

Information Access to Enhance Livelihood Returns & Nutrition Level of Children - A Case Study from Tamil Nadu, India

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Abstract: Information Services for farmers and fisherfolk households in all nook crannies of India are very popular and now it is the trend. They come as a platform bouquet with mobile telephony, internet, videocast, audio chat, television, radio, toll free helpline and more for delivering extension information to farmers, fisherfolk and livestock owners using the state-of-the-art technology and connectivity with the support of mobile telephony and internet. This paper highlights the impact of information received and utilized by one such family leading to a positive change in one such rural household of Tiruchirappalli district, in Tamil Nadu, India.

Key words: Information, Decision Making, Livelihood Returns, Nutrition Level

Introduction

Impact of Information on Livestock Management

In current scenario in Tamil Nadu, people are highly dependent on agriculture and livestock. In any such family both the parents are forced to be working as animals are also family. Lacking in this would result in deficit in the financial status of the family. This condition prevails both in semi-rural and urban areas as well. We find that information on livestock management if utilised at the right time leads to better health. The information at the right time led to better care to livestock and that led to increased income and this increased parent's income and increased BMI (Body Mass Index) from under-weight to normal. The Root Cause of all this stemmed from the understanding of taking information for livelihood decisions.

This particular patriarchal family has the normal greed for a boy child. On the birth of the third child also a girl child the first child's role completely changed at her age of seven, this last one year (2018 – 2019).

In order to make a minimal living both the parents go out of house to earn. Childcare for most infants and toddlers in rural India comes from caregivers other than their parents in such families. These caregivers include relatives; friends, neighbours, family childcare providers, and centre-based child care providers. Since childcare centres are a costly affair for these rural public, they train the eldest child of the family into the childcare giver.

The family condition, financial status and support from the family members are some of the essentials that are required to succeed in this race. It is the responsibility of the parents to provide the required benefits to the children. Based on the information received the poor family has built independent businesses of cattle rearing, and livestock feed agriculture.

The study shows that the lack of knowledge and the poor return of investment from the assets from the piece of farming land and the milking animal were hinderance to the nutritional requirement of the small and growing children. Information and knowledge alone bind the family and the society. The access to knowledge available in the information era overcome hinderances in such families of poor economic status bound by cultural setting.

Literature Review

An important body of economic literature has focused on the problems of imperfect, asymmetric, or incomplete information (Akerlof 1970; Stiglitz 1985; Stiglitz 1989).

Acquiring this kind of information plays an important role in any markets, especially when market information systems are not robust. In general, there are three types of information transaction costs related to risks present in exchanging these information (North 1990; Furubotn & Richter 2005):

1. Information Search cost: Someone considering a certain transaction must search for a suitable and reliable party from whom to seek information (looking up prices, possible traders (in different markets), communication (e.g. telephone calls), testing quality, and measuring quantity, quantities supplied, quantities demanded, actors and their actions, product quality and attributes, and processes), and these searches involve costs, especially when the risk of taking a decision based that information with an opportunistic counterpart (Eg fertilizer shop owner who is a franchisee of a particular brand will be interested in a sale and suppress the weaknesses or absence of relevance if any).

2. Decision of Acceptance of Information cost: These costs relate to time and advice that is put into bargaining and negotiating the match to the exact need. Information plays an important role as some parties may have information that they do not disclose (called asymmetric information). Without fixed prices and quality standards, bargaining may be a difficult issue, fraught with transaction risks, especially the lack of knowledge of sources for availability of information for free of cost as compared to heavy advertisement for priced information exists.

3. Enforcement of Information costs: These costs are related to the input of time and costs to execute or monitor implementation of information, to avoid opportunistic behaviour by parties, and to put into force the advice. Information again plays a role in monitoring, which may be costly, especially when parties have an incentive to conceal information (i.e., increasing risks).

But beyond all these costs there is a very different cost paid and consequential benefit accrued which are not so measurable in units defined by mankind. But have a lasting impact as in well-being of a few generations' health with continued strength of immunity.

Methodology

Case study method is used here to highlight how actually the burden of childcare falls on the eldest child of the family. In particular the study has been narrowed down to the first born in the family only because the third child born in 2017 turned out to be also a girl child. Further the study depicts the changes that took place in the last one year of the eldest girl.

Statement of the Problem

It is the duty of the breadwinners of the family to provide the necessities both financially and emotionally to the family members. It is really challenging task for each and every parent to provide the supplies for the entire members of the family. In almost over 63% of Indian household women and men have to generate income leading to provision for the availability of all the required supplies for the entire family with ease.

