THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

Sustainable and Viable Livelihood Support System to Livestock Farmers of Suicide Prone Districts of Kerala by Improved Livelihood Assets and Food Security

Dr. S. Ramkumar
Professor, Department of Veterinary and Animal Husbandry Extension,
Rajiv Gandhi Institute of Veterinary and Animal Sciences, Kurumbpet, Puducherry, India
Dr. T. P. Sethumadhavan
Director, Entrepreneurship, Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, Kerala
Dr. N. K. Sudeepkumar
Professor and Head, Department of Business Management,
Tamil Nadu Veterinary and Animal Sciences University, Chennai, Tamil Nadu, India
Dr. K. K. Seethamma
Professor, Department of Economics, Bangalore University, Bangalore, Karnataka, India
Dr. P. Vidya
Assistant Professor, Directorate of Extension,
Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, Kerala, India

Abstract:
The study focusses on the importance and effectiveness of the livelihood support system, especially the rehabilitation package namely, the Special Livestock Package Scheme- Vidharbha Package, implemented in the suicide prone districts of Kerala. The scheme implemented in Palakkad, Wayanad and Kasargode districts by Department of Animal Husbandry, Govt. of Kerala with financial support from Govt. of India. Assistance in the form of induction of cattle, supply of feed, insurance coverage, medicines, artificial insemination package, calf rearing etc. were provided to farmer families in distress. The study discusses the salient features of the scheme and the effectiveness in terms of livelihood and socioeconomic impact of the scheme. The Data was collected from 176 beneficiaries of the three districts through personal interview guided by a questionnaire. The findings revealed the beneficiaries of the project had land holdings of various sizes, three-fourths of the respondents had concrete and (or) roof-tiled houses, 31 per cent owned pump sets and 9 percent biogas plants. 97 per cent of the respondents owned cattle shed making evident the importance they have attributed to dairying within their income generating activities. In addition to possessing farm assets the beneficiaries had a fair ownership of household assets. These household assets ensured that these respondents had an entertainment opportunity at home, with 87 per cent owning television; 75 percent owning mixie and 66per cent depending on LPG for cooking purpose reflects the improvement in kitchen and cooking; 90 per cent of the beneficiaries owned mobile phones making them well connected socially. In the present day, the inclusion of the beneficiaries in "networking" and "social linkages" is an indicator of the development accessibility / opportunity. On assessing the values of the assets possessed, approximately 50 per cent of the beneficiaries had assets of above Rs 2.5 lakhs. 12. As far as the food consumption in the beneficiary - families were concerned 76 per cent were satisfied with the food availability. 22 per cent of the respondents mentioned that they have "just sufficient" food to meet the requirements. The families reported intake of animal proteins like egg, milk, meat (approx. five eggs per family/week, 1.24 litres of milk per day per family, and 1.46 kg meat per family/week) ensuring nutrition in the family.

1. Introduction

Currently, livestock is one of the fastest growing agricultural subsectors in developing countries. Its share of agricultural GDP is already 33 per cent and is quickly increasing. This growth is driven by the rapidly increasing demand for livestock products, this demand being driven by population growth, urbanization and increasing incomes in developing countries (Delgado 2005). The sector has shown less improvement in poverty alleviation or improving the health status of the rural people. As per 2012 census, India has total livestock population 512.05 million and accounts for 14.7 % of the world's cattle population. India is also the highest cattle populated country in the world with 218 million cattle in 2012.

Over 70% of the rural households in India, depend on livestock farming for supplementary income. In Kerala, nearly 94 percent of the livestock population is concentrated in rural areas, 80% of the livestock farmers are marginal farmers and agricultural labourers. According to 19th census, Kerala has a cattle population of 1.4 million in 2012. Despite all these, the agriculture distress during the early part of this decade have culminated into a spate of farmers' suicide in the states of Maharashtra, Andhra Pradesh, Karnataka and Kerala. The Situation Assessment Surveys of the National Sample Survey Organization (NSSO, 2005) has reconfirmed the worsening situation of farming households which indicated that 48.6 percent of the farmer households in India are indebted, and about 40 per cent farmer households in the country did not like farming because it is not profitable, risky and it lacks social status and felt that, given a choice, they would take up some other career (NSSO, 2005).

