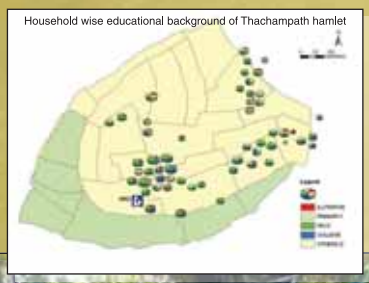
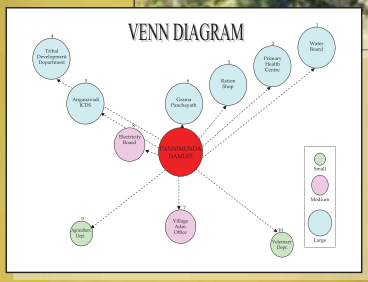
GIS Based Participatory Needs Assessment of Thachambath Village, Wayanad, Kerala





20 Years
LINKING SCIENCE AND SUSTAINABLE DEVELOPMENT
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GIS Based Participatory Needs Assessment of Thachambath Village, Wayanad, Kerala

Organised by

National Virtual Academy for Rural Prosperity, Chennai

for

CC Phase on Integrated Management of Biodiversity Resources in
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Executive Summary

The National Virtual Academy for Rural Prosperity (NVA) of MSSRF is implementing ICT enabled Village Resource Centers (VRC) and Village Knowledge Centers (VKC). The organisation has diversified programmes focusing agriculture and rural development with a commitment to develop and implement innovative technology solutions. PAN MSSRF serves as fulcrum for integrating relevant and necessary innovative technologies of different programmes. In this context, The VRC and VKC concept is integrated into the CC phase on Integrated Management of Biodiversity Resources in Partnership with Communities that is supported by the Swiss Development Agency for Cooperation in Wayanad, Kerela. The overall goal of NVA is to establish VRC and VKCs for empowering the vulnerable to make better choices and have better control on their own development. Accomplishing the set goal warrants the assessment of community needs which is pivotal for delivering the locale specific and demand driven services. Under this circumstance an six days training programme on GIS Based Participatory Needs Assessment was organised at Thachampath VKC village, Wayanad for the staff.

A variety of spatial technologies are also used to integrate multiple realities and diverse forms of information to foster social learning, support two-way communication and broaden public participation across socio-economic contexts, locations and sectors. This has spurred a rapid development in community-based management of spatial information through what is generally termed Participatory Geographic Information System (PGIS). As the NVA program provides need based services using Information Communication Technology (ICT) as tools, it was decided to diffuse modern spatial information technologies including geographic information systems (GIS), low-cost global positioning systems (GPS), in conventional Participatory Rural Appraisal (PRA) for assessing the village needs, issues and problems.

Purpose of the training was two fold; to build the capacity of the staff on conducting GIS based PRA towards assessing the community needs and to elucidate the needs, issues and problems of Thachambath and Pannimunda Hamlet villages covered by the VKC through classroom as well as hands on experience during the course of training by administering different participatory methods. GIS and GPS were used to document X, Y, Z readings of the households, resources and the critical facilities of both Thachambath and Pannimunda hamlets.

Blending of the sketch and scale mapping generated out of the PRA exercises and GIS respectively yielded the outcome that are crucial for converting the findings into action by developing micro plan and implemention strategy. The plan developed by VKC through this process will also facilitate to integrate it with the local level development plan of Panchayati Raj Institutions (PRIs). Above all the GIS based PRA outcome has set an effective base for monitoring and evaluating the changes brought out by the VRC and VKC periodically and update and present it spatially.

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FOREWORD

Technology divide has played a major role in rich-poor divide since the beginning of the industrial revolution in Europe over three centuries ago. Technology divide today is taking the form of gender, genetic, digital and other forms of divides which ultimately results in enlarging the rich-poor divide within nations and among nations. This is why MSSRF took on the challenge of helping to bridge the divides, particularly in the fields of information communication technology and biotechnology, by introducing a pro-nature, pro-poor and pro-women orientation to technology development and dissemination.

The approach involves participatory research and knowledge management. To be meaningful, the technologies introduced should be demand-driven and should be selected in consultation with rural families. The present publication contains detailed information on the work carried out in Thachampeth Village, Wayanad, Kerala on GIS Based Participatory Needs Assessment. The Resource Mapping undertaken in this project has identified the constraints which are coming in the way of improving the productivity, profitability and sustainability of local farming systems. Therefore awareness generation and capacity building of farm families on integrated natural resources management is an urgent task facing the Village Knowledge Centre. I hope this publication will help in developing replicable models of technological empowerment of rural women and men.

I am grateful to Ms Nancy J. Anabel, Dr J D Sophia, Dr Gnanapazham and Ms Punitha for serving as Resource Persons. Mr Girijan, Ms Srevidhya, Mr Binesh, Mr Ravindran, Mr Rohen and Mr Rasheed for their facilitation in data collection and writing report. Mr Murugan and Mr Jegan for providing necessary support in the training and practical sessions. Dr Arivudai Nambi, Project Coordinator, Biodiversity and Mr Senthilkumaran, Director (IEC) provided over all guidance and encouragement. I am grateful to all of them for their dedication to the cause of taking the benefits of GIS and ICT technologies to tribal and rural areas.

M S Swaminathan

GIS Based Participatory Needs Assessment of Thachambath Village, Wayanad, Kerala

1. Introduction

Village Knowledge Center is established in Thanchampath, one of the hamlets of Purakkadi revenue village of Sulthan Bathery block, Wayanad district to provide the locale specific and demand driven knowledge and skill services to the rural community. One of the important steps of the general process adopted in providing such services is through identifying the community needs. The needs of the community is identified and assessed at different levels using different participatory techniques. As the Participatory Rural Appraisal (PRA) is vital in assessing the village level needs, issues and problems, it was planned to organize a six days training to the staff of Wayanad VRC on the Concepts and Techniques of Needs Assessment coupling with theory and hands on training, contextualizing it to ICT enabled VRC and VKC.

As the NVA program is designed to provide need based services using ICT as a tool, it was also decided to diffuse modern spatial information technologies including geographic information systems (GIS), low-cost global positioning systems (GPS), and remote sensing image analysis software, open access to data via the Internet in conventional PRA for assessing the village needs, issues and problems.

The overall goal of NVA is to empower the vulnerable to make better choices and have control on their own development for which different technologies are used. A variety of Spatial technologies are also used to integrate multiple realities and diverse forms of information to foster social learning, support two-way communication and broaden public participation across socio-economic contexts, locations and sectors. This has spurred a rapid development in community-based management of spatial information through what is generally termed Participatory Geographic Information System (PGIS).

PGIS is the result of a spontaneous merger of Participatory Rural Appraisal (PRA) methods with Geographical Information Technologies (GITs). PGIS practice is based on using geo-spatial information management tools ranging from sketch maps, Participatory 3D Models (P3DM), aerial photographs, satellite imagery, Global Positioning Systems (GPS) and Geographic Information Systems (GIS) to compose peoples' spatial knowledge in the forms of virtual or physical maps used as interactive vehicles for discussion, information exchange, analysis and as support in advocacy and decision making. GIS is used mainly as computer cartography with limited GIS functionality. Users employ the outputs mainly as media (re: the power of the map!) to support their arguments.

The overall outcome elicited through the needs assessment process blending PGIS will be used for converting the findings into action, developing micro plan, implementing, monitoring and evaluation the VRC and VKC activities effectively. The plan developed by VKC will also facilitate to integrate it with the local level development plan of PRIs.

For implementing the above community need assessment, Thanchampath and Pannimunda hamlets of Purakkadi revenue village were chosen. As VKC serves seven hamlets of Purakkadi revenue village, the staffs have to implement the learning that they acquired through this training and assess the community needs of the remaining hamlets and complete the exercise by developing micro plan and linking it with the local level development plan.

1.1 Objectives

At the end of the training, the staff members were able to

- Acquire knowledge on different levels of community needs assessment and its related techniques
- Obtain knowledge on the importance and diffusion of GIS and GPS in Community needs assessment
- Acquire skill on documenting GPS X, Y and Z reading
- Distinguish the contextualized PRA techniques for assessing the village level needs, problems and issues
- Obtain hands on experience by applying the learning in the field chosen
- Identify the problems, issues and needs of the hamlets chosen
- Collect the required data, information for addressing through VRC and VKC
- Collate the information gathered and prepare every day report
- Prepare a consolidated report of process and outcome of the needs assessment exercises carried out at two hamlets

1.2 Methodology

Different participatory methods were used to train the staff on community needs assessment. The theoretical sessions incorporating GIS and GPS wherever applicable in different tools of PRA were held in the forenoon using role play, group work, lecdemo, presentation and discussions. During the post lunch session, the staffs were trained on GPS handling and documenting X, Y, Z reading and facilitated to execute the classroom learning in the field. Since to provide hands on experience to each staff, they were divided into 2 groups and informed to rotate the role of facilitation, documentation and observation among the group members. The team members were facilitated to report the outcome of previous day exercise and present to other group members to have dual field experience and clarifications. Similarly both the team of Thatchampath and Pannimunda hamlets were informed to compile the outcome of all the tools into a consolidated report.

1.3 Process of training

- Administered pre evaluation test
- Followed the program schedule for inculcating each session to the staff indicating both sketch and scale mapping
- Household wise GPS coding was done at each hamlet simultaneously
- Divided the groups for both hamlets with a mixture of Project Associates, Technical Assistants, Knowledge Workers and youth representatives
- Mobilized the community for implementing the exercise by identifying and ensuring appropriate time and common place in each hamlet
- Oriented the community members on the purpose of the exercise and community knowledge on expected aspects in each hamlet
- Elicited the information from each tool by ensuring that the required datum are collected as per checklist provided in each hamlet
- Prepared collective report of the previous day exercise outcome before starting the classroom session
- Presented the hamlet wise reports prepared by each group
- Held open discussion for clarification on outcomes of all the tools in each hamlet
- Presented the outcome of all the exercises to the villagers on the final day of the training
- Conducted post evaluation test
- Collected verbal feedback from staff and ended the training with vote of thanks

1.4 Content Covered

First session covered the historical genesis of participatory approaches and evolution of present methods of Participatory Rural Appraisal (PRA). Rapid Rural Appraisal (RRA) was the first ever scientific participatory approach used in social research. RRA gave way to more fine tuned approach called Participatory Rural Appraisal (PRA)/Participatory Learning and Action (PLA) in 1980s. Participatory and Integrated Development (PID) got popularity in 1990s. This session also covered the typology of participation.

The second session covered the livelihood framework in a rural setting. Explained the definitions of livelihoods, livelihood assets (Natural, physical, human and financial capital), factors affecting livelihood assets, allocation of income earned from livelihood assets etc. This session could help the trainees to internalize the concept of livelihood options and its influencing factors.

Third session was on Transect walk, which is one of the tools in PRA to extract information on land uses, natural resource base, socio-cultural and economic environment of the village by walking (with the villagers) through the important locations of the village. This tool will help us to understand the physical features and boundaries of the village. After theoretical orientation group is divided in to two and conducted this exercise in the field.

Fourth session was on Time line/Trend Analysis. This is another tool used to elicit historical background of past events and its influence over different sections of the society.

Next session was on social mapping. Theoretical orientation was given to conduct social maps and its relevance in planning VKC activities. A check list has been prepared. The essence of the social mapping process was to figure out the socio-economic profile of the village and ensure its validity with the village profile that has been already collected. The benefits expected from this exercise is to identify the socially and economically marginalized population and their relationship with other social groups for creating equal opportunities to access benefits from VKC, identify needs and issues for further planning.

Wealth ranking was another exercise to understand the perception of local community about the distribution of livelihood assets. Based on this exercise, five categories of people were identified – they are poorest, poor, middle, wealthy and wealthiest. This gives an insight about the economic status of people and who needs special attention to break the bottleneck of poverty.

The Resource mapping was another tool introduced during the training programme. This exercise aimed to assess and identify locally available natural resources and its access and control over by different segments of the villagers. This exercise on the other hand would provide idea about what training programs could be organized through VKC for enhancing the livelihood options of the local community.

Venn diagram was introduced in the training program as a tool to identify the existing linkage that the community has with VKC and other Government institutions. This exercise helped us to understand the weak and good linkages. On the basis of Venn Diagram the VKC can identify strategic and boundary partners.

Seasonal calendar gives an idea about land use patterns, livelihood options, financial security, peak and lean agriculturecultural periods in different seasons and based on it we can plan VKC activities.

Problem tree analysis is another important exercise conducted for identifing general problems faced by the community. Problem tree analysis helps to define cause-effect relationship and ascertain community perceptions on the cause and effects. This exercise in the field helped to understand the problems faced by different segments of the community.

The training also covered the importance of assimilating and documenting both qualitative & quantitative data in the report form, reporting structure and its techniques.

1.5 Duration, Venue and Participants

Date of training : 18.01.08 to 22.01.08

Venue of training : Thachampath VKC

No. of participants : Male: 5 Female: 3

1.6 List of participants

Mr. Ravindran	Field Assistant
Mr. Rasheed	Field Assistant
Mr. Binesh	Technical Staff
Mr. Rohen	Technical Staff
Ms. Sreevidhya	Technical Staff
Ms. Girija	Knowledge Workers
Ms. Geetha	Knowledge Workers

Resource Persons

Ms. Nancy J. Anabel	NVA, Chennai
Dr. J.D.Sophia	NVA, Chennai
Dr. Gnanam	GIS, Chennai
Mr. Girigan	Coordinator
Ms. Punitha	GIS, Chennai

Facilitators

Mr. Jegan	NVA, Chennai
Mr. Murugan	SDC CC Phase, Chennai

2. Hands on experience at field

As mentioned, the team is divided into two for implementing the exercise at field level in two hamlets named Tachampath and Pannimuda. Thachampath hamlet is dominated by the Kuruma tribes who rely on agriculture for their survival. The Paniya landless tribes dominate the rest in terms of population in Pannimunda hamlet.

2.1 Outcome of PRA Exercises: Thachampath hamlet

2.1.1 Transect Walk

Transect Walk is an important tool in PRA, which is used for the purpose of (a) locating the boundary of the village (b) understanding important land marks, infrastructure facilities, resource base and obtaining its related problems and issues (c) observing the settlement pattern of the community and their accessibility to VKC.

Outcome of this exercise laid a base for the facilitators to lead and probe further while implementing the other tools of PRA.

2.1.1.1 Process

The members who had been allotted the task of assessing the community needs of Thachampath village using PRA exercise had a discussion among themselves at the outset. The team members divided and mobilized the community to accompany for carrying out transect walk. The community members were asked to assemble at VKC. Nearly five members (3 men and 2 women) joined the team initially to undertake transect walk. The purpose of the exercises was then explained to the key informants assembled. The informants once understood the purpose and started leading the group.

During the exercise, one member took the role of facilitator while other two members concentrated on documenting the discussion, information provided by the participants and physical observation. Simultaneously, based on the input by the key informants and personal observation, GPS reading was taken by the team to locate boundary and other facilities of the village.

2.1.1.2 Outcome

1. The team located the boundary of the village with control points and undertook the GPS readings of the important landmarks.

2. Upland and lowland are the major land types found in the village. Upland is mainly used for cultivating coffee, Pepper, tapioca and tubers. Paddy, Banana and areca are the crops cultivated in lowland. Around 1.5 Acres of private land have been left as forest. One acre land is allocated as common burial place.

3. Major portion of the land is occupied by the Kuruma tribal community. It was understood from the verdict of key informants that even among the Kuruma community land distribution is unequal.

4. Some pockets of lowland where paddy was the only crop cultivated is converted to areca plantation and banana cultivation.

5. Participants also revealed that water shortage is prevalent during summer, which affects the crop yield. This needs to be probed in other exercises of PRA.

6. Pest and disease attack on agricultural crops are rampant. Slow and quick wilts have attacked pepper crop. The farmers are not benefited out of cash crops like pepper and coffee as it is either being lost due to disease attack, low production and lower prices in the market.

7. One of the most important problems raised by the farmers was the iron content in the water in paddy fields, which is locally named as Chemburava.

8. The crop varieties cultivated by the Kuruma community are both traditional and modern. They are giving high preference to tuber crops especially yam in the purview of market price.

9. One Keni (drinking water source) was found. According to the villagers this water source is 80 years old and considered it as sacred water, which was not allowed to be touched by non-Kurumas in the past.

10. Social capital: One water user's committee is functioning in the village. This committee meets regularly to discuss the drinking water issues in the hamlet and finding solutions. Two water tanks are found in the village and most of the houses are having house service water connection from this tank.

11. Black spots are appeared in the leaves of Rubber (to be ascertained whether due to pest or disease attack). The farmers are getting comparatively good price for rubber.

12. The Pandanus plants are observed in the stream sides. It serves as protecting the banks of streams.

13. Pot making community is facing the problem of water scarcity as they require much quantity of water for pot making. They are also in need of support from financial institutions to modernise their production units.

14. Live stock- The number of cattle population have come down due to lack of common place for grazing.

15. Water- No water conservation techniques found tobe practiced in upland. There were no rain water harvesting structures to store the water.

16. The important problems of the Kuruma community are low yield from the agriculture field, reduced reading of milk and live stock diseases.
17. Education- Tuition facilities are available for the children from the general community but it is lacking for tribes.

2.1.1.3 Conclusion

Land is a critical livelihood asset found in the village. The Kuruma is the predominant tribal community in the village, they depend on settled agriculture. Traditionally paddy cultivation is the major source of their survival. They cultivate two crops, depending on the availability of water. Banana and areca are also cultivated in some pockets of the village. In this background, VKC has to address the issue of low productivity in rice by disseminating appropriate advanced technologies, building the capacity of people on required aspects etc.

Water is another critical resource, a stream flowing through the middle of rice field help them to meet the water requirement in a greater extend. However, they also pointed out that, the quantum of water will become less during the summer months. There need efforts to protect the streams in a participatory mode, where VKC can play a crucial role. The villagers also needs to be equipped with skill in soil and water conservation techniques for increasing the productivity of terrain land.

Upland or undulating terrain is used for the cultivation of cash crops like coffee and pepper. However, the recent price crash, outbreak of pest and disease attack has reduced their dependence on these crops. Similarly, so far they have not adopted any measures for conserving water in the upland so as to increase the crop productivity. Measures have to be adopted for controlling pest and disease attack, increasing pepper and coffee productivity. Disease free planting materials have to be produced and distributed to the farmers by forming farmers group. VKC can facilitate information (through content development) pertained to good management practices that control the outbreak of pest and disease attack in the crops.

Livestock rearing is a supplementary source of income for the farmers. They are facing lots of problems like lack of milk quality, lack of good breed / healthy animal etc. To increase the milk productivity, VKC can organize capacity building programme on various aspect of livestock rearing, facilitate the distribution of quality fodder grasses, facilitate linkage for livestock promotion schemes and interest free loan for encouraging families to take up livestock as a profitable occupation.

The Kumbarans (pot making community) needs water and other support (market and schemes) for increasing their economic status. VKC can take up their issues and through linkages, financial assistance can be ensured.

2.1.2 Time line and trend analysis

The timeline analysis conducted to realize the events and interventions took place over a period of time and the aftermath emerged in the village on various sectors such as social,

economic, Health etc. Also the tool used to identify the coping mechanism adopted by the villagers as the reaction to those events or intervention. The trend analysis was mainly aimed to understand the changes in the village whether it is positive or negative in terms of cropping pattern, Agriculture production, local economy, market development and the advancement in each respective sectors.

2.1.2.1 Process

Like transect walk the time and trend analysis was done in participatory method. Irrespective of gender and age, the team mobilized villagers for this exercise. A common place was identified for discussion in consultation with the participants. A brief explanation was given to the participants about the exercise and requested them to recall the major events and interventions occurred in the village years and decades back. The Kurumas were the first settlers of the village. Since most of the old people were illiterate they could not recall the year wise changes/ developments in the area. Hence the facilitator requested the elderly members to indicate an event from their memory that made notable influence in whole sectors. Thus they could recall a flood that took place in 1962 by which severe crop loss and financial crisis had taken place. This flood was marked as a key event to collect the data before and after. Youth participated well to indicate the latest development of the village. Systematic documentation on discussion points and information was done by the team members.

2.1.2.2 Outcome

The key events took place in the village according to the time trend analysis is given below.

Even before **1920** the settlement was there

1928-The Keni (drinking water source) introduced

Before **1933** the entire area was bamboo forest with unidentified wild trees.

In **1933** cleared the bamboo forest by Kuruma and started to cultivate Muthari (minor millet). Fishing and hunting was prevailed during this time.

In **1934** a rice variety known as Karuthan started to be cultivated in upland and this was the first ever rice cultivated in the village.

Between **1935** and **1940** christians started immigrating to the village from plains. This paved the way for tremendous changes in land use pattern and the new agricultural crops like tapioca, ginger etc were introduced and cultivated. The Kurumas imitated their cultivation practices.

In **1947** the first hospital came in at Meenangadi. Consequently the dependence on traditional system of healing changed into modern medicine.

In **1950,** Puncha rice cultivation started at the village. Dependence on market for food grains has come down with the second crop. This is the first time radio came in to the village.

In **1962,** the village was hit by severe flood and consequently crop loss occurred, which led to starvation. During this time itself private vehicle transporting facility came in to existence. A high school also established in Meenangadi. Thus the tribal and general community started to access formal education

Between **1965** and **1975** the villagers started to use chemical fertilizers which resulted in increased production of agriculture crops especially rice. The villagers enjoyed economic benefit by this time

In **1983,** There was a severe drought during this period. Severe crop loss had reported and people suffered from acute shortage food.

In **1998** the hamlet was electrified; the television reached in the hamlet.

Between **2000** and **2008,** this period is considered as a significant time for both education and economic development. More girls got access to education. Women Self Help Groups began to form and function in this village. The social dignity of women increased. Irrigation facilities introduced in the village.

2.1.2.3 Conclusion

The time line and trend analysis shows that the Kurumas are the first ever community settled in Thachamapth hamlet. They cleared forest and started agriculture especially the production of food crops like minor millets. The rice was cultivated in the upland and they used to cultivate one upland rice variety known as 'Karuthan'. Rice was then started to cultivate in the lowland as well. Long duration varieties were used to be cultivated during this period. Later on they have started to raise two crops per year.