A family with very low socio-economic condition and BPL(Below Poverty Line) ration card lands up with a third child – A Baby Girl. Their income levels are no longer sufficient. And they have to immediately work to increase the income level.

Objectives of the Study

Profile the economic condition of the livestock and agriculture dependent family that impact the attitude towards the girl child's upbringing and child care management.

- ❖ Socio-Economic profile
- ❖ Demographic details
- ❖ Maintaining an activity diary
- ❖ Return of investment from the milch animal owned by the family
- ❖ Diet-meal pattern and Health status

Period of Study 2018 till 2020

A house that awaits the boy child!!

In India -a patriarchal society the boy child is considered the only way to continue the family life. Almost every family has waited for a boy child and continues to do so. Over these many years they may have stopped female feticide, female infanticide, but they have not stopped waiting for a baby boy!!

Prabakaran and his family are no different. He hails from a very poor farmer living in a small earthen hut with his family of wife and three daughters. The newly born girl child is still in the nursing phase, however the older two children are 4 years and 8 years old.

Socio-Economic Profile

Name of the family members: Mr. Prabhakaran (father), Mrs. Seeneshwari (mother) and three daughters' namely, Kanimozhi, Thenmozhi and Malarkodi.

Gender: The gender ratio in the family is 1:4 a male member and 4 females.

Family size: A father, a mother and three girl children, together 5 members in the family.

Child's position in the family: The case study deals with the first-born girl child of the family. She's of age 7 years. Being the first child of the family, she holds lot of responsibilities in the family, namely taking care of the household's and helping the mother in taking care of her sisters and also the buffalo and hens.

256 | Page

Age: The age of the father is 34 years and mother 27 years and children with the age of 7 years, 3 years and 6 months respectively. As the family background is very poor, there is a large age gap between the parents.

Job: The father takes care of agriculture; whereas the mother maintains the cattle, and hens, which help them, produce milk and eggs. The first girl child goes to the school, whereas the other two are not of schooling age but they are taken care by the mother and the elder girl child.

Income: The father and the mother of the family are both involved in generation of the income. The income from the father's side is seasonal, as they yield income only when there is sufficient production of the crops. While the income generated from the mother is regular as the production of milk takes place frequently. Their average monthly income is around INR18, 000.

Assets owned by the family: He owns half-acre land on which he cultivates vegetables and millets. This apart he has a local Murrah-graded breed of buffalo (figure:1), which he has purchased with government subsidy and a few hens.

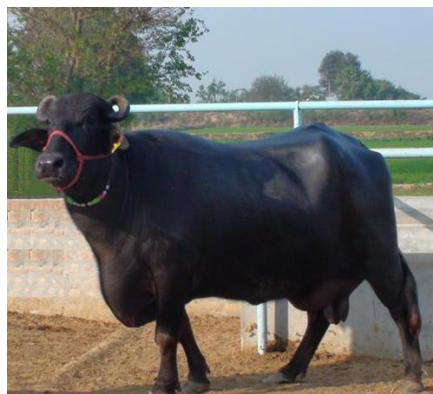


Figure:1 Murrah – graded buffalo

The family owns a home with tiled roof, livestock buffalo, and poultry – Hen 5. Their electricity bill comes to around 300 Rupees. The monthly food expenses come to around INR 4,000. They possess 200 grams of gold, which is in pawnshop. Vehicles owned by the family are a two-wheeler and a bi-cycle for delivering milk. Electronic goods possessed are a television, a gas oven and an android mobile phone. Bank deposits is around 20,000 in a centralized bank and nil balance in the Post-office.

Demographic details

Demographic details of the child include the description of the area of their living namely, Village Name, District, State, Road, Electricity facility, Water, School, Transport, PHC (Public Health Centre), Pharmacy, Sanitation facilities, etc.

Village Name: Mullikarumbur is a Village in Andanallur Block in Tiruchirappalli District of Tamil Nadu State, India. It is located 12 KM towards west from District headquarters Tiruchirappalli. 2 KM from Andanallur. 356 KM from State capital Chennai The Pin code for Mullikarumbur is 620013 and postal head office is Thiruverumbur. Some of the nearby villages to Mullikarumbur are namely, Ettarai (2 KM), Kulumani (2 KM), Kumara Vayalur (2 KM), Periakaruppur (3 KM), Mekkudy (4 KM). Mullikarumbur is surrounded by Tiruchirappalli Block towards East, Manikandam Block towards South, Manachanellur Block towards East, Thogaimalai Block towards west, Tiruchirappalli, Lalgudi, Thuraiyur, Perambalur are the nearby cities to Mullikarumbur.