The goal of the Special Livestock Rehabilitation Scheme implemented in Kerala is establishing a sustainable and viable livelihood support system through debt relief to livestock farmers and achieve improved food security at the household level. The livelihood asset status is a measure of improved productivity and market opportunities, with assets in terms of food security, health and nutritional aspects, socio-cultural aspects, production inputs, access to services, financial and social assets, market relationships, human assets, etc. Assets are considered to be stocks of different types of 'capital' that can be used directly or indirectly to generate livelihoods. They can give rise to a flow of output, possibly becoming depleted consequently, or may be accumulated as a surplus to be invested in future productive activities. The study identifies five basic types of capital that comprise assets for livelihoods in terms of livestock contribution: natural, physical, financial, human, and social.

2. Materials and Methods

The study was conducted to assess the overall socio and economic impact of the Special Livestock Package Scheme implemented in suicide prone districts Palakkad, Wayanad and Kasargodeof Kerala. The respondents of the study were the farmers involved in the scheme and primary and secondary data were collected in consultation with relevant stakeholders involved in implementing the package. A multistage sampling procedure was carried out for the selection of beneficiaries in a district. From each district, blocks were selected at random with probability proportional to sample size. From each selected block, panchayaths were selected randomly and the beneficiaries selected at random from each panchayath. Number of beneficiaries, thus selected for the study from the three districts, is 176 as given in Table 1 below. Simple statistical tools like average, percentage analysis were used for data analysis.

District/Block	Panchayath	Frequency
Kasaragod	Chengala	19
	Muliyar	14
Nileswaram	East Eleri	25
	West Eleri	10
Kasaragod Total	**Total**	**68**
Agali	Agali	17
Ottapalam	Ambalapara	5
Chitoor	Kozhinjampara	9
	Nallepilly	8
Alathur	Kizhakkenchery	10
	Vandazhi	10
Palakkad Total	**Total**	**59**
Kalpetta	Meppady	19
	Vithiri	20
	Padinjarethara	10
Wayand Total	**Total**	**49**

Table 1: Sample selected from each District

3. Objectives

1. To assess the socioeconomic impact of the scheme
2. To assess the suicide rates after implementing this programme
3. To assess the level of livelihood status and food security after implementation of the scheme

The Special Livestock package for rehabilitation of the farmers of suicide prone districts of Palakkad, Wayanad and Kasaragod districts was implemented through the Animal Husbandry Department, Kerala with the financial assistance from Government of India. Kerala Livestock Development Board, Kerala feeds Ltd and MILMA were also involved in the implementation of the different components of the package. In order to assess the effectiveness of the programme evaluation of the scheme is essential to determine if the envisaged objectives have been achieved within the time limit. The Directorate of Entrepreneurship, Kerala Veterinary and Animal Sciences University was entrusted to undertake the evaluation study in the three districts in terms of

achievements made by the farmers, socioeconomic status and in suicide rates, etc. Data was collected from beneficiaries through a well structured interview schedule and focused group discussions. Data from policy makers was collected through focused group discussions. Combination of extension methods like participatory workshops, SWOT analysis, knowledge rating and attitudinal studies was used for data collection.

The objectives of the project was to ensure alternate means of sustenance to the farmer, to ensure a regular income to the family, to ensure profitability to farmers and to support those farmers whose agricultural operations failed. Major components of the project are dairy unit with two animals, feed supply to milch animals, induction of calves, artificial insemination package, health care, breeding services, pregnant animal feeding programme and milk chilling plants. Types of project include investments in dairy units, milk chilling plants and fodder block making units, supportive role for feed supply to dairy animals, calf feed programme and pregnant animal feeding. Projects under services sector include artificial insemination; healthcare and breeding services. Beneficiaries include all farmers who were in distress. Beneficiary selection was done by Panchayat level selection committees, which were approved by the District Collectors. The beneficiaries selected by a committee consisting of the local body, officer in charge of veterinary institution, representatives of the milk co-operatives, finally approved by the District Collector.