Immigrants from the plains have changed the outlook of Kuruma farmers, they began to imitate the land use pattern of the immigrants. Due to various reasons, they lost some of their traditional crops and crop varieties including minor millets, Karuthan etc. Kurumas are also adopted modern trends in agriculture, applied chemical fertilizers and pesticides for increasing crop productivity.

Along with general community, they started to access modern education and health facilities. However, as indicated in the trend analysis that girls started to access education

only in the recent years. This may be due to the cultural and social reasons prevailed among them.

Modern facilities like electricity, television etc reached the village just a decade back. The invasion of Self Help Group and its function in the village gave confidence and freedom among women to discuss and work for their own development.

2.1.3 Social mapping –Thachampath

The social mapping is to map the location of the hamlets along with the critical facilities in the village and to collect the socio-economic and demographic details of the households with the participation of local community. The social mapping helps to plan and implement the activities through VKC. The outcome of this exercise had given lead to wealth ranking and other exercises.

2.1.3.1 Process

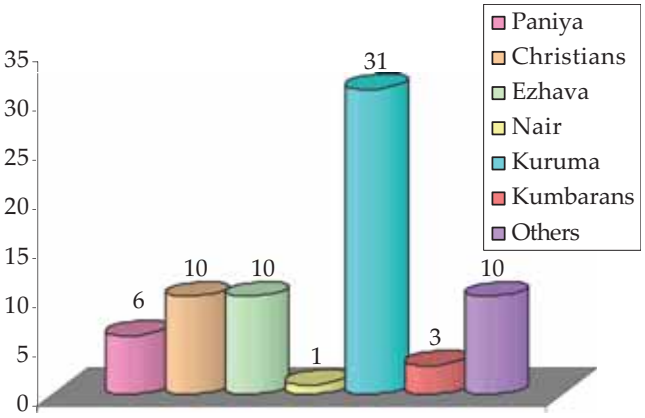
The first step of the social mapping was the mobilization of villagers from different segments of the community. The local youth played a vital role to mobilize the community. Since almost all the villagers were indulged in agriculture work and the implementation of the exercise started as per their convenient time. The participation of women especially from youth was significant in this exercise. The facilitator explained the purpose of the exercise in the context of Village Knowledge Centre. The process started with marking key land mark points of the village and then indicating other physical and natural assets as given in the check list. Before drawing the map, a collective decision was taken to symbolize the type of house, critical facilities such as water point, open well, electric post, overhead tanks etc. As the people geared up in mapping, few members found the need for differentiating the household particulars such as sanitation, gas connection, etc and they collected locally available materials like leafs, coffee fruits, stones etc and used it as a symbol for such purposes. Each household was numbered one by one - and collected demographic, socio economic data and cross verified the same with the villagers gathered there. The information of the socio-economic and demographic data was collected by using individual cards. Simultaneously GPS reading of each household for social mapping was also done.

The social map of the Thachampath village is given below.

2.1.3.2 Outcome

2.1.3.3 Socio-economic details

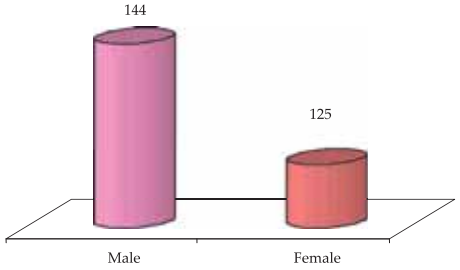
Household Details



Community	Category	No. of households
Paniya	ST	6
Christians	General	10
Ezhava	OBC	10
Nair	General	1
Kuruma	ST	31
Kumbarans	OBC	3
Others	-	10
	Total	71

Kuruma tribes being the largest community in the hamlet, it counted top as 31 Kuruma households. The Christians who migrated to this place and Ezhavas (hindu backward community) are the next important communities in terms of number of families. Paniya is the next tribal community after the Kurumas living in the hamlet. Three families of Kumbarans who relied on pot making for their survival are living in the hamlet.

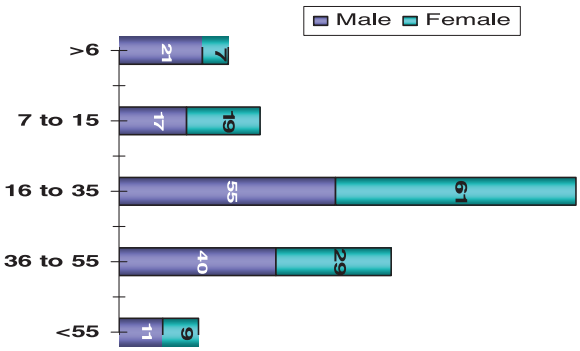
Population details



Male	Female	Total
144	125	269

Total population of the hamlet is 269, out of which 142 are males and 127 females. The sex ratio is favorable to men in contrast to the State picture.

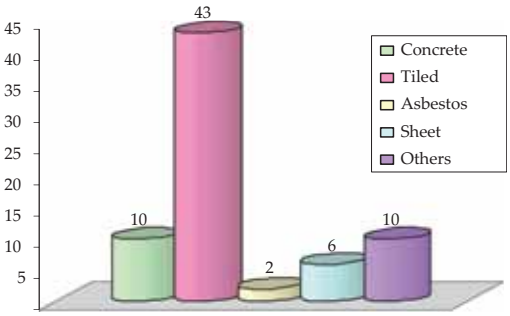
Age wise population



Age	Male	Female	Total
>6	21	7	28
7 to 15	17	19	36
16 to 35	55	61	116
36 to 55	40	29	69
<55	11	9	20
Grand Total	144	125	269

Except the age group of children below 6 years, in almost all other categories indicated little difference in the sex ratio prevailed. It is a serious concern that female children population is less than half of total male children in the village.

Types of house

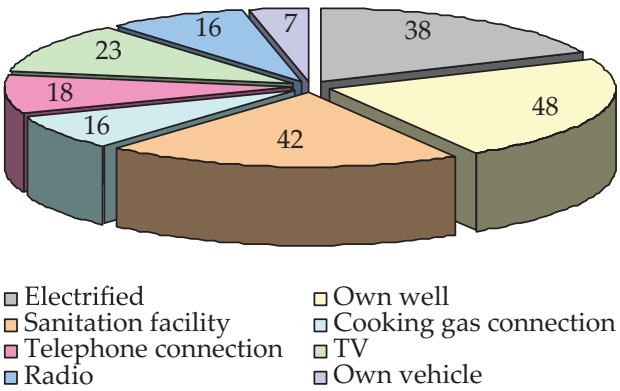


Type of house	Number
Concrete	10
Tiled	43
Asbestos	2
Sheet	6
Others	10
Total	71

Out of the 71 houses, 43 are tiled houses, 10 are concreted which are mainly occupied by the rich people in the hamlet. There are 8 houses come under the category of poor housing is built either with asbestos sheet or low quality sheets.

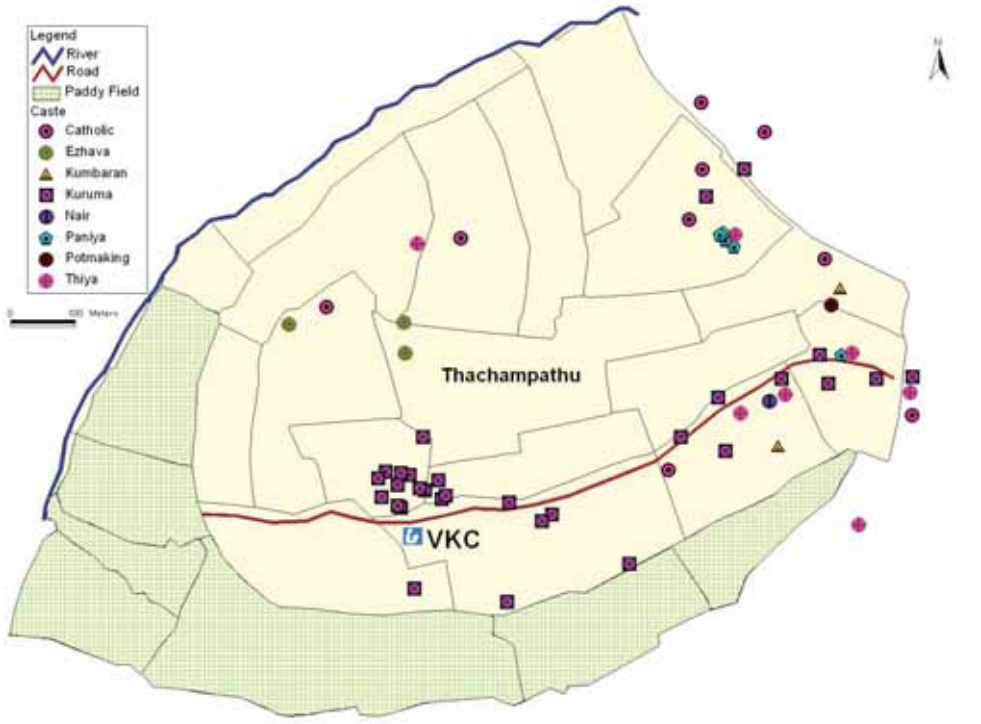
Status of household amenities

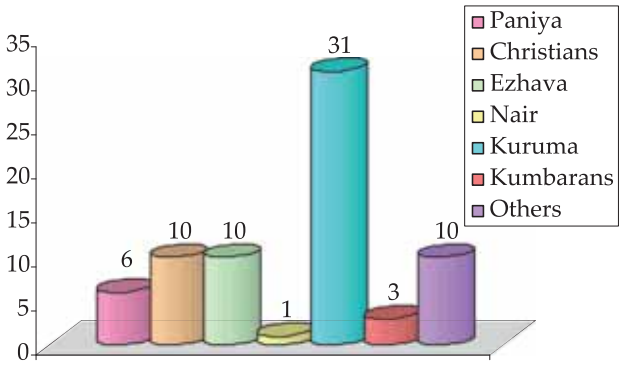
Household amenities/ comforts	No. of households
Electrified	38
Own well	48
Sanitation facility	42
Cooking gas connection	16
Telephone connection	18
TV	23
Radio	16
Own vehicle	7



Out of the 71 houses, 38 are electrified. 23 households have TV connectivity while 16 access information through Radio. 48 households depend on their own well for satisfying their water needs other than agriculture operation. 42 households have sanitation facility attached to their houses. 18 households enjoy telephone connectivity while 16 enjoy cooking gas connection.

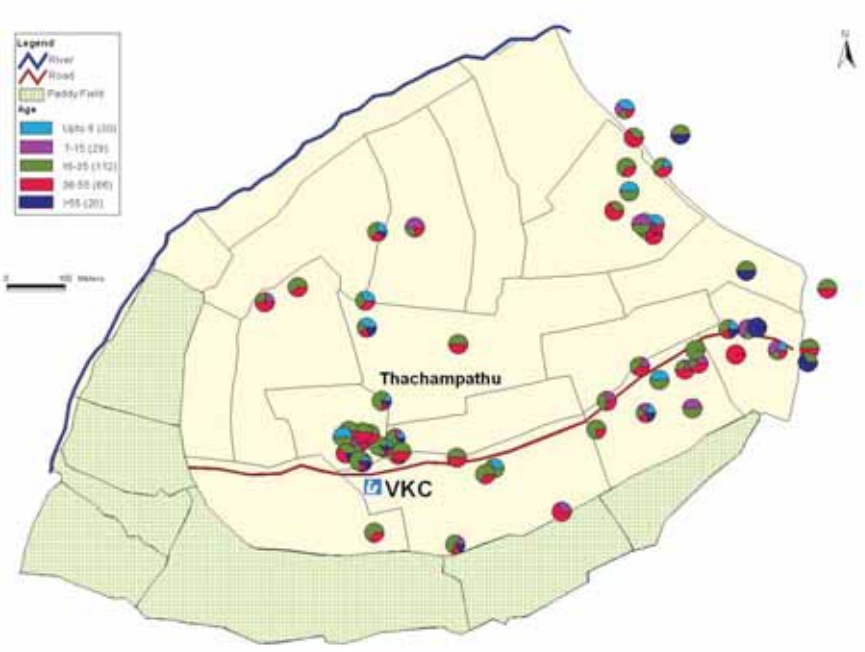
Caste wise distribution of Household – Thanchampath





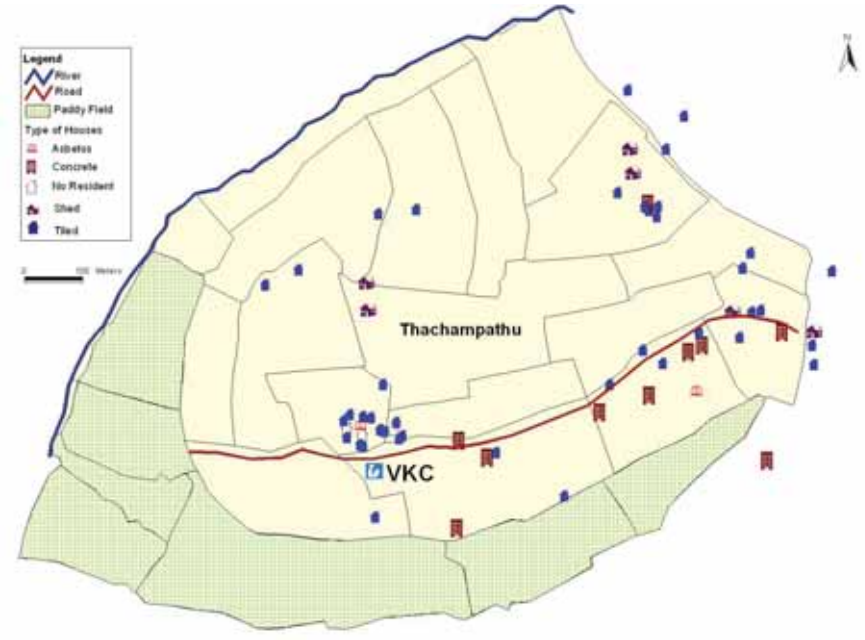
It is clear from the map that tribal communities are living together in their traditional settlements. The Kurumas live adjacent to rice fields. The VKC is also located adjacent to Kuruma settlements.

Household wise age group – Thanchampath



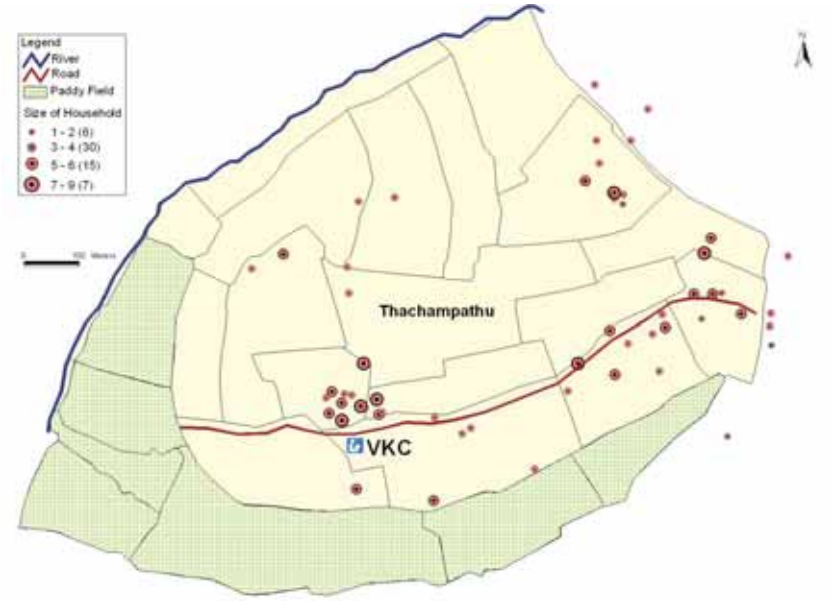
Map shows household wise distribution of population according to various age groups. We can locate the households where only aged people are living, or households with children below age six etc.

Type of House – Thanchampath



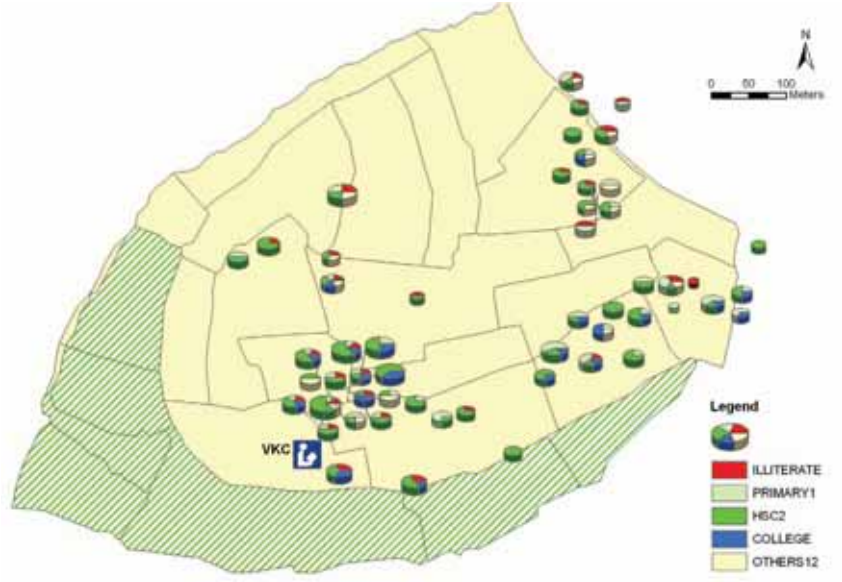
Type of houses is an indication of economic standards of the people in normal cases. The map would help to locate the type of houses in the hamlet. Tiled houses dominate the rest while, concreted houses are indications of economic well being of the households.

Size of Household – Thanchampath



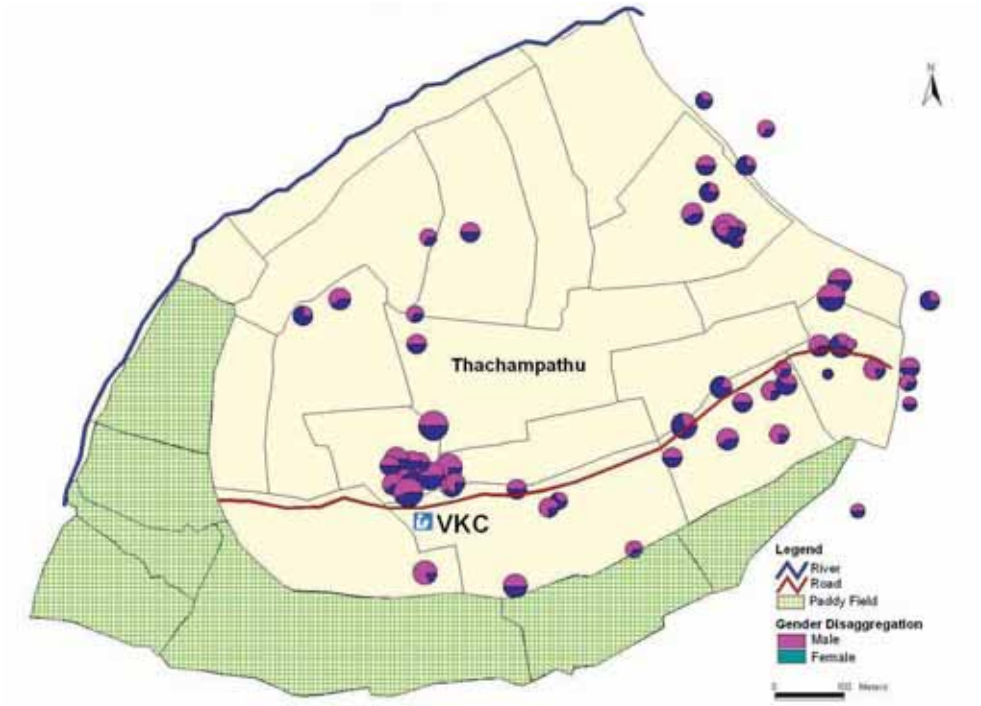
The map shows the household wise population in the hamlet. Traditionally the Kuruma community entertained high family size or lived in joint family system. However, the data shows that households with high family size are less in the hamlet

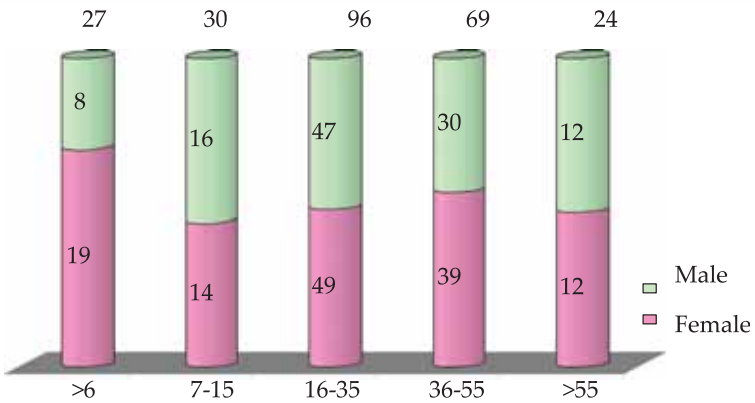
Household wise educational background – Thanchampath



The map shows educational status of people living in different households. Since education is one of the important decision making factors in understanding their level of development, mapping of education status is vital for planning. The map further helps us to probe the community wise education status as well. The map facilitates to locate the households having non-literates, primary educated and so on. The map is very useful to select the communication tool for disseminating relevant contents to the people.

Gender Desegregation – Thanchampath





The map helps to locate the households according to gender status. The female headed households, because of the skewed opportunities for accessing resources and livelihood options, are likely to be poor households that require special attention during the implementation of field level activities.

During the social mapping exercise, two youths were assigned with the task of copying the map in the chart simultaneously as the mapping progresses. But the involvement of the villages, while plotting the particularors of households & streets from all directions diverted the focus and the map drawn by the youths in the chart was not matched with the one drawn on the floor. At the end of the exercise, it was found that the map drawn in chart did not give details as map on the floor. Therefore rework was done to correct the map which took so much of time. The learning here is much importance should be given to documentation as it gives the full details of the exercise for which much time and effort spent by many people. Also while drawing the mapping, the facitilator has to ensure, it goes systematically though many involved in the exercise.