Schools: Government School is present in Mullikarumbur and Andhanallur, PIN- 620102, Post – Somarasampettai

Government Health Centers near Mullikarumbur:

- Allithurai, Self Help Group Building,
- Church of South India Hospital, Victoriya Road, Near Woriyur market, Victoriya Road, Near Woriyur market.
- Sundaram Hospital, No: 17, EVR Road, Puthur, Puthur Bustand Near
- Kulumani Government Hospitals (PHC), in about 1.5 km distance from the village.

Availability of (Auxiliary Nurse Midwife) ANM: A ANM always stays within the hospital to tackle the emergency situations of the people around the village.

Sanitary Facility: Two public toilets are available in the village for the people of the village. Few houses in the village are built without toilets, in such cases these public toilets will be used by them.

Ration Shop 1st Cross, Saravanapuram

The daily schedule of the first girl child Ms Kanimozhi who is the care taker of the house goes monotonous. She has no time to play or watch television, due to the tight schedule at home and school.

Maintaining activity Diary: (A Day with Kanimozhi)

The following are the day-to-day schedule

- 5 AM - Wake-up finish bath by 6 AM
- 6 AM – Pluck flowers from the plants, to sell in the market.
- 7 AM – Feed the cattle and bath them.
- 8 AM – Help the younger kids to get dressed.
- 9 AM – Reach to school by walk.
- 13 PM – Mid-day meals at school
- 16 PM – Reach home after the school
- 17 PM – Cut the vegetables, Clean and feed the cattle
- 19 PM – Study time and also time to put the middle child to sleep
- 20 PM – Dinner time
- 22 PM – Bed time

Diet-Meal Pattern:

For age 5- 12 years girl child 900 to 1400 calories per day from grains, fruits and vegetables, fats and oils, milk and dairy products, meat and beans.

The diet-meal pattern practiced by Kanimozhi is as follows,

- 500 AM – A glass of milk
- 800 AM – Porridge made of rice soaked overnight.
- 1300 PM – Mid-day meal at school (egg, potato, banana, Pulses – Bengal gram)
- 1600 PM – A glass of tea with milk
- 2000 PM – Porridge with vegetables (Pearl millets, Finger millet or rice)

Health Status:

Kanimozhi being a child from a BPL family possess the following health status, with an age of 7 years and 9 months, height 119 cm and weight of 20kg totally possess a BMI (Body Mass Index) of 14.4 which is Under weight (Before the intake of milk). Chicken pox and Mumps were contracted in the last one-year.

Oral Hygiene, the baby tooth (milky tooth) has fallen and new tooth has grown. Hair growth – she has a short hair of length one foot, less dense, brown colour, texture would be thin and coarse.

Nail texture – spoiled due to working with cattle and house

Eyeballs – black coloured

Vaccination schedule of Kanimozhi

Stage	Vaccine
Birth	BCG, OPV (0), Hep B (birth dose)
6 weeks	OPV1, Penta1(DPT+HepB+HiB)
10 Weeks	OPV2, Penta2(DPT+HepB+HiB)
14 Weeks	OPV3, Penta3(DPT+HepB+HiB), IPV
9 Months	MMR-1, /MR/Measles, JE Vaccine-1
18 Months	MMR-1, DPT 1st Booster
6 Years	DPT 2nd Booster

Findings & Observation

Although Kanimozhi has had these vaccinations since birth, she has skipped few doses namely, JE Vaccine-2 and OPV Booster, which is during her 16 – 24 Months. This is due to the incapability to reach the hospital in time when they were given free.

As Prabakaran's financial condition did not permit him to buy milk for his children all three grew up without consuming the necessary level of milk, till the year 2017. Therefore, they were all underweight getting deprived of all the nutrients in milk essential for the proper growth of body.

Not just that, since there is a nutrition link between the mother and new born, this nutrient deficiency could have been passed on to the next generation as well and it is well known that lower birth weight children run the risk of suffering from developmental problems apart from under-nutrition. Though this is not quantifiable in monetary terms it has far reaching impact on the health of the entire family and have spillover effects on education, livelihood and many more facets of human lives. The cyclical chart below (Figure-2) clearly portrays the risks the mother and the child both stand besides under-nutrition or deficiencies getting passed on to the next generation.