Project outlay

The project includes dairy unit with two animals and 500 farmers per district were benefited per year with two animals per farmer. Unit Cost was Rs. 60,000 (Rupees Sixty Thousand only) of which 50% of the cost of animals was subsidized (Rs 30,000/- for 2 cows) and 50% of the cost of the unit raised from banks. In the first stage, 1500 animals were purchased for three districts (500 for each district) and the second animal was procured after 3-6 months. Therefore, the total subsidy required for three years came to 1350 lakhs for 9000 animals. A committee was formed for the purchase of animals, which included the beneficiary, Grama Panchayat President / Representative, Milk Society President / Representative Bank official and concerned Veterinary Officer. 8992milch animals were purchased during the three-year period of which Palakkad and Wayanad district purchased 3000 animals each and 2992 animals were purchased for Kasaragod district. The feed cost was estimated as Rs. 100/- per day with 25% subsidy. Five hundred calves in each district with a total 1500 calves were enrolled in three districts. 4500 calves (@ Rs. 7300 per calf) were inducted into the scheme during three years. Calves enrolled were supplied with feed at the rate of 50% subsidy. Artificial inseminationat farmers' doorstep was ensured and the induced animals were provided with Premium bull semen for AI. An amount of Rs. 927.27 lakhs received for the purpose was fully utilized in the three years period. Health care programme included deworming of all animals, supply of mineral supplements, medicines for emergency cases and diseases control measures. Expenses were calculated at the rate of Rs. 300/- per animal for purchase of emergency medicines, dewormers, mineral supplements, etc. Breeding management package included deworming, infertility treatment, estrus synchronization and pregnant animal feeding programme, provision for chilling plant.

Year	Amount Received	Amount Utilized	Balance
2006-07	1516.56	1266.11	0
2007-08	1371.75	1371.75	0
2008-09	1407.1	1372.395	34.705
2009-10	179.00	179.00	0
Total	4474.41	4439.705	34.705

Table 2: Funds utilization (in lakh Rs.)

The balance funds were utilized to pay pending payment to Milma towards medicines purchased for Oestrus synchronization and free artificial insemination services.

4. Results and Discussion

The evaluation study on the Special Livestock Rehabilitation Scheme implemented in Kerala in establishing a sustainable and viable livelihood support system through debt relief to livestock farmers analyzed the asset status and food security indicators at household level. Data collected on livelihood assets in terms of food security, health and nutritional aspects, socio-cultural aspects, production inputs, access to services, financial and social assets, market relationships, human assets etc. after implementation of the relief package is interpreted and discussed.

4.1. Livelihood Status of the Beneficiaries

The livelihood status is a major indicator of the overall development of the families. It is represented by the variables such as land holding, type of house, farm assets, household assets, income status, highest educational level among family members and highest occupation level of family members, which are discussed as follows:

Area (in cents)	Kasaragod	Palakkad	Wayanad	Total
≤10	4 (6)	4 (7)	3 (6)	11 (6)
11-20	2 (3)	11 (19)	3 (6)	16 (9)
21-50	21 (31)	15 (25)	6 (12)	42 (24)
51-100	17 (25)	16 (27)	17 (35)	50 (28)
101-500	22 (32)	12 (20)	18 (37)	52 (30)
≥500	2 (3)	1 (2)	2 (4)	5 (3)
Total	68	59	49	176

Table 3: Distribution of respondents based on area of land owned
Note: Values in the brackets indicate percentage

Regarding land owned, nearly one-third (33 percent) of the respondents owned more than one acre of land and 28 per cent of the respondents belonged to the category owning 51-100 cents of land. Nearly one-fourth (24 percent) possessed between 21 and 50 cents of land and the rest (15%) had less than 20 cents of land. This also indicates that people who owned land had to undergo distress due to the failure of agriculture in that period.

4.2. Type of House Owned

Type of house	Kasaragod	Palakkad	Wayanad	Total
No own house	1 (1)	0	0	1 (1)
Kutcha (thatched with Coconut leaves)	14 (21)	11 (19)	0	25 (14)
Semi pacca (Tiled roof)	21 (31)	34 (57)	17 (35)	72 (41)
Pacca	32 (47)	14 (24)	17 (35)	63 (36)
Total	68	59	49	176

Table 4: Distribution of respondents based on type of house owned
Note: Values in the brackets indicate percentage

More than three-fourths (77%) of the respondents possessed either semi-pacca or pacca type of house and meagre (14%) owned kutcha house. From Table 4, it could be seen that more than seventy percent of the respondents of the three districts studied, owned either semi-pacca or pacca house which showed relatively better housing facilities of the respondents.