2.1.3.4 Conclusion

The social mapping exercise helped the team to collect socio-economic details of various communities living in Thachamapth hamlet. Thachampath is a tribal dominated hamlet, where more than half of the population belongs to the tribal category. Kuruma is the major tribal group in the hamlet; about 31 out of 71 families belong to this category. Paniya tribe has got their own representation with six families.

Kuruma is a landed tribal community; however, unequal distribution of land is well visible. Other major land owning communities are Chrisitinas (10 families), and Ezhava (10 families)

The qualitative information like issues, problems and needs of the community members could be well taken to strategically plan and implement the activities through VKC. The variations found in the quantitative data should be corrected by finding where the gap is.

2.1.4 Wealth Ranking – Thachampath

This tool was applied to understand the economic status of each individual household in the village. This method enabled the team to find out the weaker section of the people in the village.

2.1.4.1 Process

This exercise was also done in a participatory mode. The team explained the purpose of the exercise and asked the villagers to find out criteria for identifying the rich, poor, middle as per their economic status from their own perception. Then the participants were grouped into three and given a chart and sketch pens. The facilitator stood in the centre and read the name of the head of each household along with the details including assets. Each group had discussion among them and carefully verified the asset details and plotted the score in the respective category pile. Once the group completed the scoring for all households, the staff assigned value to each score in three groups. Subsequently aggregation was done, which facilitated to categorize the households into poorest, poor, middle, wealthy and wealthiest.

2.1.4.2 Criteria for selection of households according to economic status

As facilitated by the staff, the participants from the community started indicating the criteria for categorizing the households under rich, middle and poor. A brief discussion was held among the participants to verify the criteria and collectively the participants finalized the indicator by doing minor correction in the list and the same is stated below:

Rich	Middle	Poor
Own land above 2 Acres Doing Agriculturecultur Own Vehicles Getting House Rent Communication facilities such as Radio, TV, Mobile, Land Phone Own Livelihood	Own land below 2 Acres Own land as well as involved in coolie works Private Jobs(Driver, Plumber Electrician) Availed loan from different sources Live in rented houses Communication facilities such as Radio, TV, Mobile, Land Phone	No land Agriculture Labor, forest dependency, pot making, sick patients

Score/value assigned to indicate the economic status

Category	Status	Scores
A	Wealthiest	2.5 to 3
B	Wealthy	2.0 to 2.49
C	Middle	1.5 to 1.99
D	Poor	1.0 to 1.49
E	Poorest	<1

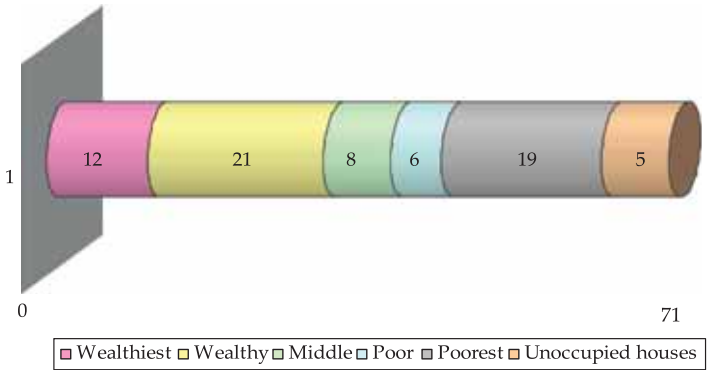
Value		
Rich	3/3	1
Middle	2/3	0.7
Poor	1/3	0.3

Wealth status in brief

The data collected clearly indicates the households to be reached with information based on their need. The outcome helps to prioritize the target group who needs to be given

the services from VKC. The last mile and unreached pockets of the community are the households which were ranked as poorest and then poor. There are 19 and 6 households among 71 in the poorest and poor category respectively. As the needs of wealthiest, wealthy, middle, differs

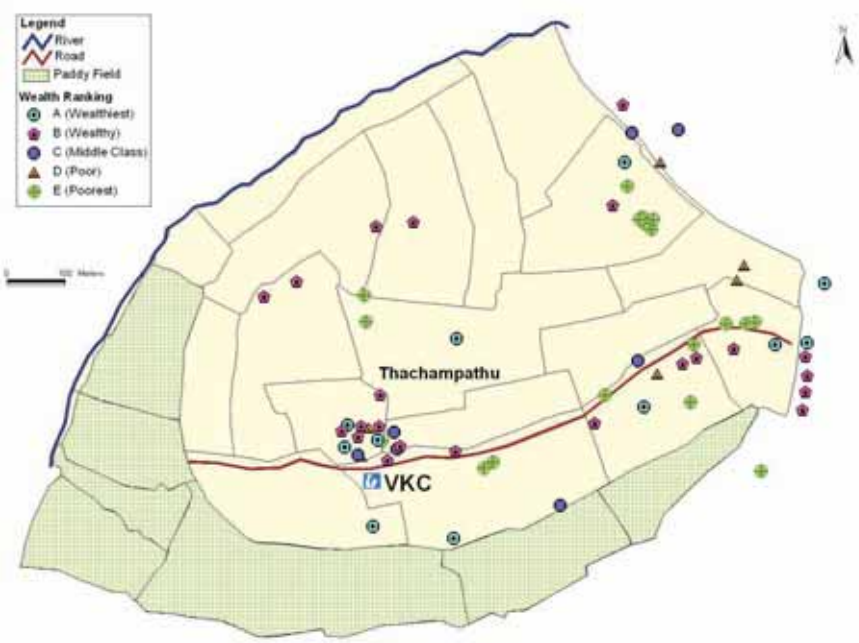
Even among this categorization by the community, with the help of GIS mapping, caste wise classification was also done which helps to concede the existing scenario of the community in terms of economic status.



Status	No. of households
Wealthiest	12
Wealthy	21
Middle	8
Poor	6
Poorest	19
Unoccupied houses	5

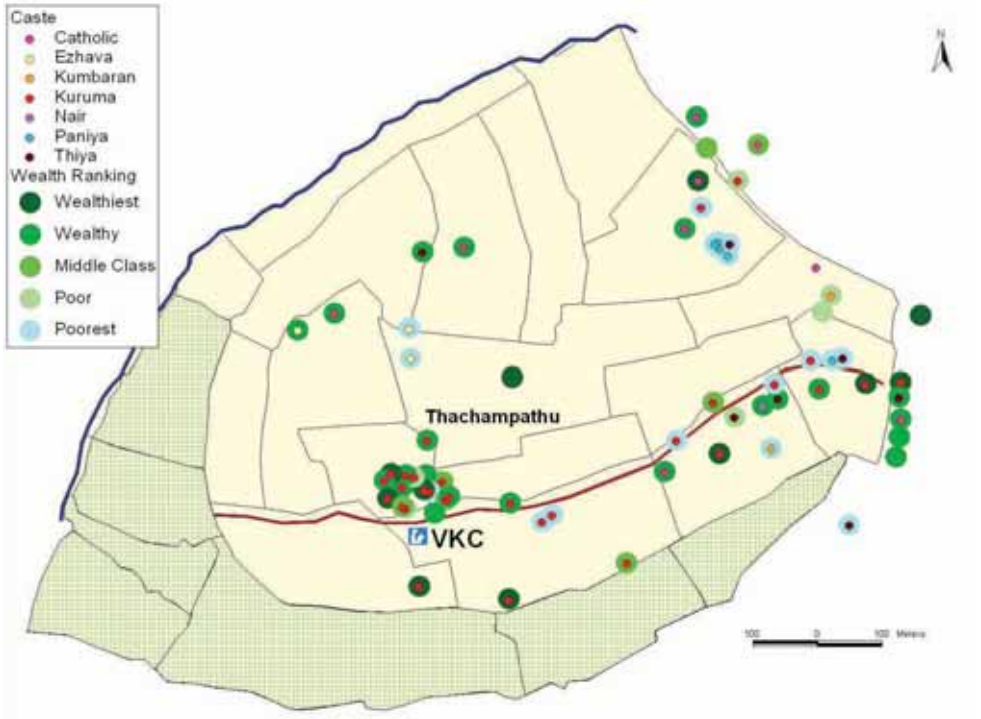
Wealth Ranking - Thachampathu

The map showing wealth rank of the hamlet is critical for planning and implementing VKC activities and especially to ensure that whether the poor are benefited from VKC or not. This map will help us to further probe which community is more poor in terms of a set norms decided by the people in that locality.



Community wise wealth ranking of Thachampathu

Community wise wealth ranking shows, which community in the hamlet control productive and reproductive assets, which community is more marginalized etc.



2.1.4.3 Conclusion

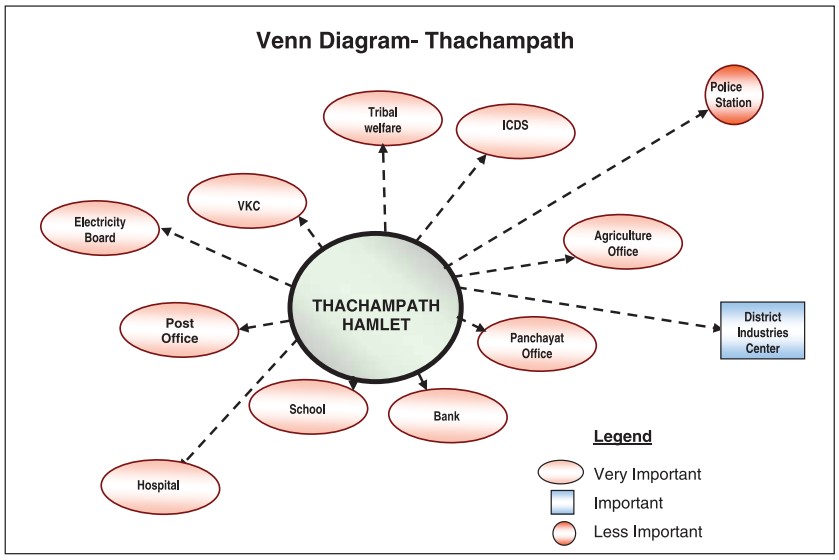
The outcome of the exercise had given a good understanding about the economic status of the households of Thatchampattu village, which in turn help to identify and prioritize the appropriate target group to be reached through the VKC. As this exercise is primarily to locate the unreached pockets, focus Group Discussion needs to be done in the near future by organizing the community members, based on the classification done in this exercise to identify their specific needs to serve through the VKC.

2.1.5 Venn diagram- Thachampath

The Venn diagram is another tool which was used to understand the existing linkages that the community has with various Institutions such as Govt. departments, PRIs and NGO etc. In the VKC point of view, it can again be used to identify the different stakeholders groups in the village and their dependency over the VKC to gather required knowledge. This tool will help us to find out the existing linkages of the community with different institutions and importance of such institution to avail diffenent services for their development. This exercise is extensively useful to strengthen the linkages with the local institutions to address the needs of the community on priority based.

2.1.5.1 Process

The facilitator explained the concept of the tool to the participants along with the purpose of doing such an exercise in the context of VKC. The facilitator also gave examples of institutions and stakeholders. The community was facilitated to draw a large circle on the floor labeling it as community. Then they drew smaller circles and labeled them as per institutions/department according to their existing linkages. The same process continued for assessing the linkage between different stakeholders and Village Knowledge Centre.



Venn Diagram- Thachampath

The circle in the centre indicates the village and the two different sizes of the circles are the institutions. The size (shape) indicates the importance and the distance of the circle to the village & denotes that they are getting benefited in terms of services and schemes from the institution. For example Panchayat office is the most nearest institution which they are depending to get certificates and other schemes.

Outcome

The exercise paved way to understand the list of institutions that are the most important one and the requirement of enhancing the linkages with such organization for availing different services. The people reflected that the tribal welfare department and hospital are very important and the existing linkage has to be strengthened being a tribal belt. Similarly they require agriculture and livestock related information for improving their livelihood related issues for which they need supports from departments like Agriculture and Animal Husbandry, which is right now average in terms of linkages and needs improvement. The linkages with Village Knowledge Centre also need to be improved and people feel that it is very important to them.

The role of VKC is vital to address the issues raised by them as the reflections were on the gaps relating to information, infrastructure and training programmes. Multi-stakeholder partnership is the key in VKC functionality for addressing the requirements of the community. Exclusive meeting with strategic partners / an interface between the strategic partners (service providers) and the relevant community would facilitate to address the needs.

2.1.5.2 Conclusion

The Venn diagram proves the village having weak linkage with the service rendering institutions except PRI, school and bank. Since agriculture is their primary livelihood, the linkage with Agriculture department need to be strengthened.

2.1.6 Seasonal Diagram

This exercise adopted to understand the season wise agriculture practices of the villagers. It also helped to extract economically lean and peak season as well as food scarcity periods and the routine nature of their engagement in different sectors along with information / knowledge requirement.

2.1.6.1 Process

The facilitator explained about the purpose & method of the exercise to the participants. The participants were well responsive towards the exercise and remarkable gender balance was visible among the participant group. The youth group was very active to motivate the old people to speak. Then a big circle was drawn on the floor. And again the circle was divided in to twelve parts by drawing lines. Further facilitated the participants to write the names of both English and Malayalam months starting at the centre of the big circle. Then the facilitator asked the villagers about the season wise operations in each sectors such as agriculture and allied, health etc. While getting the response from the participants an educated local youth inserted this information in to each respective column either as symbol or writing and copied the same in to a chart simultaneously. After the entire diagram was over, it was cross checked by the participants and made necessary changes wherever required.

Outcome

The exercise facilitated to understand the existing calendar of events at Thachampath on various aspects like cropping pattern, seasons of monsoon and summer and festivals. The significant aspects relating to their livelihood was captured in the map. They cultivate rice crop, plantations such as banana, pepper, aricanut coffee and vegetables like yam and ginger.

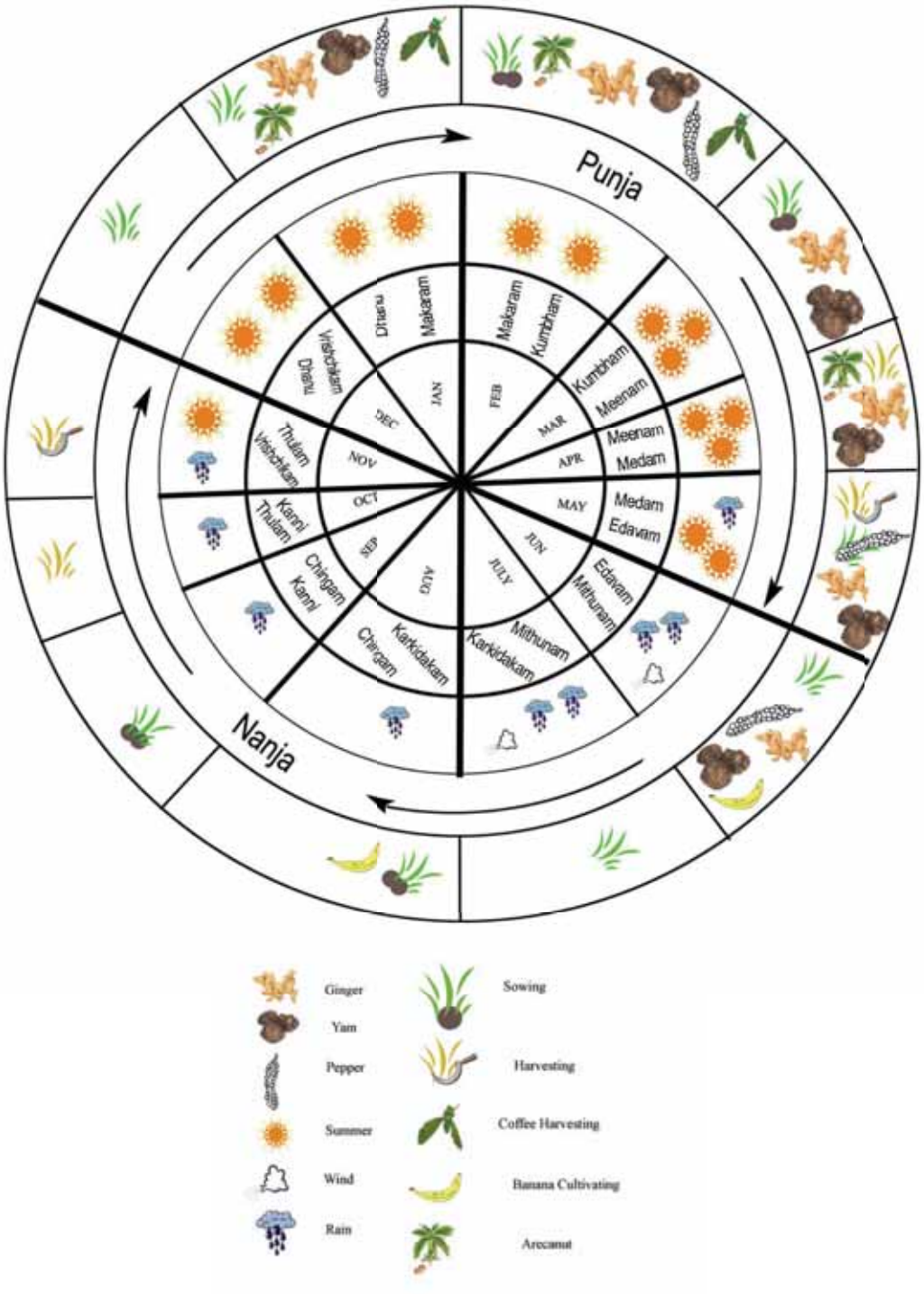
During the exercise, people mentioned the need for providing seasonal information on the pest and disease management for Aricanut and Pepper. Lack of irrigation facilities as well crept in as an issue during the exercise, for which they wanted the VKC to be a facilitating body to link with relevant organization to channel this. Alongside they emphasised that they did not get high productivity as expected from rice crop due to the poor quality of soil. The need for organic farming and the issue of getting labour for agriculture related activities were also reflected by the members. The exercise indicated the issue of low market price due to lack of quality production, for which they associated different reasons such as poor soil quality, lack of awareness on modern techniques on farming practices, less information on market trend etc.

This exercise was a gateway to understand the major role of VKC in providing appropriate information and relevant capacity building to address the above issues.

2.1.6.2 Conclusion

Through out the exercises the team could extract a lot of information. Since agriculture was the major occupation of community, their needs were reflected mainly from the same sector. Contrary to the Pannimunda hamlet, Thachampath villager's expectation is their agriculture improvement.

Seasonal Diagram of Thanchampath Hamlet



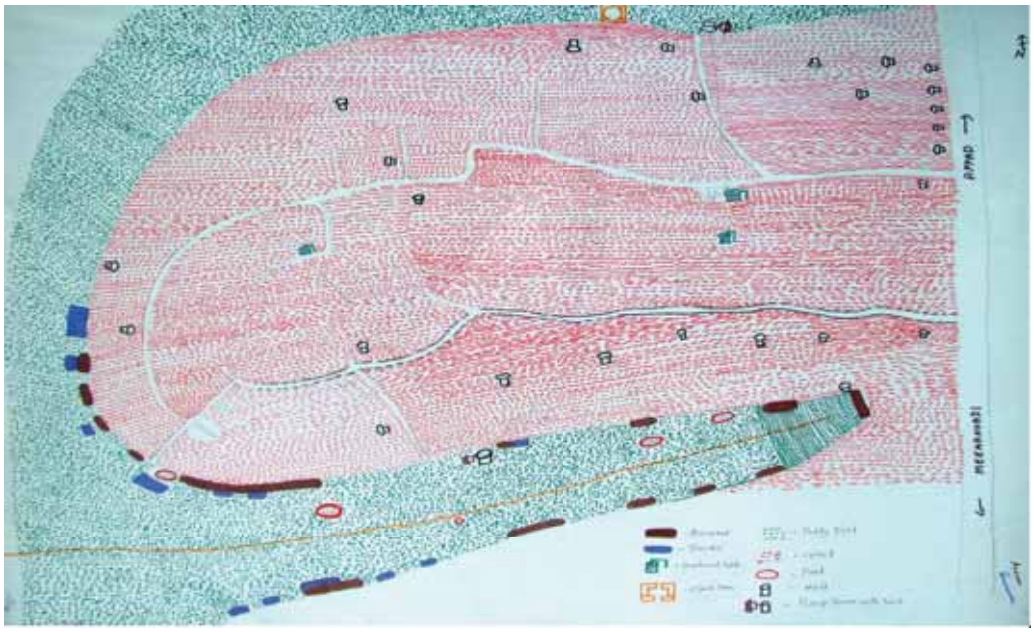
2.1.7 Resource mapping

This gives an idea about all available natural resources in the village. Water (wells, streams) and land (upland and lowland) are the main natural resources available in the locality. As far as land is concerned, there are two types of land. The lowland is mainly used for rice cultivation. Banana and areca are alternate crops in the lowland. A stream flowing through the village is utilized for irrigating the rice fields. Individual efforts are taken to irrigate the rice fields.

2.1.7.1 Process and its outcome

The team mobilized the villagers to VKC and the facilitator explained the concept to the villagers. The group consisted men, women elders and youth. Then the villagers themselves marked the boundary of the village and drawn all the resources such as rivulets, ponds, water tanks and crop wise plantation segments. Placed stones and other physical materials to mark different natural resources like ponds, tanks etc. They used colour chokes to illustrate rivulets. During the exercise a thorough debate was taken place concerning the position and marking of the resources and changes was made accordingly by replacing the former symbols. After reaching a consensus the villagers cross checked the map and then copied it in to a chart.

Resource map of Thachampath Village



In contrast to Pannimunda village, drinking water is not a serious problem in the village. However, upland faces the issue of less irrigation facilities and due to this farmers realize a low productivity in the upland.

Upland (marked in red dots) is mainly used for crops like coffee, pepper, arecanut and mixed trees. The crop productivity depends exclusively on rain (no irrigation support) and crop productivity is low in the upland, makes upland an un-remunerative holding.

