulted in institutional changes among the various actors

Institutional changes (KPOs action for change)

One of the major changes witnessed across all the organisations is their shift from independent functioning to an inter-dependent functioning. Of course this is clearly visible only in this project. There are few indications of collaboration as witnessed in the WSHG Porayur which sought advice and technical support from RAGACOVAS on cultivation of fodder in leased land. This group was formed by the MSSRF, who is a member of the fodder development forum and it is the MSSRF that brought this group in touch with RAGACOVAS and the fodder project. We hope to see more of such cases in other initiatives organised by the different stakeholders in future. Regular interactions (formal as well as informal) have also led to a shared understanding of the problems in fodder promotion and the potential and limitations of some of the existing practices.

Behavioural or institutional changes are however apparent in some of the stakeholders. These are illustrated in Table 3.

Table 3: Institutional changes among actors

Sl No	Organisation	Behavioural changes	
		From	To
1	Fodder entrepreneurs	Scepticism of growing fodder on commercial scale	Increased confidence of its potential as a profitable enterprise
		Dependency on DCS as an intermediary for buy back	Reduced dependency and direct marketing of fodder
2	WSHG, Sorapet	Dependency on subsidy for fodder purchase	Continued purchase even without subsidy
		Reluctance to buy fodder made available	Seeking sources of fodder and continued use
		Reluctance to change existing feeding practices	Seeking advice on how existing practices could be modified based on balanced rationing to reduce cost of production
3	RAGACOVAS	Fodder demonstration and training approach	Learning to use a network co-ordination approach to deal with fodder
4	PONLAIT/DCS	Distribution of inputs and subsidies	Learning on ways of enabling fodder value chain

Unexpected events

³ Sulaiman, (2008) Patterns of fodder innovation capacity in Puducherry-A diagnosis

There were three specific events that were totally unexpected.

The withdrawal of subsidies by the state government and the PONLAIT's inability to raise milk prices led to a situation where the women SHG which agreed to buy the fodder initially lost interest in buying fodder. At that time it looked as if the project has reached a dead end. However discussions on ways of reducing the cost of production of milk among RAGACOVAS scientists and the women SHG members led to review of existing feeding practices. The WSHG members agreed to try the ration suggested by the scientists on reducing the quantity of oil cakes and supplement the same with more use of green fodder and see the results for themselves and the WSHGs agreed to do that. This led to demand for training on feeding practices which RAGACOVAS responded to. What is interesting is the new demand for training on balanced feeding (which was never articulated by the women SHG earlier) once they developed trust in the network. The fact that the WSHG members agreed to purchase fodder @Re. 1/- per kg i.e without any subsidy was initially surprising in a place like Pudukcherry, where the people are very much tuned for subsidy culture.

Another unexpected event was the proactive role taken up by the women SHG, Sorapet on procurement and distribution of fodder. The women SHG members passed a resolution in their meeting to take direct responsibility for receiving fodder from growers at one common place (WSHG leader's house) and for its distribution to others. The WSHG would then give the list of their members who purchased fodder to the DCS for deduction of the amount in the milk bills (This would then be paid to the grower). This has been going on smoothly and this has enabled 25 members of the women SHG to feed green fodder to their cows almost on a continuous basis. To ensure continuous availability of fodder to this group, the project has successfully linked other fodder growers to this group.

One traditional beetal farmer turned out to be a successful fodder entrepreneur thereby demonstrating that fodder could be a livelihood option. This farmer narrated the following three advantages perceived by him from this arrangement. (a) low investment and low risk option (b) provides income every month to meet the household expenses (c) provides opportunity to help several cattle owners.

On hearing about the project activities, another woman SHG outside the project village, approached RAGACOVAS to explore opportunities for growing fodder in leased land as an income generation option. This WSHG at Porayur was formed earlier by MSSRF, an NGO which is a member of the fodder development forum. The project supported the SHG by providing technical support and liaising with other agencies to obtain other support (input, financial assistance). The SHG leased in 40 cents of land from the village panchayat to grow hybrid napier and the group has so far harvested 3.5 tonnes of green fodder. The fodder is sold at Re.1/- per kg among the SHG members most of them are rearing livestock. Excess if any is sold outside the group. Realising the scope of fodder as an income generating activity, this WSHG has taken half acre of adjacent land on lease and planted hybrid napier with inputs supplied by PONLAIT.

Monitoring and Learning

The project has been using the meetings of the fodder development forum to monitor progress and reflect on lessons. They are reluctant to use the framework suggested by the research team as they fear using the proposed tool might result in strained relations. As

people and organisations are sensitive of being monitored and evaluated in public, the RAGACOVAS is not keen to use the suggested format with stakeholders. However they agreed to use that framework as an internal M&L tool.

However, RAGACOVAS has been maintaining detailed minutes of every meeting they have been organising and this is circulated among all the stakeholders. This is currently serving as the most important mechanism for recording progress and also for reflective learning.

(September 2009)