4.3. Farm Assets Owned

Farm assets	Kasaragod (n=68)	Palakkad (n=59)	Wayanad (n=49)	Total (n=176)
Cow shed	67 (98)	55 (93)	48 (98)	170 (97)
Pump house	38 (56)	15 (25)	1 (2)	54 (31)
Biogas plant	12 (18)	3 (5)	1 (2)	16 (9)
Others	2 (3)	1 (2)	1 (2)	4 (2)

Table 5: Distribution of respondents based on farm assets owned
Note: Values in the brackets indicate percentage
Multiple responses not to total

With regard to farm assets owned, majority (97 percent) of the beneficiaries owned cowsheds, as envisaged in the project. Of the total sample, pump houses were owned by 31 per cent of the respondents. It could be seen that majority of the respondents who possessed pump house were from Kasaragode district (56%). The other two districts had less percentage, which indicated lack of availability of water as a factor for setting pump house. It is interesting to note that 16 % of the total respondents possessed biogas plant which they used as an alternate power source. This shows the serious approach of the respondents towards dairying and emphasizes the practical application of the project after its implementation.

4.4. Level of Education

Education	Before	After
No formal schooling	78 (44)	0
Less than 10th	58 (33)	23 (13)
SSLC	31 (17)	34 (19)
Plus two	8 (5)	66 (38)
Degree	2 (1)	39 (22)
PG and Above	0	15 (8)
Total	177	177

Table 6: Educational level of the family before and after implementation of the scheme

Educational level of the family before and after implementation of the scheme revealed that at the time of implementation of the scheme, 44 per cent had no formal school education. However, Table 6 shows that the educational status of the respondent or family had improved substantially in the post-implementation stage and more people acquired higher qualifications like degree and post-graduation.

Education	Number	Per cent
Less than 10th	11	14
SSLC	12	15
Plus two	34	44
Degree	16	21
PG and above	5	6
Total	78	100

Table 7: Highest educational level of the family member of those respondents who were not having formal schooling at the time of implementation

Table 7 shows the educational status in post-implementation stage of the respondents who had reported no formal education in the pre-implementation stage. Out of the 78 respondents who had no formal education prior to the scheme, 27 per cent acquired an educational level of degree and above. This reveals the improvement in the educational status of the respondent's consequent to the implementation of the scheme. Probably consequent to the implementation of the programme, the confidence level of the families has improved and helped them to prioritize on higher education.

4.5. Highest Occupational Level

Highest occupation	Kasaragod	Palakkad	Wayanad	Total
Government	1(2)	1(2)	0	2(1)
Private	9(13)	7(12)	5(10)	21(12)
Labourers	21(31)	25(42)	22(45)	68(38)
Professional	0	1(2)	0	1(1)
Farming alone	37(54)	25(42)	22(45)	84(48)
Total	68	59	49	176

Table 8: Highest occupational level among the family members
Note: Values in the brackets indicate percentage

The study revealed that 48 per cent of the respondents still depended on dairying for their livelihood, which was their main occupation. Among the total respondents two-thirds (66 %) of maintained their cattle shed well even after the project. 82% of the respondents in Kasaragode, 65 percent respondents in Wayanad district and 49 per cent in Palakkad kept well maintained cattle sheds (Table 8). For hygienic rearing and clean milk production, well-maintained sheds are essential and the values indicate that the project has achieved its objectives.