The lowland is marked with green dots; brown and blue shades indicate areca nut and banana cultivation. Rest of the land in the lowland is used mainly for rice cultivation. Streams and river are other natural resources; mainly used to irrigate the low land for rice cultivation.

2.1.7.2 Conclusion

Promotion of sustainable utilization of available natural resources is one of the key components of VKC activities in the village. Soil and water conservation activities have great potential as of now nobody is adopting such practices in the village. Through the VKC we can plan activities to enhance the productivity of natural resources.

In the view point of the Common Property Resource, except rivulets, watertanks, ponds, burial place one acre of the forest was found. But the access in to the same for the rest of the community has been restricted as it is under private control.

2.1.8 Problem tree analysis-Thachampath

This exercise was aimed to find out the existing problems prevailing in the village. This was done by participatory mode to investigate the cause and effect of the problems. Whenever and wherever the team meet the villagers, they tried to submit their problems facing in various fields. Hence the participants were keen enough to participate in the exercise.

2.1.8.1 Process

The facilitator explained the tool to the participants and requested them to chart out their problems in each sector such as Agriculture, Health and Education etc. Then they were facilitated to prioritize the problems by themselves. After prioritization each problem was put before them for thorough discussion to find out the cause-effect relationship. In this way they took each problem and documented its causes and the effects. After this the team facilitated the discussion to find out that who are all the people affected and who can contribute to solve each problem.

2.1.8.2 Outcome problem tree analysis

Sl. No.	Problem	Cause	Effect	Who is affected	Who can contribute	Expectation from VKC
1	Agriculture low yield productivity	Climate change Pest and disease attack Poor soil fertility Low price for products Lack of know ledge about modern agricultural practices Low productivity Lack of Irrigation facility Lack of agriculture equipments Lack of skilled labours	Erratic Rainfall Fall in production and productivity Low income from agriculture	Erratic Rainfall Fall in production and productivity Low income from agriculture	Agriculture department Minor Irrigation Department for irrigation schemes KVK for Soil and Water conservation practices	VKC can address the knowledge and agriculture related services through content, capacity building and linkage
2	Alcoholism	Easy accessibility and availability	Family problem and domestic violence Health problem among men Less attention on children's education	Women and Children	Excise Department Police De-addiction centres	Awareness generation, linking the people with de-addiction centres

Sl. No.	Problem	Cause	Effect	Who is affected	Who can contribute	Expectation from VKC
3	Low Income	Agriculture backwardness Lack of price for their produces Lack of alternative employment opportunities Market support and lack of diversification for other livelihood groups (pot makers)	Economic backwardness leading to all crisis in the form of lack of enough food, education support, etc	Villagers in general	Various agencies - Government institutions like DRDA, Agriculture. Dept. Industries Centre	Information about entitlements, and employment opportunities. Linkage for product diversification and marketing
4	Health	Lack of nutritious food Poor economic status Genetic disorders Lack of hospital support Lack of availability of fish, meat and wild edibles (which were part of their diet in the early years)	Lack of health leading to poor access to employment opportunities in regular manner – leading to economic backwardness	Villagers in general; particularly the low income groups and women and children	Health Department ICDS Ration shop	Entitlement details Awareness Popularization of wild edibles Conservation of wild edibles

Sl. No.	Problem	Cause	Effect	Who is affected	Who can contribute	Expectation from VKC
5	Education	Drop outs among Paniyas Changed methods of teaching (DPEP model) Lack of awareness about the need for education Lack of knowledge about educational opportunities (higher education) Lack of financial support for pursue their education	Poor access to high paid jobs Economic backwardness Growing illiteracy among Paniyas	Paniyas (primary education) Kurumas (Higher education) Others	Education Department Banks	Knowledge and awareness Linkage

2.1.8.3 Conclusion

Since most of the participants who attended the exercise were from agriculture families, they perceived the root of all problems is the agricultural backwardness of that area. Rice is the major crop in the valleys while upland is occupied by coffee and pepper. Prosperity of agricultural sector, as they visualize, will solve all the crises they are facing at present. Among the agricultural problems, erratic rainfalls, low productivity, pest and disease attack on major crops were raised as problems.

Growing alcoholism is the next important problem perceived by the local community. Low income is raised as third important problem but it is understood as an off shoot of agricultural backwardness. Health is a serious concern and it is visualized as outcomes of lack of nutritious food, lack of health facilities in and around their hamlet, poor support from health department officials etc. Education is also a bothering problem, especially the drop outs among the Paniya students raised it as a serious concern. In higher education, lack of knowledge about diverse courses and institutions, educational support for tribal students etc, are raised as problems.

Even after probing several times about employment or problems like unemployment, the participants are of the opinion that they are not feeling unemployment because of the implementation of NREGA. However, they said they face unemployment among the educated.

2.1.9 Problems, Issues & Needs identified in Thachampath

Tool	Problems from each field	Issue	Needs	Livelihoods Asset
Transect Walk	Soil	Low productivity of Agricultural crops No soil conservation measures adopted	Measures to revitalize the soil fertility Knowledge on locale specific soil conservation measures	Natural capital
	Water	Contaminated drinking water Acidity No rain water harvesting structures	Water sanitation measures Measures to control acidity Schematic support for the rainwater harvesting structures	Reproductive assets
	Irrigation	Drought in summer Drying up of rivulets and swamps	Irrigation facility	Productive natural assets
	Pest & Disease	Low yield	Past Controlling measures(organic) Compensation from govt. (financial)	Dairy

GIS Based Participatory Needs Assessment of Thachambath Village, Wayanad, Kerala

Tool	Problems from each field	Issue	Needs	Livelihoods Asset
Transect Walk	Dairy	Reduced quality of milk Disease occurrence	Information on nutrient rich cattle feed Awareness on livestock management	Financial
	CPR	Restricted access to forest as it is under private holding	Declare the private land as CPR	
	Health	Water born diseases Disorders due to Malnutrition	Awareness Information on nutrient rich food crops and medicinal plants	
	Economic	Increased indebtedness Low income from farm sector	Financial aid from the Govt. to tackle indebtedness Planting materials of economically viable crops	
	Social	Inter hierarchical conflicts Lack of common meeting places	Community Hall	
	Unemployment	Lack of employment	Information on employment opportunities	
Timeline and trend analysis	Destruction of forest	Loss of CPR		Natural
	Immigration of Christians from plains	Changes in cultivation practices and the loss of traditional cultivars	Restore traditional crops	
	Introduction of chemical fertilizer	Soil and water contamination	Organic and green manure preparation methods	
	Drinking water	Contamination	Support to finding solutions Govt. support	
	Transportation	Pathetic condition of roads	Support of PRI in repairing roads	Critical
Wealth Ranking	Rich poor gap	Conflicts between two	Operation to make the poor on the basis of need assessment	Unequal distribution of natural and human assets
Venn dia-gram	Poor access to service rendering Institutions	Lack of supports and services from different departments	Establish Linkages	

Tool	Problems from each field	Issue	Needs	Livelihoods Asset
Seasonality Mapping	Low crop yield	Pest & disease attack Poor soil Lack of technical know-how & do-how Lack of irrigation	Seasonal information on pest & disease management, soil health management technques an cultivation practices, information on market price	Natural
Resource mapping	Cultivable land left as non cultivable	Missing possibility to earnings	Knowledge of suitable crops to be cultivated	Natural
	Poor NR Management	Low productivity of farm particularly agricultural crops	Knowledge of how effectively manage NR	Natural
Problem tree analysis	Severe crop loss	Climate change Erratic rainfall Drought	Any possible solution Information of suitable and economically viable crops to be cultivated in general climatic conditions	Natural assets
	Reduced soil fertility	Poor crop yield	Bio manure preparation technologies	
	Lack of irrigation facility	Cultivation failure	Support from Govt. to introduce irrigation facility	Water
	Health problems	Affecting all walks of life of hamlet residents	Awareness Medical camps Support from health departments	
	Education	Educated but unemployed	Information about higher study opportunities	Financial
	Pest & disease attack	Either crop loss or affecting the quality of agriculture produces Low market prices	Knowledge of controlling measures Compensation for crop loss from Govt	Natural
	Low price of Agriculture-products	Increased financial sufferings	Timely market information Technological support to assure the quality of products	

2.2 Outcome of PRA Exercises: Pannimunda Hamlet

2.2.1 Transect walk

Transect Walk is an important tool in PRA, which is used for the purpose of (a) locating the boundary of the village (b) understanding important land marks, infrastructure facilities, resource base and obtaining its related problems and issues (c) observing the settlement pattern of the community and their accessibility to VKC.

Outcome of this exercise will form a base for the facilitators to lead and probe further while implementing the other tools of PRA.

2.2.1.1 Process

After theoretical inputs on the transect walk technique, the group dispersed to the Pannimunda hamlet for implementing the same. The group met the villagers on the way and explained the purpose of the exercise. To ensure the participation of local community in the transect walk, the group started to mobilise the community. As part of mobilization the group met the women SHG holding their weekly meeting in one of their members' house. The group approached the SHG and invited their participation. Women of different age groups took us through the boundary of the village. Unfortunately, since most of the men were out of village on job, the group could not mobilise men for the transect walk. But women of different age group participated and took the group across the hamlet and explained the significant land marks, infrastructure facilities and some of the issues and problems related to agriculture, water etc. While they explained the person nominated in the group simultaneously documented it. One person noted down the GPS readings of the landmarks, infrastructure facilities, land and water resources etc. mentioned by the local community`.

2.2.1.2 Outcome



1. The team identified the boundary of the village with control points and done the GPS readings of the important points as mentioned above.

2. Identified major three land types and its associated land use patterns: Upland is mainly used for cultivating mixed trees, pepper and coffee; Midland is mainly used for arecanut, coconut, fruit trees, coffee, pepper and vegetables; Lowland is mainly used for paddy, banana and arecanut cultivation.


3. Identified three layers of habitations: Upper terrain – mainly socially and economically better off people are living –having large or medium landholding; Middle terrain is occupied by middle class having agriculture land but the size of holding is very from one acre to a maximum of five; the socially and economically backward sections of the village live in the lower terrain with marginal land holding.

4. Paniya tribes do not have agricultural land; the other social groups like Kuruma tribes, Migrated Christians, Hindu Backward communities (Ezhava and Vishwakarama) own land. One Kumbara family with pot making as their major source of livelihood also doesn't have agriculture land.

5. Issues related to major crops spelt out by the participants: Paddy, banana and pepper are the major crops affected due to pest and disease attacks. Pepper, which was once dominant cash crop has gradually declined in its area of cultivation due to severe attack of quick wilt and slow wilt. As a result, income from pepper is reduced.

6. Irrigation: Lowland has irrigation source from the stream that flows across the fields. However, due to water scarcity during summer, only 30 to 40% of the total extend is cultivated. Upland is still rainfed agriculture. Lack of irrigation in the upland paved the way for low productivity.

7. Drinking water is a prime problem for the hamlet as a whole, there are quality and quantity issues. Water becomes scarcer during summer and the quality of drinking water is also poor, as revealed by the villagers that they suffer from waterborne diseases. Distance between drinking water source and house is far, and undulating terrain makes fetching water a difficult task and that increases the drudgery of women.

8. Soil: Observations reveal the presence of iron content locally known as 'chemburava' (red layer of standing water in rice field) in the soil

9. Biodiversity: The Kuruma farmers cultivate traditional and modern rice varieties; homestead land is a source of fruit trees, vegetables and ecologically important species.

10. Social Capital: Self Help Groups are functioning in the village; among Paniyas there is a traditional committee named Koottanmar. Issue basically the SHG is currently facing is lack of marketing support for their produces like chilli powder, pickles etc.

11. Land and water are the major natural capital in the village, no common property resources are found in the village.
12. Physical capital: livestock, farm implements, water pumps and drinking water points are the major physical capital found in the village.
13. Financial capital: SHG is maintaining a savings and operating a bank account.
14. Needs expressed by local community: In one part of the village people raised road as their basic need; safe drinking water is projected as a general need by the majority of the people met during the transect walk; the Paniya community felt shelter as their immediate basic need.

2.2.1.3 Conclusion

The group got an idea about the village, about people their economic status, class and caste structure of the village, available natural resource potential etc. Paniya being the largest population in the hamlet is facing lot of problems; most of their shelters are either partially or fully damaged. They are depending on wage labour, and at present employment through NREGP. Few of the community members complained about the irregularity in getting payment from the NREGP. Drinking water is one of the major problems for the poor people, women raised this as a major issue since they are involved in fetching water from steep terrain. Due to undulating terrain fetching of water is a difficult task which increases their drudgery. They also expressed their concern about the poor quality of drinking water available in their hamlet. Negligence of health department is mentioned during the interaction. One part of the village, people shared their ongoing effort to get road facilities to overcome the problem of commuting during floods. SHG functioning in the village are curious to start some ventures; however, due to lack of marketing support they could not continue their activities. This invites the role of VKC to link them with Market, credit, skill and technology to start rural enterprises.

2.2.2 Timeline and Trend Analysis

2.2.2.1 Purpose

The timeline analysis conducted to realize the events and interventions took place over a period of time and the aftermath emerged in the village in various sectors such as social, economic, Health etc. Also the tool used to identify the coping mechanism adopted by the villagers as the reaction to those events or intervention. The trend analysis was mainly aimed to understand the changes in the village whether it is positive or negative in terms of cropping pattern, Agriculture production, changes in local economy, market development and the advancement in each respective sectors.

2.2.2.2 Process

Both timeline and trend analysis are done together in a participatory manner. The group ensured the participation of all age groups and gender. Explained the purpose

of the exercise to the gathering and asked them to recall the major events and years of occurrences. Participants were able to recollect major events and its related changes right from the formation of the hamlet i.e. 35 years back. Since Paniyas and others are not familiar with numbering system, they used major events, incidents like construction of pakka houses as a key event and correlated other happenings in relation to it. General community members also took part actively and shared information after consulting in groups. Following are the key events took place in the village over a period of time.

2.2.2.3 Outcome

Before 1970s the total area was under forest cover with wild trees and bamboos. The ownership of the land was (claimed) with Porakadi Temple Authorities.

In **1972** Paniya tribe occupied the land owned by Porakadi Temple authority (Devaswam Bhoomi) which is little far away from Pannimunda hamlet and started to claim against ownership.

In **1973** as per the agreement between Temple authorities and Paniya tribe, they shifted to Pannimunda hamlet and settled here. Each family was allocated minimum of 25 cent forest land for domestic purposes.

In **1974** they started clearing the forest land and planted coffee and pepper; they also worked as wage labourers, few of them served as bonded labourers for Nair landlords.

They received wage both in terms of cash and kind (75 Ps and two Ser Paddy); they also accessed wild tubers from commons, fish from streams for meeting the food requirements.

1n **1975** they started to access primary school education from Mylampadi School, the encouraging factor was the noon-meal provided by the institution; however, most of them didn't even complete primary education due to various reasons.

In **1978** they started to access formal health facilities from Meenangadi health center which is 4 kms away from their hamlet .

In **1981** health problems started especially among children and women.

In **1983** first public hand pump was erected for drinking water; new houses built for Paniya families by the then Government when Mr.Ramachandran Master was the MLA

In **1985** road towards Pannimunda hamlet; more immigrants bought land in and around the hamlet and started intensive cultivation of coffee and rubber

In **1990** electricity was provided to the hamlet

In **1993** first television was bought by Janaki amma

In **1994** banana cultivation started

In **1995** first telephone connection was got by Janaki amma

In **1996** out migration by Paniyas to Coorgue (in Karnataka) for employment where arrack is provided to the workers at the same time arrack banned in Kerala state

In **1998** Paniyas got new houses built by the Panchayat

In **2000** onwards pest and disease attack in pepper started and the production came down

In **2006** NREGP initiated

2.2.2.4 Conclusion

Timeline and trend analysis gave a clear picture about the developmental interventions and other events that took place in the hamlet over a period of time and its impact on the live and livelihoods of the people. Paniya were the early settlers in the hamlet, they accessed all available natural resources for fulfilling their needs. As population increased and due to other reasons access to and control over the natural resources came under the dominance of other settlers like Christians, Ezhavas etc. Paniya accessed wild edibles and fish from forest patches, commons and streams. Off late, because the land was converted to crop cultivation, access to tubers and other wild edibles by Paniyas reduced drastically. Similarly, the quantum of fish availability in streams has come down, and the

community attributed that it may be due to the extensive use of chemical pesticides in agriculture and consequent contamination of water resources.

By the second half of the 1970's, the villagers started to access formal school and health facilities from Meenagadi. The Paniyas also started to access the school facilities by the end of 1970s, they accessed school situated in Mylampadi, where they got noon meals as well. However, as mentioned during the social mapping exercises, more than half of the adults are still illiterates. VKC has to look into this issue since our concern is to provide demand driven information to the most backward people like the Paniyas. During the same period, they began to access formal health care systems.

1990s witnessed many developmental interventions in the village; started with public road (mud road) network through Pannimunda hamlet. The major developments took place during this period included electricity in the Village, television and telephone connection. However, most of these services still inaccessible to many of the Paniya households. Cropping pattern has undergone drastic changes after 1995. Banana has been started replace paddy cultivation in and around the village. The long lasting implication of the changes in cropping pattern was the gradual displacement of Paniyas from active labour force. Paniya women become unemployed and that affected the economic security of Paniya households in a larger extent. This is coupled with the outbreak of pest and disease attack in pepper has reduced further opportunities for employment. Lack of enough employment opportunities and other factors compelled them to migrate to Coorg in search of employment. Implementation of National Rural Employment Guarantee Programme could reduce the rate of migration at present.

The exercise revealed that the village had undergone drastic changes in general but the benefits of development have not reached to all in a uniform manner. The Paniyas, the first settlers in the hamlets, ironically become the marginal landholders, lost their control over natural resources with the increase in population. The exercises pin points the fact that Paniyas deserve special attention and care. They need to be empowered to address their problems. The role of VKC in this context will be of a facilitator to streamline developmental interventions suitable to the Paniya community.

2.2.3 Social Mapping - Pannimunda

2.2.3.1 Purpose

The social mapping is to map the location of the hamlets along with the critical facilities in the village and to collect the socio-economic and demographic details of the households with the participation of local community. The social mapping will help to plan and implement the activities through VKC. The outcome of the exercise will give lead to wealth ranking and other exercises.

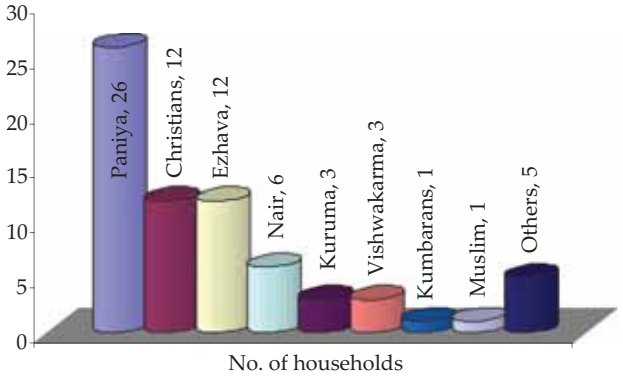
2.2.3.2 Process

The first and foremost step followed in preparing social map was to mobilize local people of different segments and representatives including women from different parts of the village. The facilitator explained the purpose of the exercise and its relevance in planning VKC activities. GPS reading of all the households and the critical facilities were taken for the Pannimunda hamlet by the GIS group.

They also assigned ID for each household. Along with the head of the households the ID assigned for each household was written on cards. This was ready before implementing the social mapping. The group took all these cards to use for collecting the details of each household during the social mapping. The process of social mapping started with marking the primary road of the hamlet and indicated the key points like wells, temples etc and then expanded to other physical and natural settings of the hamlet. After marking all physical; points, the group collected the socio-economic data in the cards prepared by the GIS group based on the checklist and cross checked the same with the participants.

2.2.3.3 Social map of the Pannimunda Hamlet

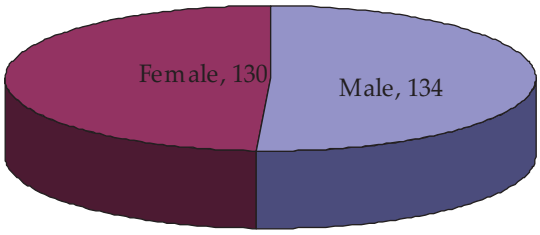
Community wise household of Pannimunda Hamlet



Community	Category	Households
Paniya	ST	26
Christians	General	12
Ezhava	OBC	12
Nair	General	6
Kuruma	ST	3
Vishwakarma	OBC	3
Kumbarans	OBC	1
Muslim	OBC	1
Others	-	5
	Total	69

Data shows that Paniya, who belong to the scheduled tribe category, is the single target population in the hamlet. Christian and Ezhava form the next important section of population in the hamlet.

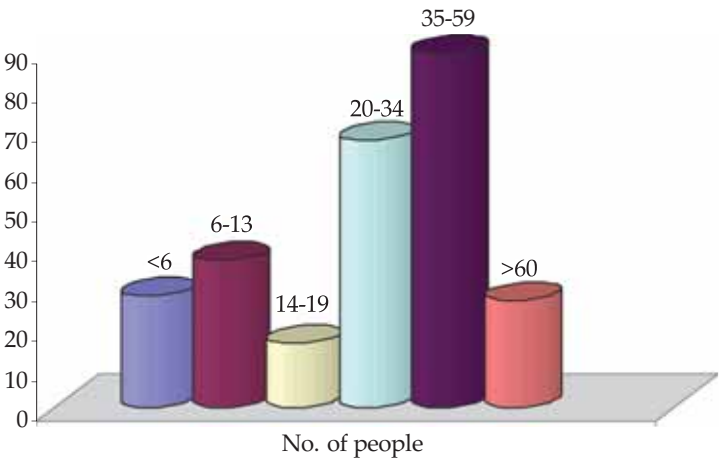
Population details of Pannimunda Hamlet



Category	Population
Male	134
Female	130
Total	264

Sex wise population figure shows almost equal sex ratio in the hamlet, with slight domination on male population.