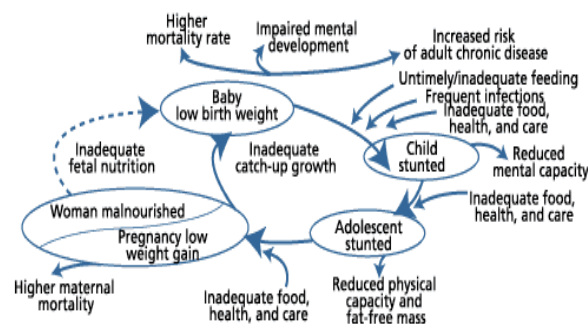


Figure:2 Cyclical chart

Root Cause of the issue

The poor return of investment out of the assets from the piece of farming land and the milch animal, through the returns can be improved applying the knowledge was the reason behind the problem. Prabhakaran did not have proper knowledge of how to take care of the buffalo. So he fed dry fodder every day and that had little or no nutritious value for the milch animals. Hence it gave only about 4 litres of milk a day that too only for few months a year. He still remembers, 7 December 2017 which changed his life and that of his return of the investment on the buffalo. It was the day when representatives of Government contacted him for inviting him to participate in their programme Knowledge on Wheels for animal husbandry. The program was attended by Senior Veterinary Physician - Dr Nedunchezhiyan.

During the training program Dr Nedunchezhiyan explained to the participants the proper way to keep milking animals like buffaloes, cows, etc. He also advised the participants about the importance of balanced diet for animals.

Information Advisory on Livestock Management

As per Dr Nedunchezhiyan's advice Prabhakaran started feeding his buffalo, with properly moistened cut green fodder, 50gms of mineral mixture, Sudana 750gms, Binola 1kg per day. The total cost of this fodder is INR 90 per day, which amounts to INR 2700 per month for expense.

Slowly over a period of time, this started giving good results. After around 15 days, the milk production of the buffalo increased by 1.5 liters (that is it started producing 5.5 liters of milk a day), and the fat content of milk increased from an earlier 5% to present 6.5%.

As a result, his income also increased. He got more money value for the improved quality of milk apart from the increase of quantity. Earlier he earned only INR 29-30 per litre, but after taking proper care of the animal's diet, as per the information advisories of Dr Nedunchezhiyan through Government programme, and continuous follow up on the toll-free help line numbers he started receiving up to INR 35-36 per litre. This comes to INR 5250 per month approximately meaning he is now generating profit worth INR 2550 per month. He has now started getting surplus milk for his children, this he could not get earlier due to less production.

This as a domino effect led to getting ample amount of milk into the family member's daily diet. Therefore, the advisory given by Dr. Chezhiyan has not only improved the health, milk production and income of the family but also has created a direct positive impact on the nutrition and health status of the whole family and the female children in particular.

In this context we can see if Prabhakaran had not come in touch with Dr Nedunchezhiyan through Government he would have to spend INR 35 per liter to buy milk for his children everyday which he was avoiding.

The buffalo also used to get on a heat earlier, within 70-80 days' time as against the standard period of 8-9 months' time. As a result, the productive days of the milking animal increased. This has increased income and also savings. The buffalo is now in sound health due to proper care and feeding. This has raised a new hope for Prabhakaran's family. He is very thankful to the government.

He tells about the good work of the government to all his customers and friends. After observing apparent results, 6 more farmers have adopted the good practices of keeping buffaloes and cows etc.

Conclusion

This is a case study which brings out a tertiary level impact. Information is a powerful wealth. It needs to be available at the right time at the right place to the right person. Information ought to be in clear understandable local language and clear with facts so that the receiver may immediately take decisions using the same.

Information provider needs to give a complete and concise explanation of the information when in a telephonic conversation so as to lead to decision support.

Milch and cattle need proper management. Food and fodder provided to them has also to be a proper nutritious diet.

The above case study clearly depicts shift in health of the family members and particularly the girl child after the increase in the income of the family and intake of the milk.

The BMI (Body Mass Index) becomes Normal from under-weight. The body height and weight of Kanimozhi the first girl child has drastically increased after the regular intake of milk for the last one-year i.e., height measures 125cm and weight 29kg, where the BMI ranges up to 18.6 which is normal.

The rural livelihood always is intertwined with the lives and household of the families whether it is farming fishing or livestock owning. All families ought to know that very good livelihood management will surely assure healthy lives management of family members.

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