Type	Kasaragod	Palakkad	Wayanad	Total
No Shed	2 (3)	3 (5)	0	5 (3)
Well maintained shed	56 (82)	29 (49)	32 (65)	117 (66)
Poorly maintained shed	10 (15)	27 (46)	17 (35)	54 (31)
Total	68	59	49	176

Table 9: Type of shed
Note: Values in the brackets indicate percentage

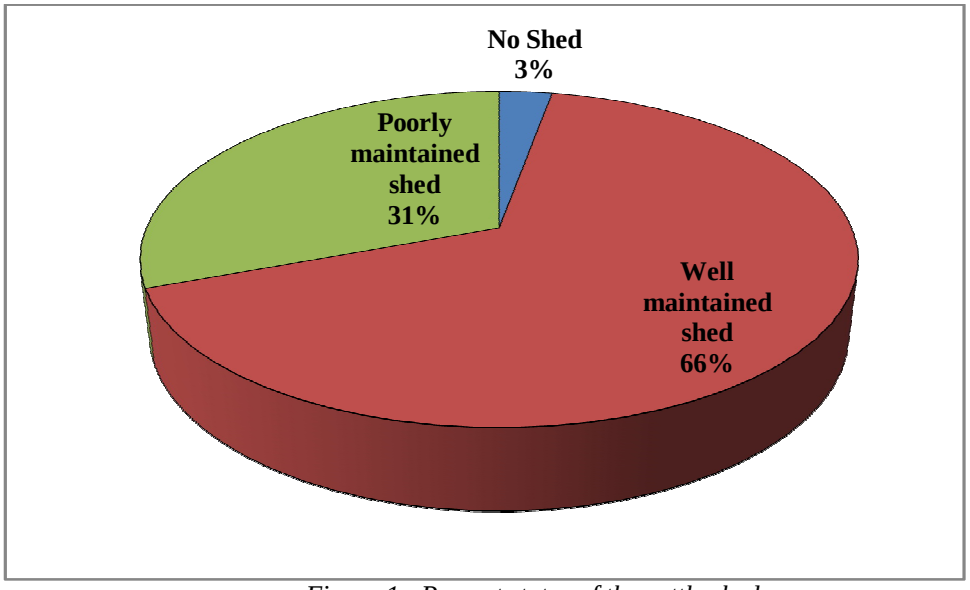

Figure 1: Present status of the cattle shed

4.6. Average Herd Size

At the time of implementation of the scheme, the average herd size was around 2.3 whereas after implementation of the scheme the average herd size was found to be three. This shows an increase in average herd size. District wise analysis shows that Palakkad and Wayanad districts showed a significant increase in herd size, whereas no significant increase was observed in Kasaragod District. There was a substantial increase in adult female population in all the three districts. Increase in herd size was more prominent in Wayanad district compared to the other two districts. This shows that the scheme was successful in achieving its basic objectives.

Category	Kasaragod		Palakkad		Wayanad		Total	
	Before	After	Before	After	Before	After	Before	After
Adult male	0.059	0.015	0.068	0.017	0	0.041	0.045	0.023
Adult female	1.779	2.074	1.407	1.746	0.918	1.776	1.415	1.881
Calf male	0.456	0.368	0.271	0.288	0.122	0.265	0.301	0.313
Calf female	0.897	0.765	0.407	0.864	0.184	0.612	0.534	0.756
Total	3.191	3.221	2.153	2.915	1.225	2.694	2.296	2.972
t-value[a]	0.082		2.108*		4.212**		3.151**	

Table 10: Average herd size of cattle before and after implementation
Note - t-value is for comparing before and after implementation of the scheme
*** significant at 0.01 level; * significant at 0.01 level, NS Non-significant at 0.05 level*

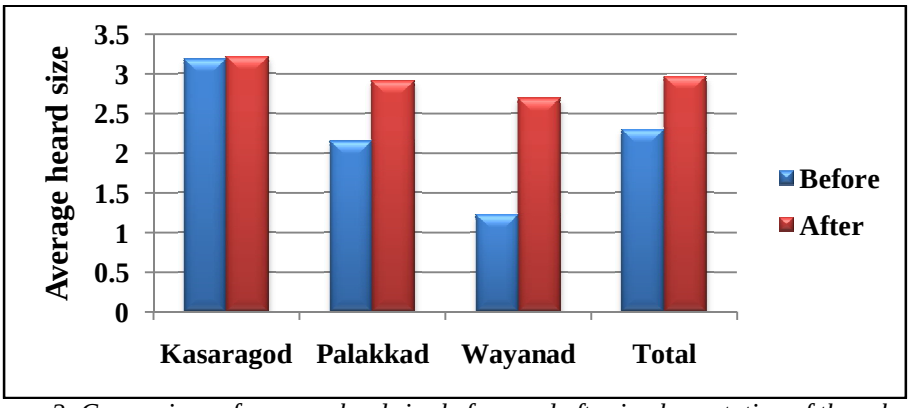

Figure 2: Comparison of average herd size before and after implementation of the scheme