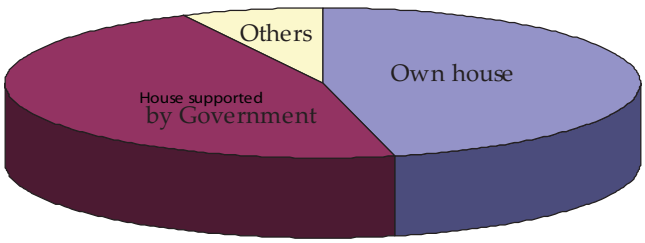
Age wise population of Pannimunda Hamlet



Age group	No. of people
Less than 6	28
6-13	37
14-19	16
20-34	67
35-59	89
60 and above	27
Total	264

Age wise population shows that more than 60% of the population were between the age group of 20 and 59 indicating the dominance of potential human capital availability in the hamlet.

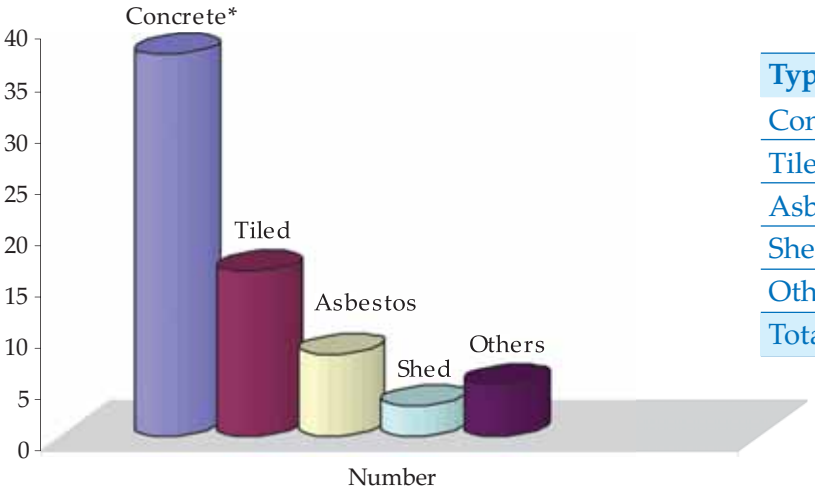
Housing details of Pannimunda Hamlet



Category	Number
Own house	32
House supported by Govt.	32
Others	5
Total	69

Almost half of the houses in the hamlet are built with the support of the Government and PRIs. This includes 25 houses of Paniya (One Paniya house is built independently) and 7 general categories below poverty line.

Types of house Pannimunda Hamlet

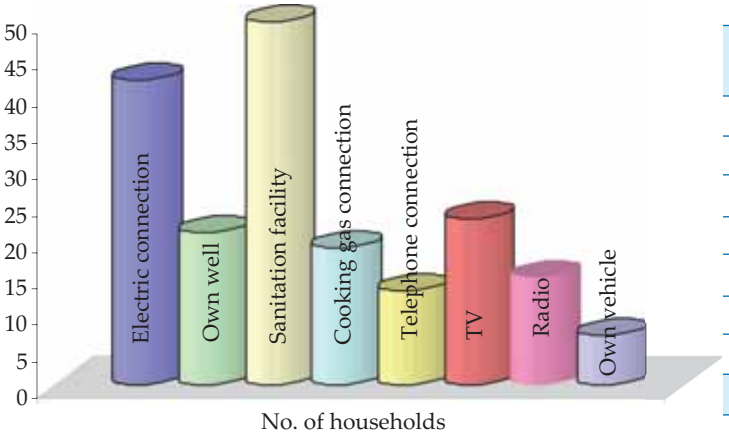


Type of house	Number
Concrete*	37
Tiled	16
Asbestos	8
Shed	3
Others	5
Total	69

**Concreted houses include houses built by Government support for Paniya tribes*

There are 37 concreted houses, most of them are built for Paniya tribe by Govt., and however a few large houses are also seen in the village.

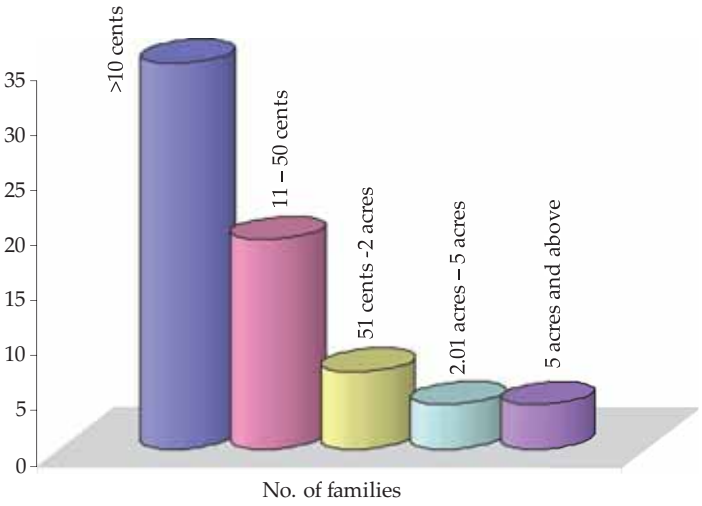
Status of household amenities of Pannimunda Hamlet



Household amenities/comforts	No. of households
Electric connection	42
Own well	21
Sanitation facility	50
Cooking gas connection	19
Telephone connection	13
TV	23
Radio	15
Own vehicle	07

Economically well off families enjoy household amenities. It is observed that Paniya lacks almost all the amenity/ facility reported here.

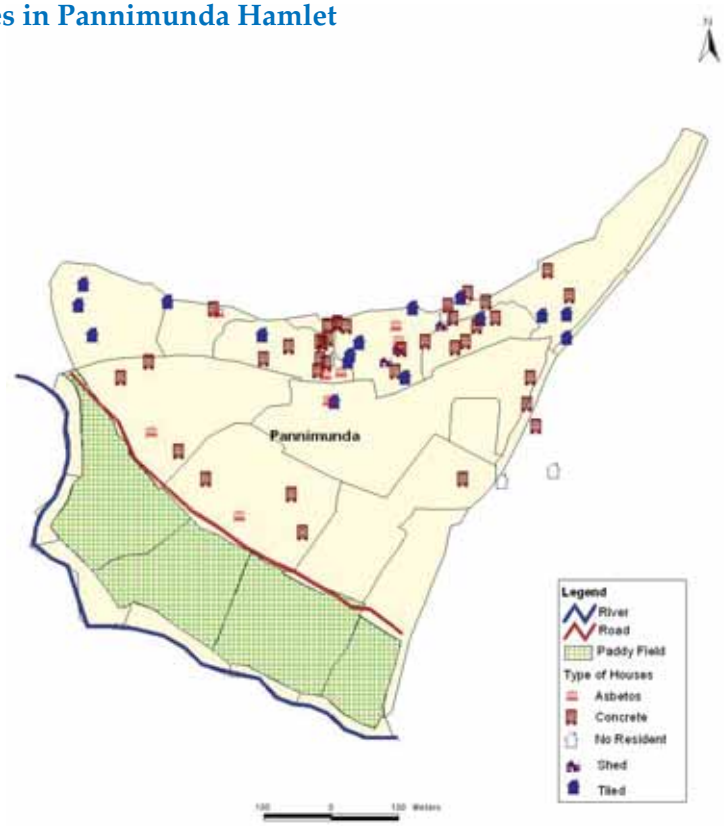
Landholding details of Pannimunda Hamlet

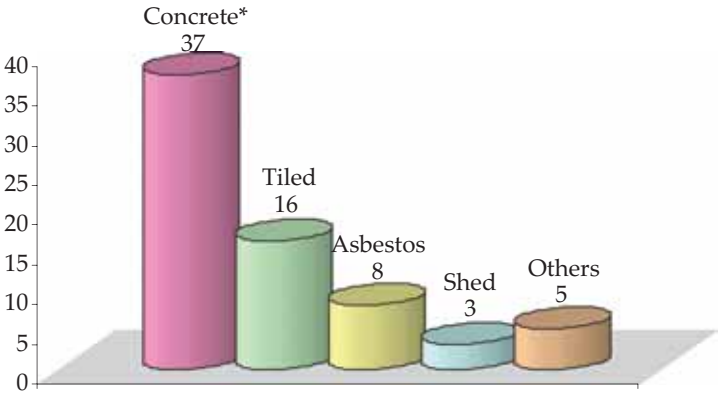


Size of landholding	No. of families
Less than 10 cents	35
11 – 50 cents	19
51 cents -2 acres	07
2.01 acres – 5 acres	04
5 acres and above	04

More than half of the population in the village holds less than 10cents of land mainly for their shelter only. A minority ie. 8 households is having agricultural land above 2acres in the hamlet.

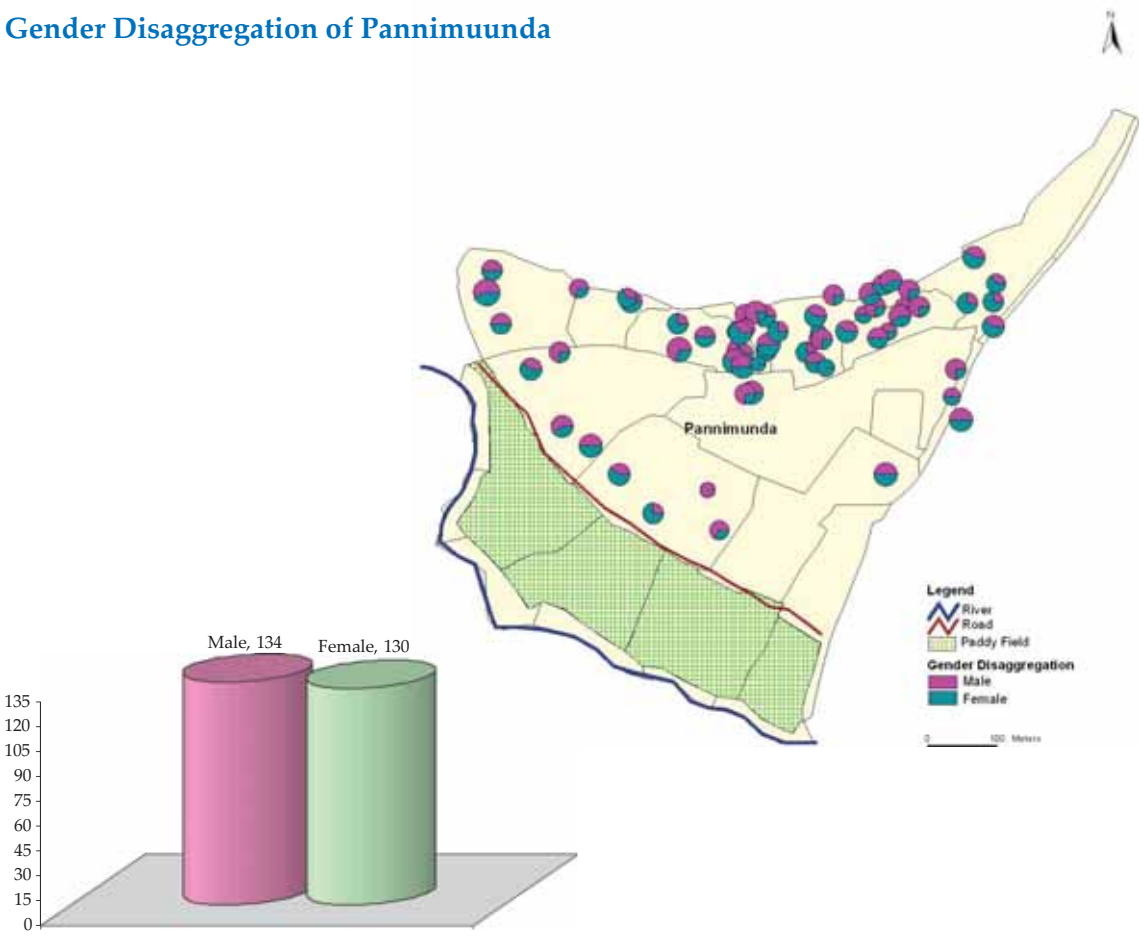
Type of Houses in Pannimunda Hamlet





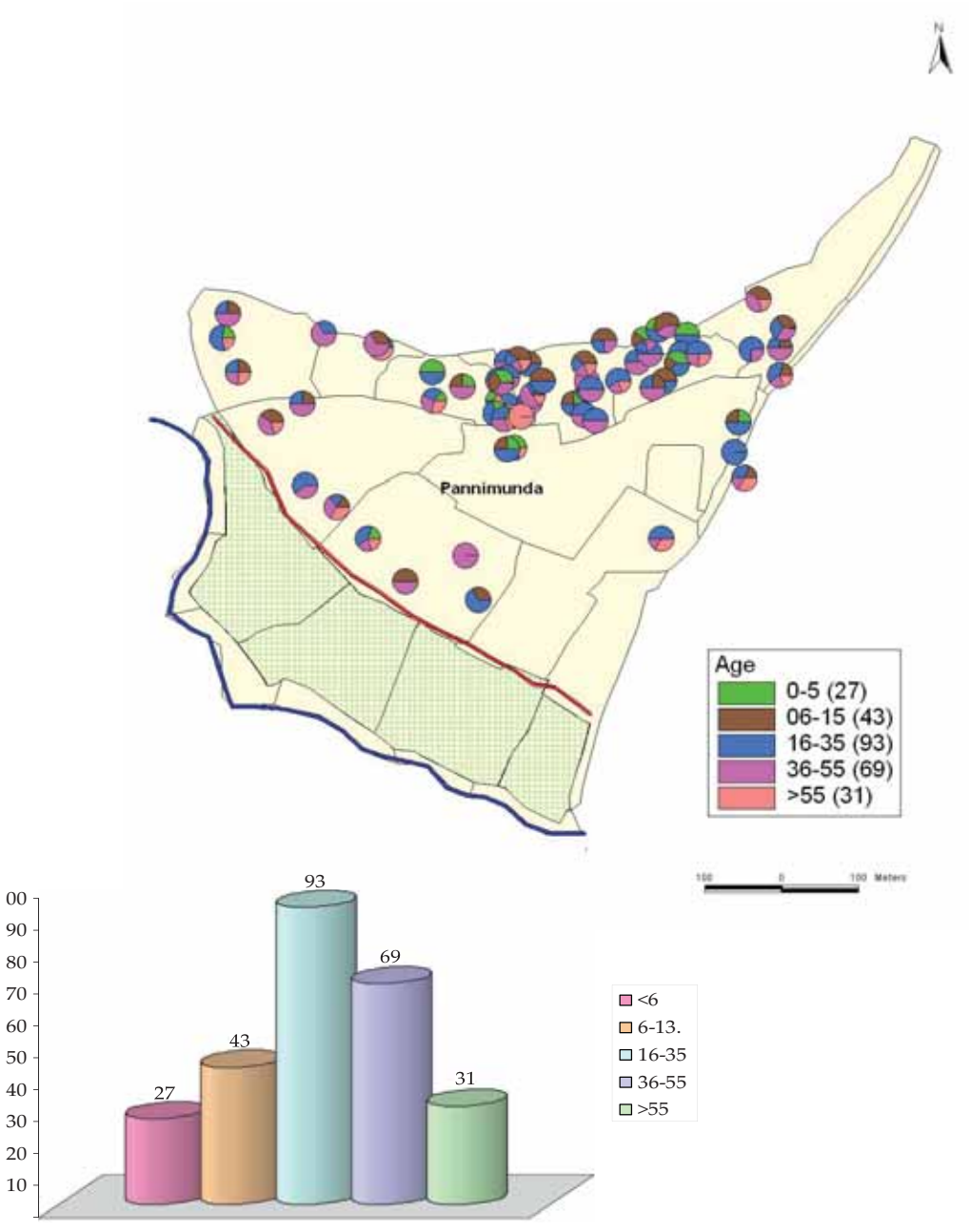
The map shows the type of houses and their location in the hamlet. The map will help us to further probe community wise categorization and type of houses.

Gender Disaggregation of Pannimuunda



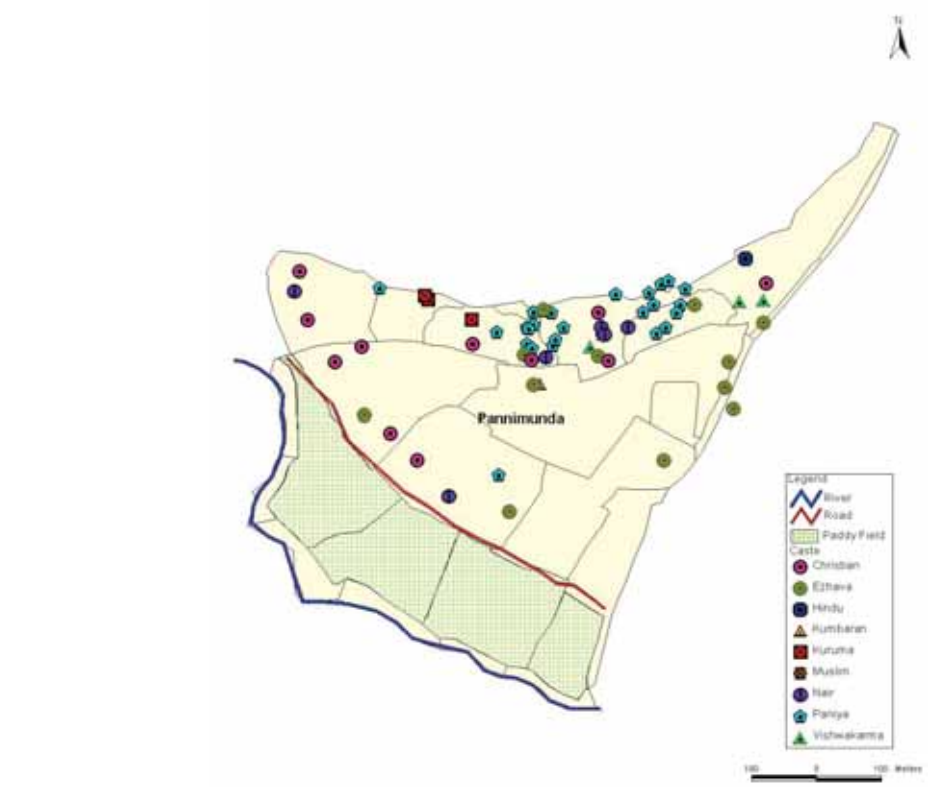
The map shows the sex ratio in the hamlet. It is also possible to understand the each individual households including the location of women headed households.

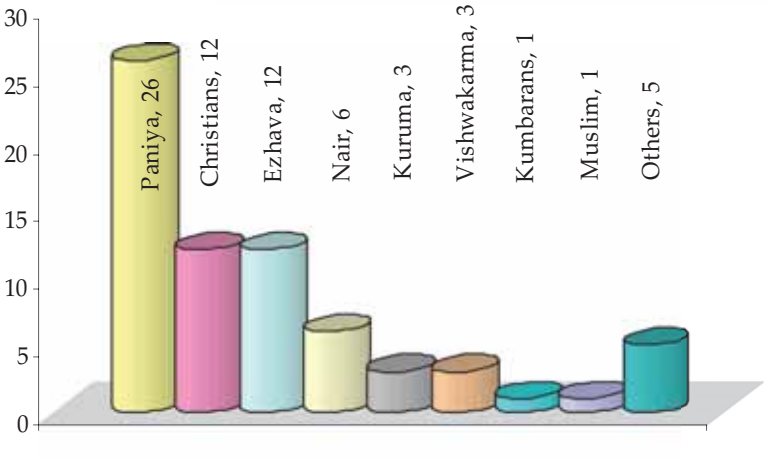
Household wise age group of Pannimunda Hamlet



Map explains the age wise distribution of population in the hamlet. It is also helpful to locate different age groups in each household.