4.7. Herd Size of Other Livestock

Category	Goat		Poultry		Buffalo		Sheep	
	Before	After	Before	After	Before	After	Before	After
Kasaragod	0.750	0.147	10.397	7.309	0.029	0	0	0
Palakkad	0.644	0.492	4.864	5.695	0.339	0.034	0.034	0.017
Wayanad	0.612	0.571	1.265	3.122	0	0.020	0	0
Total	0.676	0.381	6.000	5.602	0.125	0.017	0.011	0.006

Table 11: Herd size of other livestock before and after implementation of the scheme

There is significant reduction in the herd size of goats reared by the respondents in all the three districts, even though goat scheme was also implemented as part of the programme. This may be because beneficiaries have little land and other resources to spare and the focus shifted on to dairying. Goat rearing being a quick income source, the respondents must have expanded their livestock in at a later stage. Poultry flock size showed an improvement in Palakkad and Wayanad**.**

4.8. Milk Production

District	Before	After	t-value
Kasaragod	8.632	10.559	1.20^{ns}
Palakkad	8.729	7.475	0.783^{ns}
Wayanad	10.469	9.633	0.420^{ns}
Total	9.176	9.267	0.092^{ns}

Table 12: Comparison of milk production (in litres) before and after implementation of the scheme

The Table12 shows relative increase in milk production in Kasaragod district while in the other two districts the production from the animals kept by the respondents showed a decline. Milk production is largely influenced by the climatic factors and the stage of lactation and exhibits a fluctuation throughout the year. The study was undertaken during the period January to May, which might be the reason for the recorded reduction in milk yield**.**

4.9. Household Assets Owned

	House hold assets	Kasaragod (n=68)	Palakkad (n=59)	Wayanad (n=49)	Total (n=176)
Entertainment	Radio	7(10)	11(19)	5(10)	23(13)
	Television	59(87)	53(90)	42(86)	154(87)
Kitchen and household	Mixie	59(87)	47(80)	26(53)	132(75)
	Grinder	32(47)	31(52)	3(6)	66(37)
	Fan	57(84)	49(83)	10(20)	116(66)
	Refrigerator	29(43)	19(32)	15(31)	63(36)
Transport	Bicycle	3(4)	10(17)	2(4)	15(9)
	Moped	0	4(7)	0	4(2)
	Scooter/ Bike	16(24)	19(32)	15(31)	50(28)
	Auto	1(2)	7(12)	1(2)	9(5)
	Car	7(10)	3(5)	2(4)	12(6)
Connectivity and social interaction	Telephone land	31(46)	25(43)	6(12)	62(35)
	Mobile	66(97)	50(85)	43(88)	159(90)
	LPG	53(78)	38(64)	25(51)	116(66)
	Computer	5(7)	3(5)	2(4)	10(6)

Table 13: Distribution of respondents based on house hold assets owned (n=176)
Note: Values in the brackets indicate percentage

Analysis of the household assets owned showed that 90 per cent of the respondents owned mobile phones, 87 percent owned television sets, 75 per cent possessed mixie, 66 percent had fan and LPG connections. More than one-fourth of the respondents possessed modern living amenities like refrigerator, grinder and telephone. This shows that most of the respondents could afford to pay for comfortable living conditions, which proves the success of the project.
Household asset status of the respondents was conceptualized by fixing a price for each item they possessed. Amount fixed for each item is given in the Table 14 below.

House Hold Assets	Price Per Unit Item
Radio	500
Television	8000
Mixie	3000
Grinder	4000
Fan	2000
Refrigerator	10000
Bicycle	7000
Moped	3500
Scooter/ Bike	50000
Auto	1.5 lakhs
Car	5 lakhs
Telephone land	3000
Mobile	1500
LPG	1000
Computer	40000

Table 14: Unit price fixed for each item

The total amount of assets was then calculated by adding the asset values they scored and the respondents were classified based on the total asset value. Respondents who scored total asset value upto 2,50,000 were grouped under 'average' level, those with 250001 to 500000 asset value were grouped as 'high' and those with more than 5 lakhs grouped as 'very high'.

Asset Status	Kasaragod (n=68)	Palakkad (n=59)	Wayanad (n=49)	Total (n=176)
Average (upto Rs 2.5 lakhs)	33 (48.5)	25 (42.3)	32 (65.3)	90 (51.1)
High (2.5 lakhs to 5 lakhs)	18 (26.5)	15 (25.4)	10 (20.4)	43 (24.4)
Very High (Rs 5 lakhs)	17 (25.0)	19 (32.2)	7 (14.3)	43 (24.4)

Table 15: Household asset status of the respondents
Note: Values in the brackets indicate percentage

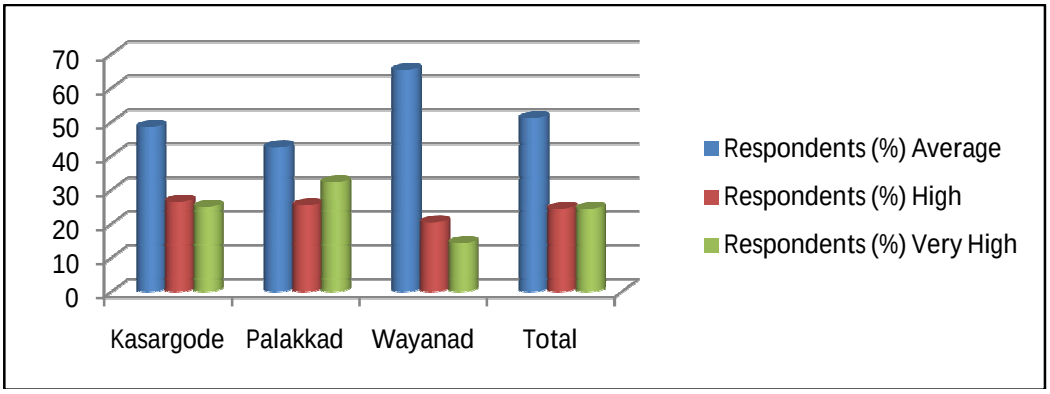

Figure 3: Comparison of Asset status

It could be revealed from the graph that the majority (51 percent) of the total respondents of the three districts fell in the 'average' category of asset status. About one-fourth (24 percent) of the respondents belonged to 'high' and 'very high' category respectively. This shows that the respondents enjoyed a fair asset status, which reflected good living standards. The improved household asset status is an implication of the fruitful contribution of the rehabilitation package implemented in the three districts to the sustainable livelihood of the beneficiaries.

4.10. Food Security

Rating	Kasaragod	Palakkad	Wayanad	Total
Insufficient	3 (4)	1 (2)	0	4 (2)
Just sufficient	11 (16)	23 (39)	4 (8)	38 (22)
Sufficient	52 (77)	33 (56)	45 (92)	130 (74)
More than sufficient	2 (3)	2 (3)	0	4 (2)
Total	68	59	49	176

Table 16: Food consumption by the respondents' family
Note: Values in the brackets indicate percentage

The respondents were requested to provide information regarding daily feed intake of the family and to note it as insufficient to more than sufficient. The table 16 reveals that 76 percent of the respondents felt that they had sufficient food for the family for a day. The scheme was successful in achieving the goal of providing food security.

Districts	Egg		Meat		Milk	
	Number	Percent	Kg	Percent	Litre	Percent
Palakkad	52	88	49	83	50	85
Kasaragod	47	69	49	72	63	93
Wayanad	42	86	48	98	39	80
Total	141	80.1	146	83.0	152	86.4

Table 17: Consumption of different livestock products

Above 80 percent of the respondents were found to consume eggs, 83 percent consumed meat and 86 percent consumed milk daily. The satisfaction level of animal protein consumption shows healthy living style of the respondents.