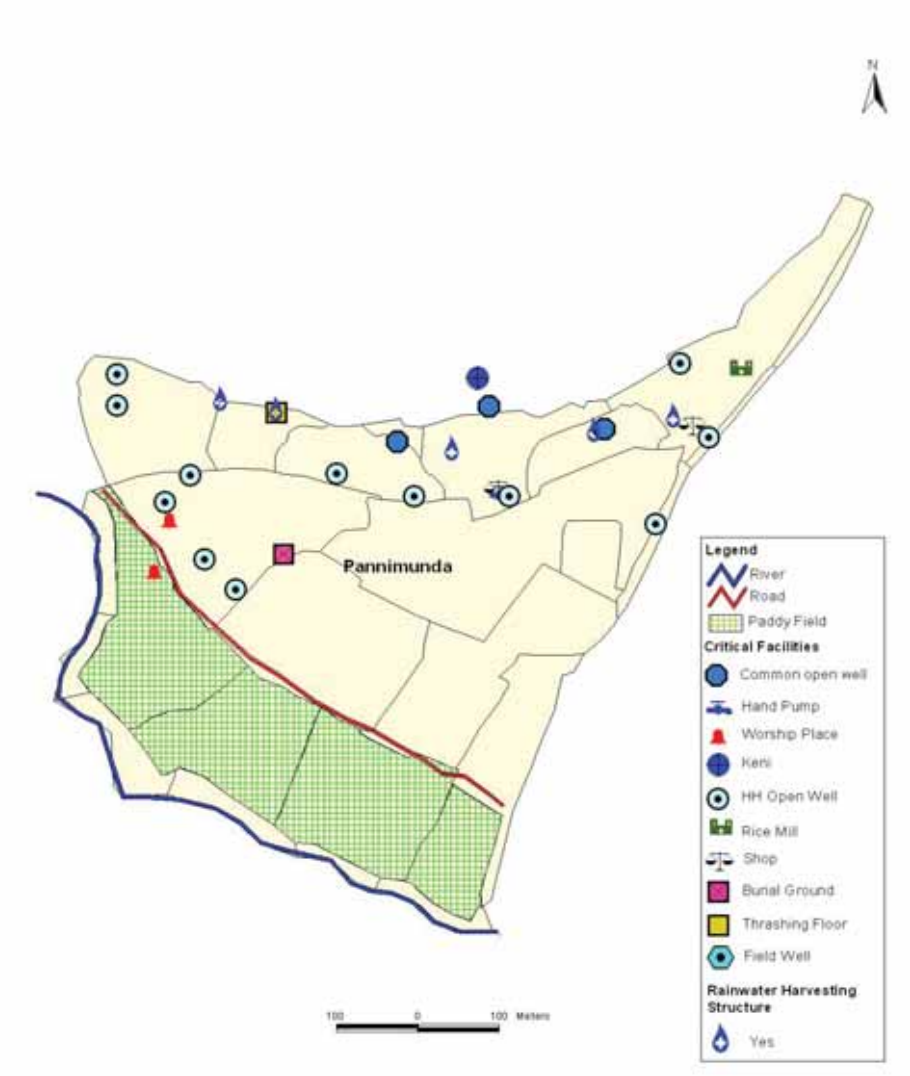
Caste Wise Distribution of Households





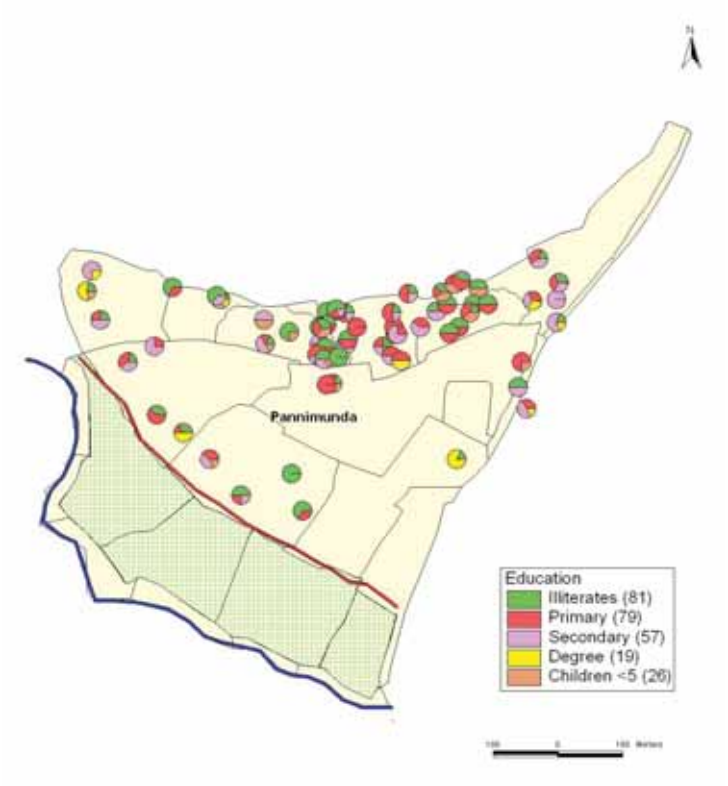
The map shows the community/ caste wise distribution of household and their location. The Paniya community members are living in a group.

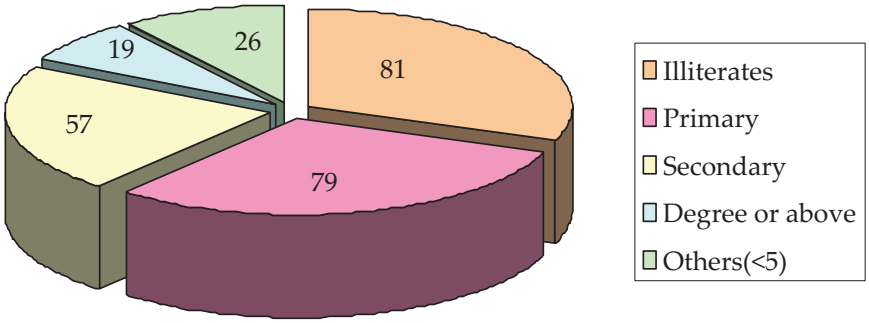
Critical Facilities of Pannimunda Hamlet



The map indicates all available important critical facilities, their location and access (in terms of distance) by different communities.

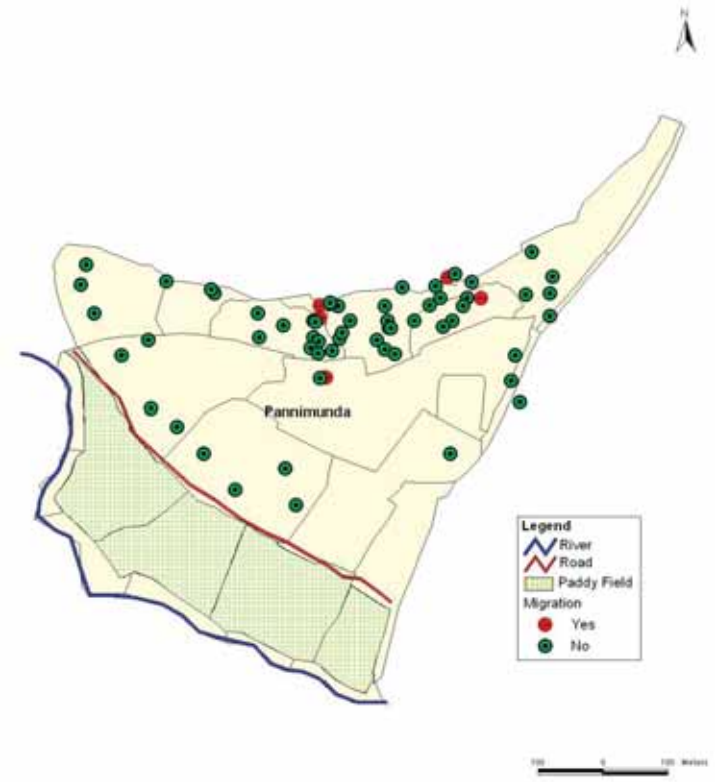
Household wise education background of Pannimunda Hamlet





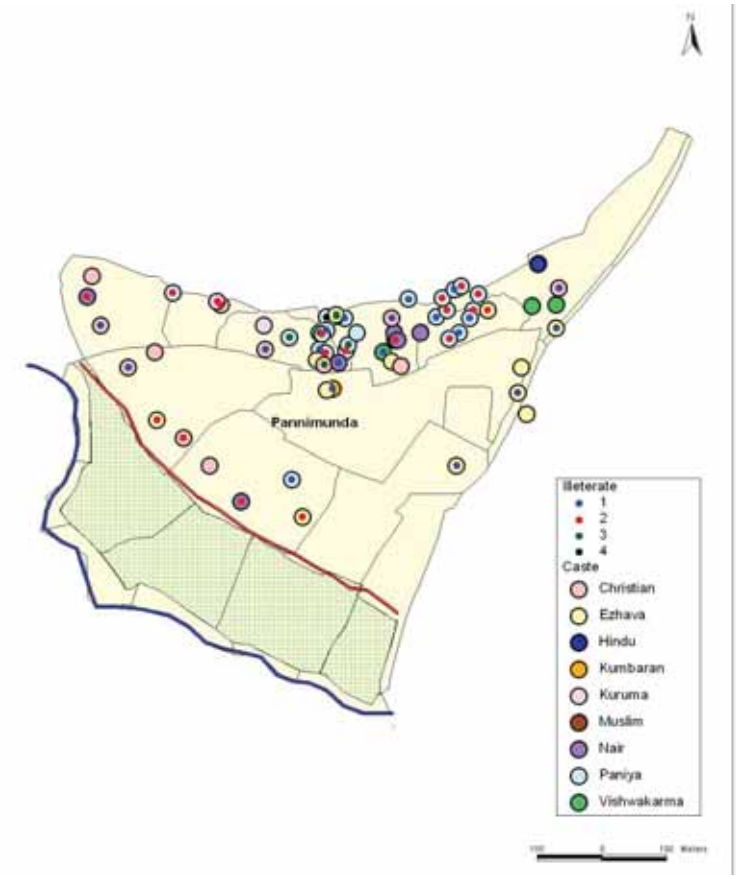
This map shows the education status of the population. Also, household wise and community wise education status can be found from the map.

Migration in Pannimunda Hamlet



Map indicates the migration status. Only four families, belonging to Paniya community have migrated in search of job, in the hamlet.

Community wise illiterates of Pannimunda Hamlet



Map shows the community wise illiterates and number of illiterates per households. The Paniya form the most illiterate people in the hamlet.

2.2.3.4 Outcome

Social map was another outcome of the participatory exercises that helped the VKC team to understand the socio-economic status of the villagers, demographic features, educational status, population, gender, age and caste and class dynamics of the Village. The exercise revealed that the people belong to the Paniya community living in Pannimunda hamlet are the extreme poor people, even though they have houses constructed with the financial support of Government. The Paniyas are mainly agricultural wage labourers, only a few have alternate source of income, ie also mainly from goat rearing. The education status reveals that, Paniyas contribute the majority of illiterates in the hamlet. Most of the adults crossing the age 35 are illiterates among them. It is also revealed that the drop outs rate among the Paniya is high. The villagers except the Paniya own a range of movable assets. Radio is the only movable assets owned by less than half of the Paniya households.

Drinking water is a scarce resource in the village; most of the people depending on wells for fetching water. Public wells are located in the foothills near the rice fields, fetching water from the foothills is a tedious task, which increases the burden of women who usually collect water for household purposes.

The social map exercises indicated the backwardness of the Paniya and women deserve special attention through VKC

2.2.4 Wealth Ranking - Pannimunda

Wealth ranking exercise was conducted to explore peoples' perceptions about wealth and economic status, elicit the criteria and understand their choices regarding wide range of subjects, including accumulation of wealth and well being.

2.2.4.1 Process

The team explained the purpose of the exercise and asked them to list out criteria for the rich, middle and poor economic status as per the community perception. Participants were divided in to two groups to set criteria for classifying households based on their economic status. The participant, after the group discussion came up with their own group's list. The list from one group was read aloud and cross checked with other group's list.

The missing criteria were added and common set of criteria in consensus with the participants was finalised. From the participants, three sets of we selected three informants and asked them to select the household and assign status in an unbiased manner. On the basis of status provided by each informant, worked out value for rich, middle and poor (since there were only three piles, the assigned values are 1 = 3/3, 0.7 = 2/3, .3 = 1/3. The summation of the values then arranged into five categories to identify poorest, poor, middle, wealthy and wealthiest.

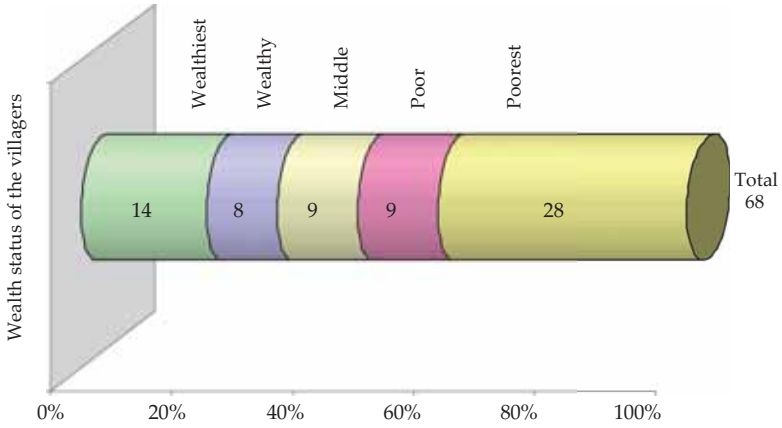
2.2.4.2 Criteria selection of households according to economic status

CRITERIA		
RICH	MIDDLE	POOR
Govt. service Two storied building Television Fridge Washing Machine Vehicle Floor mill Own well Agriculture. Land around 7 acres Phone Computer	House Wage labour Television Electricity Phone LPG Land around 10cent	Land around 5cent Wage labour Patients Small house with minimum acilities Inadequate income for educating children

Values worked out for identifying economic status of the household

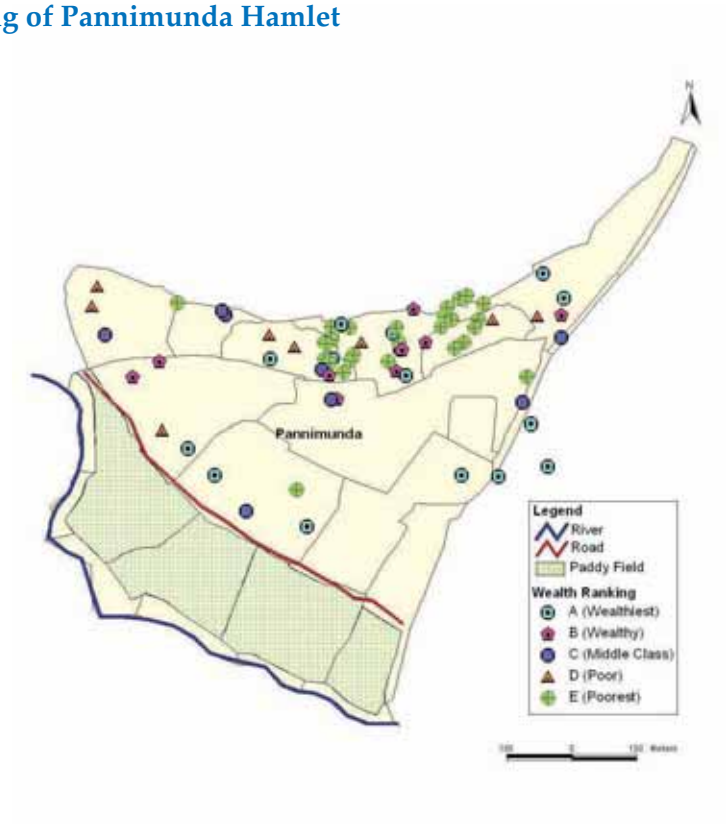
Category	Status	Scores
A	Wealthiest	2.5 to 3
B	Wealthy	2.0 to 2.49
C	Middle	1.5 to 1.99
D	Poor	1.0 to 1.49
E	Poorest	<1

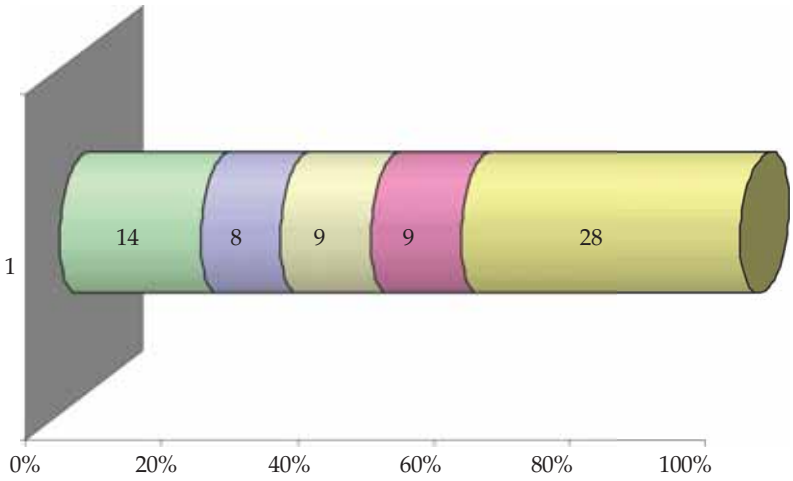
Wealth status of the villagers



Wealthiest → 14
Wealthy → 8
Middle → 9
Poor → 9
Poorest → 28
Total → 68

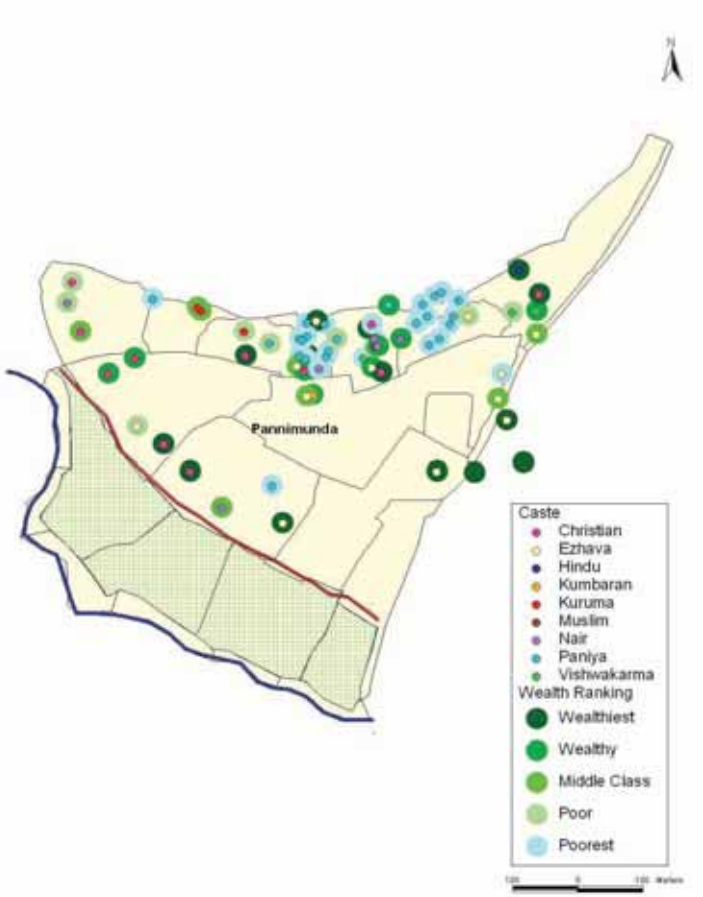
Wealth Ranking of Pannimunda Hamlet





Community/ household wise wealth status of the hamlet is given in the map. Paniya form the poorest and poor category people.

Community wise wealth ranking of Pannimunda



Except Paniya, most of the general categories of the people come under middle class category.

2.2.4.3 Outcome

Wealth ranking re-iterate the fact that Paniyas are the most backward communities in terms of holding wealth and other productive and reproductive assets. All the Paniya households in this hamlet come under the category of the poorest people. There are 37 households come under the category of poorest and poor in the village. Land is the basic resource in the village in determining the economic status. Those who are holding more land also hold other movable and immovable assets. Level of education is another variable influencing the economic status.

Wealth status in another way indicates the lack of critical support, physical, natural, human and financial capital among the Paniya.

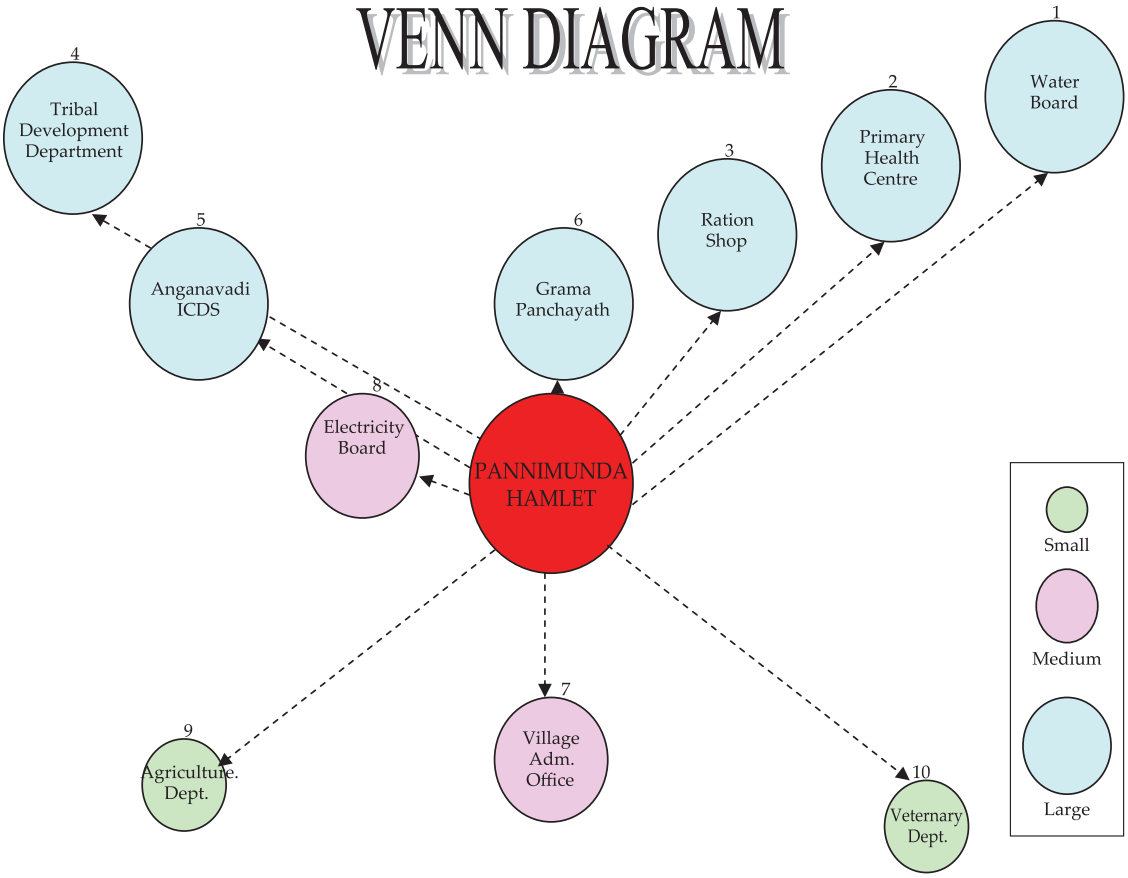
VKC has to plan specific activities exclusively for the poor and poorest to improve their life.

2.2.5 Venn diagram -Pannimunda

Venn diagram is used for dual purpose to understand the existing linkages that the community has with the government institutions, NGOs, private sectors and to identify the different stakeholder groups of the village and their dependency on Village Knowledge Centre. This exercise will help us to find the gap and strengthen the linkages between the local community and local institutions to address their needs.

2.2.5.1 Process

The facilitator introduced the concept of Venn diagram, and purpose of doing such an exercise in the context of VKC. The facilitator also gave examples of institutions and stakeholders. Drew a large circle on the floor labeling it as community. Then drew smaller circles and labeled them as per institutions/ department according to the existing linkage.



Different colours indicates the importance given to institutions and distance from the village circle indicating the level of linkages they are having at present. Here, they mentioned, they need more support from water authority, as they are looking for solving their drinking water problems. But they have minimum linkage with water authority and placed them far away from their village. They have got close linkage with Meenangadi Grama Panchayath, they are accessing Panchayath schemes and approaching them for solving many issues and problems. Other important institutions they perceive as of high priority are Ration shop (for subsidized paddy, kerosene etc), Health Centre (for health care practices), Anganwadi (for children, food), and Tribal Department (for accessing schemes and services for tribes). But they have placed it away from hamlet, which indicates the weak linkage they are having at present.

The next priority (medium) goes to Village Office and Electricity Board for various services and entitlements. They give very low priority to Agriculture and Veterinary Departments (may be because of the large section of the villagers are either agriculture labourers with minimum landholding)

2.2.5.2 Outcome

The communities have weak linkage with many institutions. Since, water is their basic problem, linkage with water authorities to be strengthened to address this issue. They perceive certain institutions like Tribal Department. Anganwadi, Health Centre are important institutions for them to satisfy various needs. However, most of the villagers opined that they feel difficult to access the service from these institutions. Now, especially after the implementation of Panchayath Raj, they are keeping good relation with Grama Panchayath through elected member. They also expressed that Panchayath alone can not fully satisfy their needs; they wanted to maintain good relation with all the service rendering institutions in the locality. The role of VKC in this context is to facilitate the linkage between the village and service rendering institutions.

Strategic and boundary partners meeting will definitely help the VKC to establish strong linkage with all the institutions, which can bring prosperity/ development in the village in one way or the other.

2.2.6 Seasonal Diagram -Pannimunda

2.2.6.1 Process

This exercise was conducted to identify peak and lean agriculture periods, economically insecure periods, and engagement of villagers in different seasons to understand their availability for training, awareness programmes. Crop wise, season wise information have been collected and compiled in to simple and comprehensive diagrammatic manner. Following is the seasonal diagram of Pannimunda village.

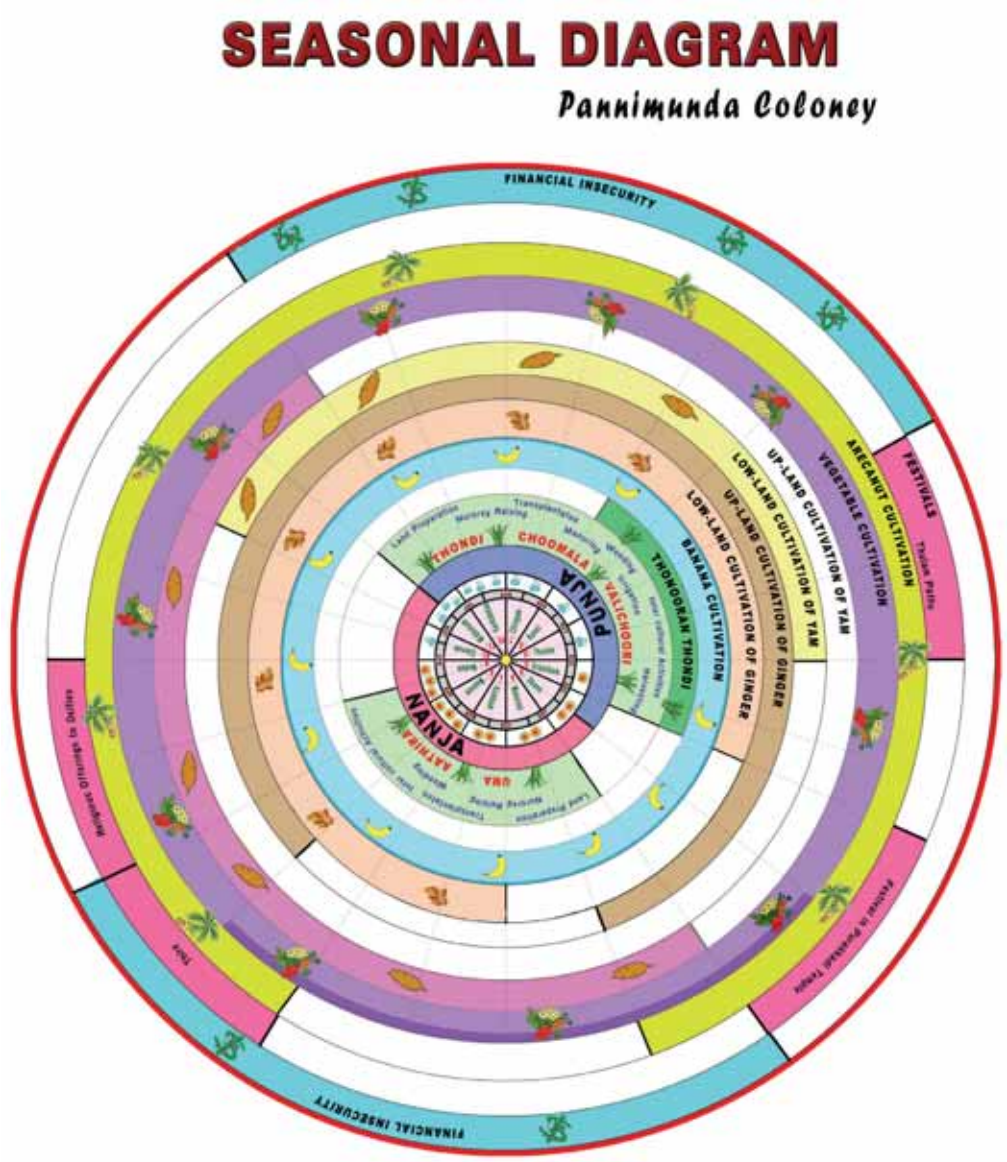
2.2.6.2 Outcome

The seasonal calendar provides details about cropping pattern, season wise economic status of villagers, employment opportunities, peak and lean agricultural periods etc. Wayanad is a high rain fall area with two Monsoons per year. The rainy season starts from June and getting over by the end of October. Apart from it, Wayanad also receives summer shower during February-March. Rice, Banana, Coffee, areca nut and pepper are the major crops in the village. Rice is cultivated in two seasons; Puncha (summer) starting from Dec-January ending by March-April; Nancha (rainy) starting from June-July to December. During Nacha seasons, farmers cultivate either long or medium duration rice varieties. Short duration crops are raised during Puncha seasons. Summer crop is raised only where water is available for irrigation purpose. Transplantation, weeding and harvest demand more women labour, while land preparation including ploughing is mainly done by men.

Banana is an annual crop, cultivated mainly in low land, replacing paddy. Planting of banana is planned in accordance with the local climatic conditions, and expected high demand for the harvest. Banana is a high profit crop, mainly rely on men labour.

Coffee is a perennial crop, due to the recent price crash, farmers are not investing much on coffee, which restricts employment opportunities. Major operations in the coffee include weeding, pruning and harvesting.

Pepper is another perennial crop of this locality. Pest and disease outbreak have reduced the pepper production. Pepper harvesting takes place during the months between January and March.



Yams, ginger, vegetables are other important crops cultivated in Pannimunda hamlet. Both upland and lowlands are used for the cultivation of these three crops.

As far as employment is concerned, rice is the major source of employment followed by coffee, pepper banana and ginger. Yam and vegetables are cultivated mainly for home consumption.

Agriculture peak season starts in December and getting over by March. During these periods, major crops like coffee, pepper and rice are harvested. Harvesting and post harvesting require more labour.

Months between July to October are marked as financial insecure period, employment opportunities are very low during these months.

2.2.6.3 Conclusion

Months between April and June are free time for the villagers for implementing VKC activities, especially to enhance the capacity of the villagers to address financial insecure conditions. Seasonal calendar clearly indicates that the crops like rice, pepper and coffee are the important crops provide employment opportunities and income to the villagers. In order to address financial insecurity and unemployment, measures have to be taken to revive the cultivation of these crops. VKC has to plan and implement capacity building programmes for farmers and labourers to address the low productivity and crop loss due to pest and disease out break. Demand driven content has to be produced to disseminate advanced technologies that enhance the crop productivity.

Seasonal diagram help the VRC to plan it's activities to address agricultural problems in general, content development or capacity building to address the issues mentioned in the diagram.

2.2.7 Resource mapping

This gives an idea about all available natural resources in the village. Water (wells, streams) and land (upland and lowland) are the main natural resources available in the locality. There are four public wells and 21 individual wells in the village. Majority of the households depends on public wells for satisfying their needs.

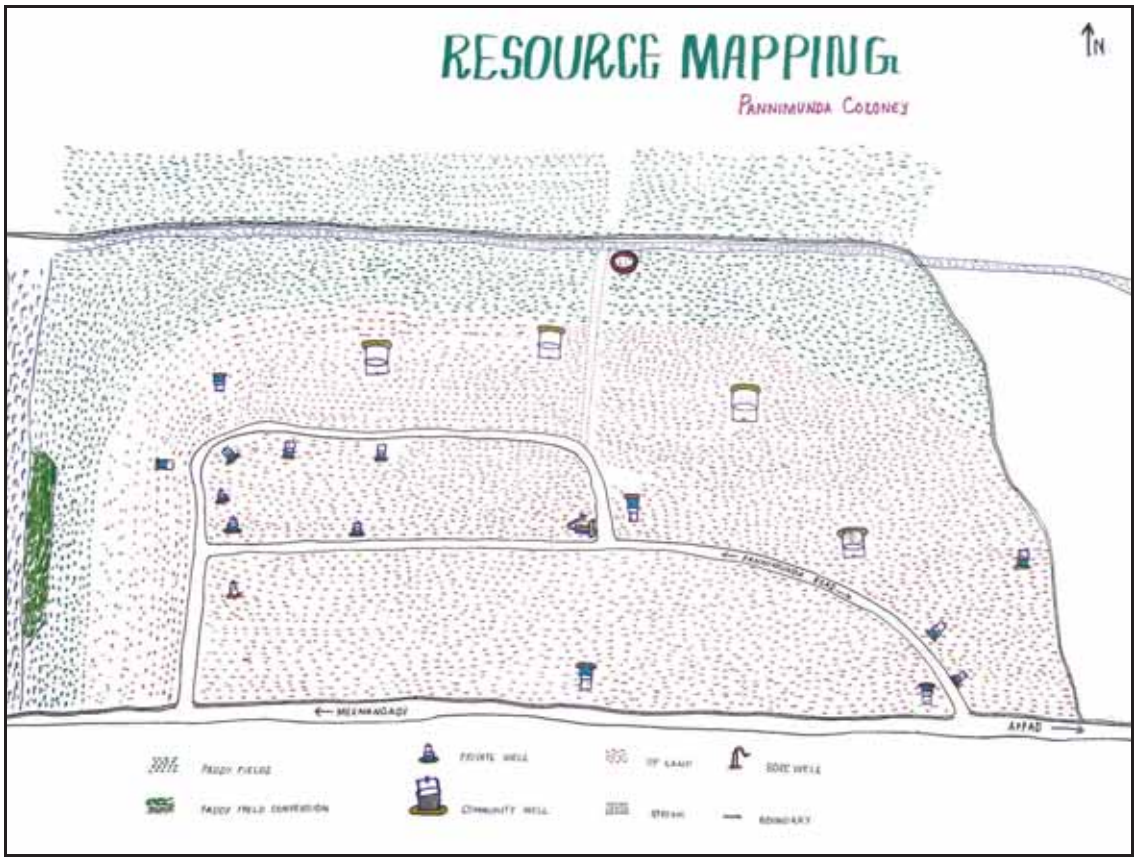
As far as land is concerned, there are two types of land. The lowland is mainly used for rice cultivation, banana and areca are alternate crop in the lowland. A stream flowing through the village is utilized for irrigating the rice fields. Individual efforts are taken to irrigate the rice fields.

Upland (marked in red dots) is mainly used for crops like coffee, pepper, arecanut and mixed trees. The crop productivity depends exclusively on rain (no irrigation support) and crop productivity is low in the upland, makes upland an un-remunerative holding.

2.2.7.1 Conclusion

Resource mapping of Pannimunda village shows that there are mainly two types of land, ie upland and lowland. Upland is mainly used for the cultivation of perennial crops. However, the crop productivity is poor because of lack of irrigation support. Farmers have not adopted any measures to conserve water in their agricultural field itself to increase the crop production. The role of VKC in this context is to empower the farmers on various measures for soil and water conservation. Soil fertility is another constraint. Farmers have to be trained in adopting techniques for increased soil quality. Conservation of water bodies, especially streams flowing through the boundary of the village needs to be conserved in a participatory manner. The Paniyas used to access the stream for collecting fish in the past. Awareness generation and capacity building of farmers and local community on natural resource management have to be taken up through VKC

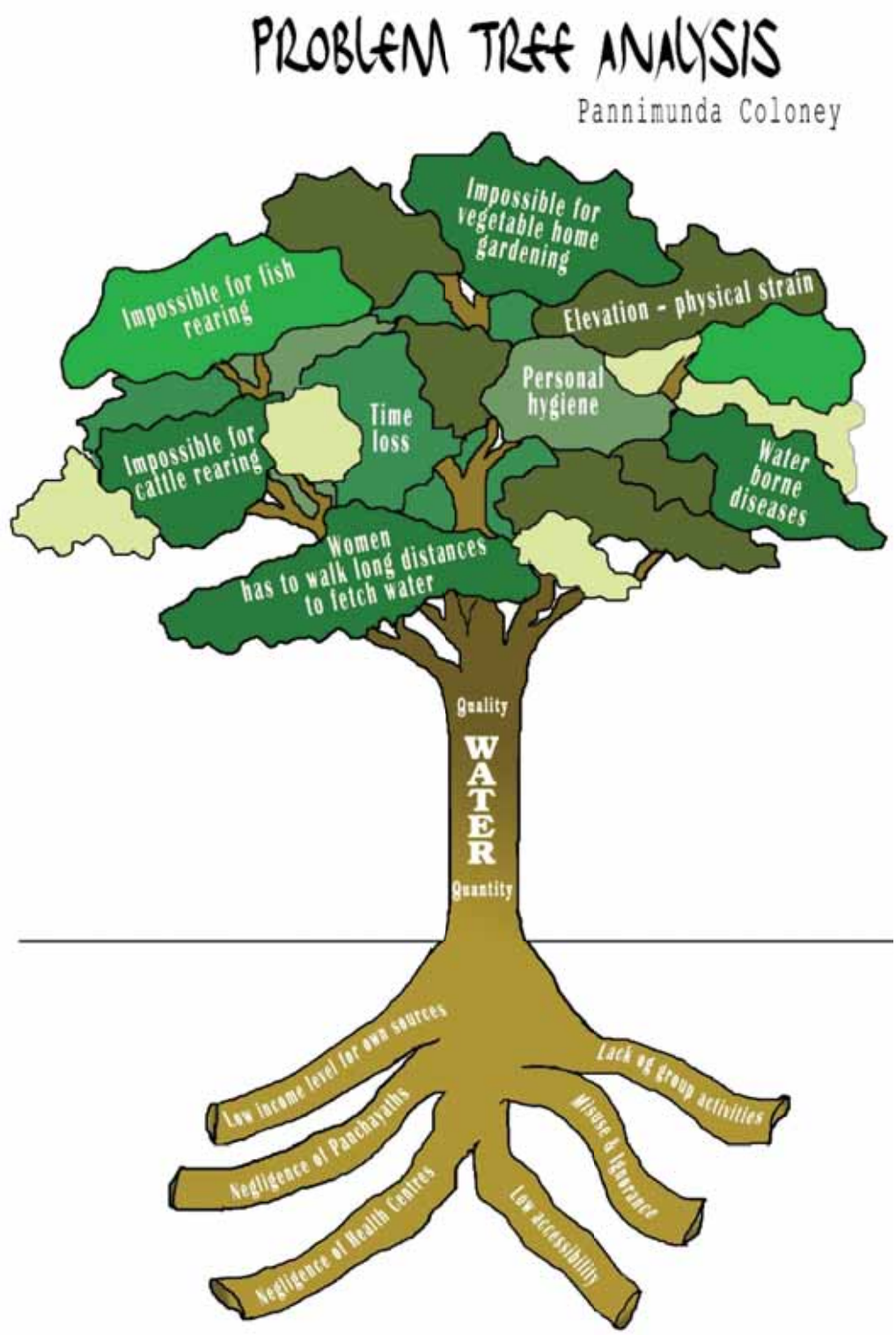
Villagers lack critical natural resources and most of the villagers live in the marginal holdings, where land is the basic resource for livelihood.



2.2.8 Problem tree analysis-Pannimunda

2.2.8.1 Process

This exercise was conducted to analyse the existing problems in the village. The first step followed was curving out all the existing problems. Then asked the participants prioritize the problems based on their importance. After prioritization, we took each problem and documented major causes of the particular problem and then analyzed what are the effects of the given problem. After completing this exercise for one problem, we facilitated the discussion on who is affected and what are the possible solutions of a particular problem.


PROBLEM TREE ANALYSIS
Pannimunda Coloney
Impossible for vegetable home gardening
Impossible for fish rearing
Elevation - physical strain
Personal hygiene
Time loss
Impossible for cattle rearing
Water borne diseases
Women has to walk long distances to fetch water
Quality
WATER
Quantity
Low income level for own sources
Lack of Group activities
Negligence of Panchayaths
Misuse & Ignorance
Negligence of Health Centres
Low accessibility

2.2.8.2 Outcome of The problem tree analysis in the Pannimunda

Sl. No.	Problem	Cause	Effect	Who is effected	Who can contribute	Expectation from VKC
1	Availability of water (quality and quantity)	Low level income to have own independent sources Negligence of Panchayath-drinking water scheme Negligence of Health centres – ensuring quality Low accessibility to existing sources Misuse and ignorance of the existing sources Lack of group initiative to solve water problems	Water borne diseases Women has to walk long distances to fetch water Time loss Elevation – physical strain Impossible for vegetable home gardening Personal hygiene Impossible for cattle rearing Impossible for fish rearing	All residing in Pannimunda especially Women	Block/ Panchayath Members Tribal Departments Local Committee Water users committee Jalanidhi Japan Water Fund	Linkage with the officials Contribute to the total expense
2	Health	Lack of hygiene -awareness Ignorance- awareness Low food intake Hans/ Panparag (excessive use of drugs, tobacco. Liquor) Pesticide application in fields Leakage in roof of houses – (rain) Negligence of Health centres	Unable to work regularly Leading to low earning capacity	Especially women and children	Health Centres Tribal Departments	Documentary on each diseases Health camps Awareness on dietary practices Information about wild edibles

Sl. No.	Problem	Cause	Effect	Who is effected	Who can contribute	Expectation from VKC
3	Low Income	UnemploymentDecreasing price for the products Low wage to match the increasing cost of living Increasing food price Decreasing farm work Low training/ opportunity for skilled labour Health problems	Less food intake Indebtedness Migration Unable to provide education Unable to proceed with marriage proposals Incomplete houses Unable to consult doctors	Farmers Wage labours Women	SHG	Information about various schemes Training on Mushroom cultivation Training on management and leadership qualities Cock rearing Rabbit rearing
4	Education	Lack of good uniforms (clothing) Interested in earnings from childhood onwards Lack of food at home Low income Parents unable to guide them Lack of awareness from the part of parents	Unemployment Low income	All especially children	Education Department Meenangadi School	Provide hostel facility
5	Unemployment	Less work in Agriculture. Farms Diminishing price for agriculture. products Mechanization (tillers/ tractors) Lack of skill in new jobs Educational backwardness Conversion of rice fields	Low income Increasing price for raw materials		Youth Women wage labourers	

Sl. No.	Problem	Cause	Effect	Who is effected	Who can contribute	Expectation from VKC
6	Alcoholism	Illicit liquor sales Easy availability and increased number of authorized liquor shops Villagers encouragement Excise Department's inaction	Family problems Loss of income Injurious to health Exploitation of female income by male counterparts for liquor	Women and children at home	Excise Department	Counseling
7	Agriculturecul-ture	Chemical and Pesticide application Low productivity Diseases Lack of irrigation Reduced employment opportunities Low price for produces	Family income Diminished opportunities for work	Farmers Farm labourers	Agriculturecul-ture Department Grama Panchayath	Provide organic manure

2.2.8.3 Conclusion

A total of seven problems have been raised during the discussion. The first and foremost problem reported in the village was water scarcity. The second one was health and they considered agriculture as the last problem. One of the outcomes of this exercise was the participation of local community in evolving remedial measures to be followed. This exercise was very helpful to identify problems and accordingly the activities of VKC can plan, especially the training and capacity building, awareness programmes, and linkage.

Problem tree analysis was the final exercise conducted as a part of assessing the needs of local community. After the exercise, the team briefed the outcomes and their relevance in the context of Village Knowledge Centre.

Linkage and networking is ideal for solving drinking water shortage. At the same time care must be taken to generate awareness about the quality of drinking water. Community action is essential for protecting the existing water resources. VKC can play a vital role in this aspect.

Health awareness, medical camps through linkage is suggested to improve the health status of the villagers. Awareness programmes in this area are to be organized in regular intervals, especially in specific seasons.