District	Egg per week (number)	Meat per week (kg)	Milk per day (litre)	Average family size
Palakkad	3.57	1.01	1.37	4.28
Kasaragod	5.03	1.31	1.04	4.17
Wayanad	6.41	2.29	1.27	3.82
Total	5.00	1.54	1.23	4.11

Table 18: Average quantity of livestock products consumed by the respondent's family

Data on average quantity of food consumption reveals that egg consumed per week by the whole sample was five. Average consumption of meat was 1.46 kg per week and average consumption of milk was 1.24 litres per day. This is comparatively higher than the state average where consumption of milk and meat per day is 2.41 gm and 5 grams respectively and annual consumption of egg is 14.

5. Summary and Conclusion

Major outcome/impact of Special Livestock Package in Kerala includes increase cattle population of the State and average daily increase in milk production by 90000 litres per day. (Annual increase of 274.5 Lakh litres of milk).4500 heifers had attained puberty within the expected period. Free AI reduced the financial burden of farmers (Total benefit of Rs. 927.27 Lakh) and Infertility in animals was reduced by 50%. The health status of animals improved which facilitated increase in milk production. The Special Livestock Package Scheme (SLPS) has succeeded in improving the livelihood status of beneficiaries. The beneficiaries of the project had land holdings of various sizes, three-fourths of the respondents had concrete and (or) roof-tiled houses, 31 percent owned pump sets and 9 percent biogas plants. 97 percent of the respondents owned cattle shed making evident the importance they have attributed to dairying within their income generating activities. In addition to possessing farm assets the beneficiaries had a fair ownership of household assets. These household assets ensured that these respondents had an entertainment opportunity at home, with 87 per cent owning television; 75 per cent owning mixie and 66per cent depending on LPG for cooking purpose reflects the improvement in kitchen and cooking; 90 per cent of the beneficiaries owned mobile phones making them well connected socially. In the present day, the *inclusion* of the beneficiaries in "networking" and "social linkages" is an indicator of the development accessibility / opportunity. On assessing the values of the assets possessed, approximately 50 per cent of the beneficiaries had assets of above Rs 2.5 lakhs. 12. As far as the food consumption in the beneficiary - families were concerned 76 per cent were satisfied with the food availability. 22 per cent of the respondents mentioned that they have "just sufficient" food to meet the requirements. The families reported intake of animal proteins like egg, milk, meat (approx. five eggs per family/week, 1.24 litres of milk per day per family, and 1.46 kg meat per family/week) ensuring nutrition in the family.

Thus, the intervention of Vidarbhapackage has resulted in possession of dairy cows, which helped the beneficiaries to be confident of facing life through this asset and enhanced their livelihood status substantially.

6. References

1. Antonio Rota and Ahmed Sidahmed .April 2010. Livestock planning, challenges and strategies for livestock development in IFAD.IFAD's Livestock Position Paper, IFAD, Rome: 9-16
2. Delgado C. 2005. Rising demand for meat and milk in developing countries: implications for grasslands-based livestock production.In Grassland: a global resource (ed. McGilloway D. A.), pp. 29–39.The Netherlands: Wageningen Academic Publishers.
3. Ghanekar,D.V. 2008. Taxing dairy coops: A Case study for reconsideration. XXXVI Dairy Industry Conference Feb-2008, Indian Dairyman, 60(3): 108-111.
4. Manivannan, A.1997. A critical analysis on the role of voluntary agencies in animal husbandry development. M.V.Sc.Thesis, TANUVAS, Chennai.
5. Manivannan, C. 2003. Management efficiency of dairy farmers. Ph.D. Thesis, Indian Veterinary Research Institute, Izatnagar, Uttarpradesh.
6. Sing, J., H.K. Verma, K.B. Sing and Navjeet Sing. 2005. Knowledge level of dairy farmers about the selected management practices in Punjab.Journal of Research, PunjabAgricultureUniversity, 42(3): 347-354.
7. Supe, S.V. 1969. Factors related to different degrees of responsibility in decision making among farmers. PhD. Thesis, IARI, New Delhi. Cited by Manivannan, 2003.