2.2.9 Problems, Issues & Needs identified in Pannimunda hamlet

Tool	Problems	Issue	Needs	Livelihoods Asset
Transect Walk	Unequal distribution of land and other agriculture assets	Paniya were either landless or marginal landholders Landlessness may be one of the reasons for their poverty	Schemes for purchasing agriculture land	Land capital (Natural Capital) is limited.
	Increased incidence of pest and dieses on rice banana and pepper	Agriculture income insufficient to meet growing expenditure	Diversification of livelihoods Capacity building on measures to solve pest and diseases Knowledge support for solving pest and diseases Content development related IPM/INM	Financial capital to adopt remedial measures and replanting
	Irrigation	Due to lack of irrigation upland becomes un productive and less remunerative	Measures to adopt soil and water conservation programmes Finical capital to acquire machinery and equipments for irrigation Farmers capacity building Content development in soil and water conservation	Water (Natural) capital, so far water sources are limited

Tool	Problems	Issue	Needs	Livelihoods Asset
Transect Walk	Drinking water	Lack of enough water Poor quality Distance from drinking water source Water borne diseases	Linkage with PRI, Water authorities for accessing drinking water schemes Awareness generation about quality and management of water bodies Awareness about water born diseases Content development for wider dissemination	Water for drinking and home gardening
	Soil	Low agriculture Productivity	Knowledge about solving existing problems like -iron content Identification of reasons Adopt suitable remedial measures Soil and water analysis Capacity building Financial support for adopting remedial measures	Land, Productive agriculture land
	Poor market linkage `	De-functioning of production units run by an SHG	Market support , Linkage and information Credit support	Market
	Physical Capital	Majority of the Physical assets are owned by few people, while Paniyas face severe poverty	Access to Govt, schemes for physical assets (livestock)	Unequal ownership of physical assets More physical assets to be accessed by poor
Time and Trend Analysis	Changes in food habit	Increased health problems Lack of availability and poor access over wild edibles due to habitant loss or pollution	Ensure availably of domesticated tuber crop for cultivation Knowledge about wild edibles to the youngsters	Depletion of natural capital

Tool	Problems	Issue	Needs	Livelihoods Asset
Time and Trend Analysis	De functioning of bore well	Increased the drinking water shortage	Overhead tanks connected to the existing drinking water source New well to be constructed in the upper terrain	Water
	Schooling	Increased drop outs among paniya tribes	Economic security of paniya of house hold Awareness about need of education Support through VKC to generate interest in education CALP. INTEL and MUPP programmes in VKC	Education – shaping human capital
Social mapping	Most of the paniya houses either partially or fully damaged	Safe shelter for poor	Support from PRI Access to schemes and Credit	Basic amenities
	Agriculture wage labors face financial crises during lean periods	Opting migration and resulting in different kind of exploitation	Regular employment through (NREGP) Proper planning and implementations of NRGP programme Skill diversification and self employment opportunities	Suitable livelihood activities to be identified through discussion
Wealth Ranking	Number of poor and poorest people in the village is high	Increasing poverty among the poor	Opportunities for sustainable earnings, education and skill Special attention to deliver services through VKC among Poorest and poor	Lack of critical assets/ unequal distribution of critical assets
Venn Diagram	Poor linkage with existing Institution	Poor access to schemes, credit and other services	Strengthen the linkage Interaction meetings Strategic and boundary partners meet	

Tool	Problems	Issue	Needs	Livelihoods Asset
Seasonal Diagram	Financial in security	Lack of jobs during crop intervals, during changes in cropping pattern	Selection of appropriate crops Other employment opportunities during the crop intervals Proper implementation of NREGP programme Skill and knowledge for self employment	
Resource Mapping	Poor natural resource availability Depleting natural resource base	Lower potential of NR development Existing natural resource are under few hands	Advanced technology, knowledge etc for natural resource development	
Problem Tree Analysis	Availability of water (quality and quantity)	Water borne diseases Drudgery to fetch water from long distance Not able maintain home gardens and livestock Personal hygiene	Water sources to be near to the hamlet Linkage and networking for accessing water schemes Involvement of Health Department	
	Health problems	Unable to work regularly Low levels of income	Health awareness Medical camps Linkage with health departments Availability of nutritive food and clean water	
	Low income	Low food intake Indebtedness Migration Dropouts of children Poor amenities Health problems	More employment opportunities Access to Govt. schemes, skill, knowledge, technology and credit Home gardening, Mushroom cultivation, Livestock, Floriculture	
	Education	Illiteracy Drop outs Poor human capital Unemployment Low income	Awareness generation Adult literacy programme CALP and INTEL	

Tool	Problems	Issue	Needs	Livelihoods
Problem Tree Analysis	Unemployment	Low income Poverty Poor health	Capacity building in skill diversification Access to schemes and Govt. programmes Access to credit and technology for self employment	
	Alcoholism	Domestic violence Increasing health problems Low income	Awareness generation Health camps Linkage with de-addiction units	
	Low productivity in agriculture	Low income Decreased employment opportunities Over application of chemical fertilizers and pesticides Health problems	Enhance the capacity of farmers in modern cropping practices Provision of knowledge and skill Market support	

3. Overall Outcome of Need Assessment

The outcome of the PRA exercise held at both Thatchampattu village and Pannimunda hamlet facilitated to identify the problems, issues and needs along with livelihood assets. Progressing to a next step of addressing the issues, problems and needs through VKC, it was decided to analyze the same in the light of livelihood assets and classify the needs to be delivered through Village Knowledge Centre under different forms such as content, capacity building and linkages. Exclusive meeting was held from 28th to 30th April '08 among Dr. J. D. Sophia, Mr. Girijan and Ms. Nancy at MSSRF to accomplish this task. The outcome of the meeting is stated below:

3.1 Activities to be done Pannimunda Hamlet

No.	Need / issue	Content	Capacity Building	Linkages
Agriculture				
1	Schemes for purchasing agriculture land (N)	Module on cultivation practice for the identified crops	Once land is acquired, provide training to impart skill and knowledge on crop cultivation that are suitable to the acquired land	Link with government policy which tries to allocate land to the landless tribes to acquire land.

No.	Need / issue	Content	Capacity Building	Linkages
2	Pest and diseases in crops (I)	Module on Integrated Pest Management and Integrated Nutrient Management for Paddy, pepper and banana crops	Training on the controlling measures of pest and disease for paddy, pepper and banana crops with the support of Agriculture experts. Training on Agriculture inputs like tricoderma, pseudomonas etc incorporating the method of preparation and application, and techniques to identify quality product Training on modern crop cultivation methods and practices	Explore and link for market support for the crops cultivated in the hamlet
3	Measures to adopt soil and water conservation programmes Lack of financial capital to acquire machinery and equipments for irrigation	Module on water conservation and management Hand out on suitable crop diversification in upland Booklet on different water conservation techniques Content development in soil and water conservation	Awareness on water conservation and management to farmers Awareness on crop diversification in upland to farming community Training on various water conservation techniques to farmers	Explore the possibility and link for creating suitable water conservation structures. Organizations: Panchayat, tribal department, Minor irrigation department, National Rural Employment Guarantee Programme (NREGP), Soil and Water Conservation Department, & Agriculture Department
Drinking Water & Health				
4	Lack of access to drinking water schemes	Booklet and posters on Water borne diseases and its control measures Bylaw on Water user committee Content development on water related aspects for wider dissemination	Awareness generation on water quality, management of water bodies / infrastructure and its maintenance Awareness about water born diseases Formation of Water User Committee	Explore the possibility to link with Panchayat, Water Authority, Tribal Department, Lead Bank, NREGP etc. for creating new structures to get safe drinking water facility

No.	Need / issue	Content	Capacity Building	Linkages
5	Increased health problems Lack of availability and poor access over wild edibles due to habitant loss or pollution	Hand bill on Procedures for cultivating tubers and other edibles in homestead garden Pamphlet on identifying wild edibles Content on availability of domesticated tuber crop for cultivation	Training on cultivation techniques of tubers and other edibles in homestead garden Awareness creation about wild edibles to the youngsters	
6	Availability of defunct bore well	-	-	Link with Ground Water Department and Water Authority to rejuvenate defunct bore well
7	Health problems	Posters / handbills / brouchers (whichever is suitable) on specified topic of awareness / training programmes	Awareness on Personal Hygiene Water borne diseases Alcoholism and drug addiction Oral cancer and mouth ulcer Nutrition Thyroid Domestic violence Sickle cell anemia Women Reproductive Health	-
Market Linkages and Livelihood				
8	Poor market linkage for SHGs	Module on Quality control of products and packing techniques to SHGs	Training on Quality control of products and packing techniques to SHGs Establish network with MSSRF outlet	-
9	Lack of awareness on additional income opportunities	Content on livelihood opportunities	Training on : Mushroom cultivation Rabbit rearing Livestock rearing Kitchen garden Floriculture	-
10	Lack of access to Govt, schemes for physical assets (livestock)	Content on government schemes for getting livestock	-	Link to avail livestock with banks, government schemes et

No.	Need / issue	Content	Capacity Building	Linkages
Education				
11	Increased drop outs among paniya tribes	Content on education & scholarship details for school children	Sensitize the Parents and Children of Paniya community on importance of education Train children especially the drop outs on CALP	MSSRF and Every Child as Scientist
12	Education	-	Training on ALP Course on CALP Training on INTEL	-
Govt Schemes on Housing				
13	Most of the paniya houses are either partially or fully damaged	Provide content on free housing schemes or rejuvenate the houses	Sensitize people on linking with available schemes, if any	Explore the possibilities for schemes to construct or rejuvenate the houses with panchayat and housing board

3.2 Livelihood Analysis of Pannimunda Hamlet

- The Panniya community has limited natural resources in terms of land, which is used for homestead purpose. But in tune with human capital, Paniya community has labour skill, where as other general community at Pannimunda hamlet has knowledge and skill on crop management.
- The general community of Pannimunda has physical, natural, social and human capitals along with limited financial capital. The cultivable agriculture land is available with limited irrigation sources as natural asset, own farm equipments and livestock as physical asset, skill and knowledge on conventional crop cultivation are with them as human asset. Though they are with limited financial sources, due to the problem on pest and disease attack, the cost of cultivation has increased and affects the income. The market linkages are found strong for their agriculture produce, but due to quality reduction (pest and disease) in the product, they did not get good price for their produce.
- Surface water source is very limited for irrigation purpose which affects the up land productivity. There is a good rainfall, but the infrastructure for conserving the rain water for irrigation is not there. No knowledge and skill on infrastructure development among people for water conservation and management. Poor networking with the concern line departments is found. Totally the community lack financial capital.
- The people depend on ground water for drinking purpose, which is insufficient during the summer season. Poor quality of drinking water also affects the human

capital. Financial capital is nil to undertake any effort on this. Three common wells are there, but it lacks maintenance due to lack of initiative among people.

- There is a social capital in the form of SHG involved in savings and enterprise activities. Social networking for marketing their produce is poor. Human capital in terms of knowledge and skill found to be strong.
- Physical capital like primary health centre and drinking water structure is not there and due to poor hygiene, most of the people including children (human capital) have skin diseases. Due to alcoholism and tobacco, many got mouth ulcer and cancer. The human capital lacks knowledge and awareness on health related aspects.

4. Activities to be done for Thachampath Hamlet

No.	Issues / Needs	Content	Capacity building	Linkages
Agriculture & Soil Health				
1	Low agriculture Productivity Poor Soil Health	Content on measures to revitalize the soil fertility Prepare and issue soil health card to farmers	Carry out soil testing with the support of soil and water conservation department of KVK Awareness on the soil health management and provide knowledge on locale specific soil conservation measures. Training on soil health Management	***Link for*** Constructing water conservation structure and training programme Explore the possibility of conducting Soil Health Management Training with Agriculture University.
2	Increased pest and disease in crops	Content on Integrated Pest and Nutrient Management for crops like pepper, arikkanut etc., Content on organic farming Content on post harvest technology for pepper	Training on various organic farming techniques to control pest and diseases. Awareness generation about post harvest technology for pepper crops	Link with KVK / RARS and Agriculture department for technical inputs
3	Crop Diversification	Content on crop diversification	Awareness on crop diversification	-

No.	Issues / Needs	Content	Capacity building	Linkages
Water: Domestic & Irrigation Purpose				
4	No water conservation techniques in upland water is short in summer No rain water harvesting structures to store the water	Content on importance of water conservation and management for irrigation Content on low cost technology rain water harvesting structures	Training on water management Awareness on water conservation method	Explore the possibilities for construction RW Link for providing water storage structure for pot makers Link pot makers With NEGP, Panchyat, DRDA and DIC
5	Less quality of drinking water	Content on the need for safe drinking water Content on causes for poor water quality Low cost techniques to treat water	Awareness creation on drinking safe water / water borne disease Awareness on causes for poor quality and precautionary measures to be taken to keep water source and general environment clean Awareness on low cost techniques to treat water	Identify the causes for poor quality by linking with concerned department
Income Generation & Market Linkages				
6	Lack of awareness on additional income opportunities	Content on livelihood opportunities	Training on : Mushroom cultivation Rabbit rearing Livestock rearing Kitchen garden Floriculture	-
7	Lack of Market information in time for Agriculture products	Information on marketing details for the agriculture products	-	Link with the market, if possible
8	Poor market linkage for SHGs	Module on Quality control of products and packing techniques to SHGs	Training on Quality control of products and packing techniques to SHGs Establish network with MSSRF outlet	-

No.	Issues / Needs	Content	Capacity building	Linkages
Livestock				
9	Lack of quality in milk	Content on LM and CPP Information on nutrient rich cattle feed, its practice and its source Importance and need for quality milk production Content on disease management of livestock	Training on good dairy practices, feeding, livestock rearing, quality milking Training on Livestock Management Disease management Quality milk production	Livestock department Brahma(NGO) Malma (grass seeds)
Education				
10	Lack of awareness on higher education Lack of employment	Information on higher studies opportunity with scholarship Information on employment opportunity	Awareness on higher studies and employment opportunities Training on ALP CALP Course on MUPP	-
Health				
11	Alcoholism	Information on ill effects of alcoholism	Awareness on alcoholism and drug addiction	Referral services with drug addiction rehabilitation centre
12	Health problems	Content on personal hygiene Content on basic health issues	Personal Hygiene Water borne diseases Nutrition Thyroid	Link with health department
13	Lack of knowledge on nutrient rich food.	Information on nutrient rich food crops and medicinal plants	Awareness on malnutrition Training programme on kitchen garden	-

Note:

- Further discussion needs to be done to ascertain the concerns of farming community on crop diversification as they mention as one of their needs.
- Lack of farm equipments needs further propping as it is not clear in the PRA report. If the reasons are listed and then it is easy for taking the decision

4.1 Livelihood Analysis of Thachampathu Hamlet

Irrigation and Agriculture

- During the transect exercise it was found that the land as natural capital is available with kuruma community, but the soil condition of the land is poor and needs revitalization. The human capital lacks a soil conservation measures and techniques on soil health management aspects.

- In relation to irrigation, the natural resource i.e water is found short during summer which caused a reduction in the area of crop cultivation. Knowledge among kuruma community about water conservation lacks in human capital.
- The natural capital, i.e. water is scarce for the pot making community and due to this they face the problem. They also need a support from financial institutions to modernize their production units
- Lack of awareness on water conservation techniques in human capital of kuruma community, which is essential to be adopted in upland. Also there is no rain water harvesting structures to store the water.
- One water user's committee is functioning in the village, which is considered as social capital. This committee meets regularly to discuss the drinking water issues in the hamlet and finding solutions.
- The agriculture scenario in the kuruma community depicts that the Knowledge and skill on organic forming is lacking in human capital. Pest and diseases attack are severe in crops like pepper and rice. The people are not exposed to the modern methods of plant protection measures. They prefer organic method of cultivation and plant protection measures. Organic farming training can be extended to them.
- Livestock as physical assets is there; whereas the human capital lacks knowledge and skills to manage the livestock is missing. It is observed that dairy is an important income for the villagers, however, as many said, they need knowledge pertained to the management of livestock in order to produce more milk without compromising the quality of the milk.
- Two water tanks are found in the village, which could be considered as physical assets and most of the houses are having house service water connection from this tank.
- Health is another area of concern in the village, as the villagers suffer from water borne diseases and malnutrition. If the human capital is strengthened through systematic awareness creation, this problem will be solved to a greater extent.

5. List of Strategic Partners to be invited – Both Pannimunda & Thatchampathu

Concerned officials from the following department need to be invited for strategic partners meeting depending upon the thematic area selected for the meeting: Village Panchayat representatives should also be invited during the strategic partners meeting:

- Tribal Department
- Soil conservation department

- Agriculture department / Agriculture experts (IISR)
- NEGP
- RTRS
- KVK / RARS
- Water authorities
- Lead bank minor irrigation department
- CWRDM
- Dairy development
- Animal husbandry Department
- Brahma agriculture development Agency (NGO)
- Panchayat
- Ration shop
- Health Department
- IMA, MIMS, Amritha hospital,
- Vivekananda Hospital, ICDS
- Employment office.
- Education department
- Housing board
- Natural Rural health mission
- Horticulture Department,
- Women Development Corporation and
- De-addiction centre rural whole market
- Brahma(NGO)
- Malma (grass seeds)

6. Follow up of the Training Programme

The project staff sensitized the results of PRA exercises to the representatives of Grama Panchayth in a one to one discussion held at Thachampath VKC. Mrs. Deepa, member of Grama Panchayath was involved in PRA exercise while employing certain important tools like Transect walk, Timeline analysis, Resource mapping etc.

Water scarcity was one of the important problems raised by the people living in Pannimunda hamlet. The issue was discussed with Meenangadi Grama Panchayath.

They shared their concern and explained the measures adopted by Grama Panchayath for solving the crisis in the past. Due to paucity of fund, they suggested us to explore alternate solutions as well.

The Standing Committee Chairman of District Panchayath, who represent the locality, after hearing the issue offered possible solutions. The team briefed him about the PRA exercise and requested his co-operation for convening the meetings of strategic partners to solve the problems came up during the need assessment survey.

The team also briefed one NGO (Brahmagiri Development Society) working in Meenangadi for promoting livestock population and dairy, about the need assessment and requested their support to solve problems related to livestock and dairy. With the support of Brahmagiri, VKC organized a training programme in good practices in dairy and animal husbandry. A booklet on good practices in dairy and animal husbandry has been prepared.

As part of promoting dairy units for enhancing the livelihood options, mobilised an interest free loan worth Rs. 1,00,000/- (one lakh) for starting five individual dairy units in Thachampath Village.

For promoting and availing improved furnace to the pot makers, VKC linked them with District Industries Centre and Commission for backward classes for financial support.

In the awareness level, VKC organized a camp/ meeting on alcoholism and its impact on health. Posters have been prepared for sensitising people to avoid chewing/use of drugs. Three patients from the village availed free medical aid from Amrita hospital with the active participation of Knowledge Workers. Water mismanagement problem has been put in to the forefront of the people by screening visual documents shot from the village itself. Mobilised community and renovated one abandoned well and reconverted the well suitable for drinking water.

Entitlement Passbook work has been completed and ready for circulation. Four people accessed Government Schemes from the village with the support of Knowledge Workers.

For enhancing rice productivity, VKC organized farmers meet at VKC and facilitated farmer to farmer exchange on Modified Methods of Rice Cultivation. A handout has been prepared to help the farmers to practice this method.

For addressing pest and disease problems on pepper, VKC with the support of KVK Ambalavayal organized a training programme on how to manage pest and disease attack on pepper. A poster has been prepared indicating the application of trichoderma to control pest and disease on various crops. Another poster explaining the usage of Pseudomonous is getting ready for circulation.

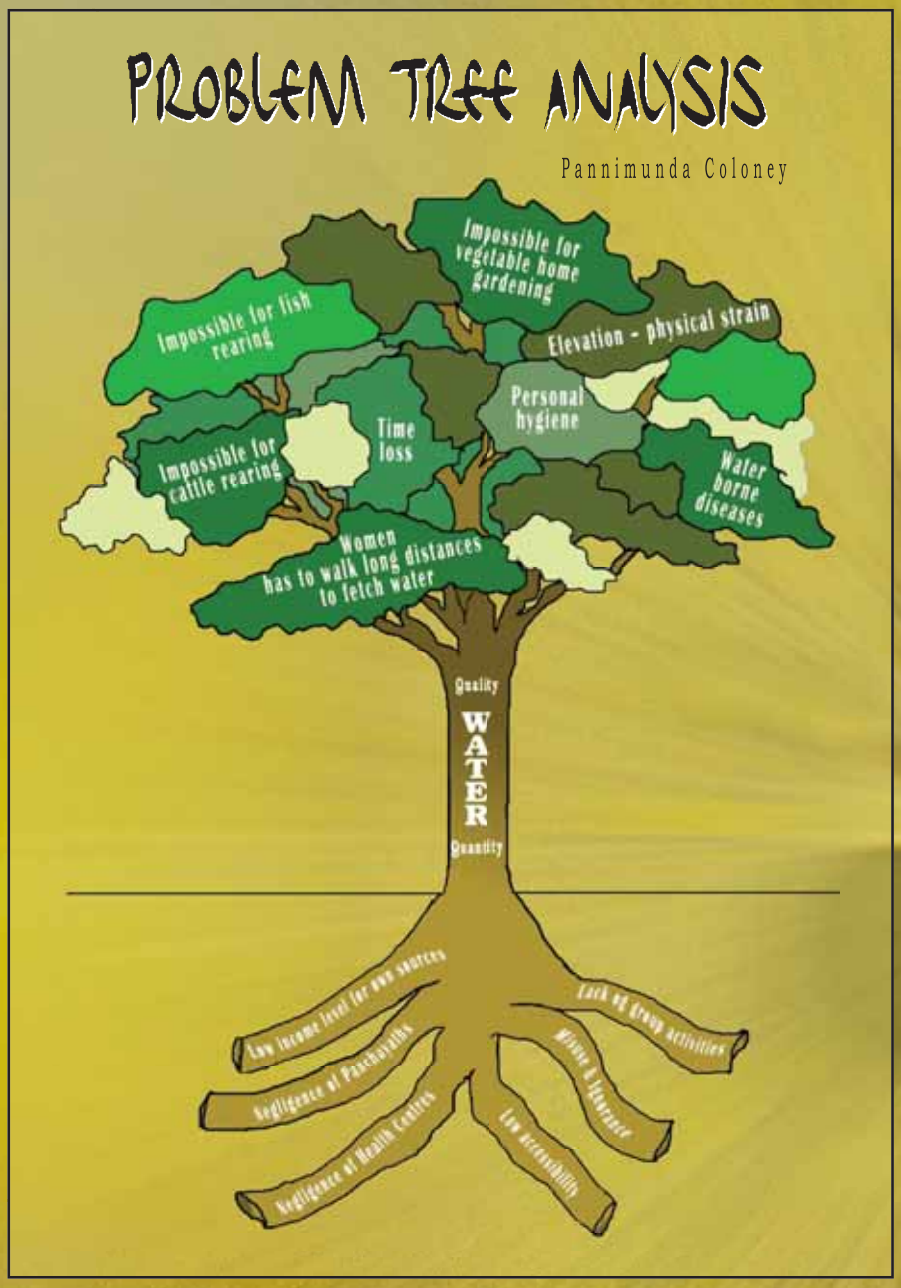
For addressing soil health problems, training was extended on vermin compost preparation. Two farmers have built vermin compost pits.

The VKC team visited other VRCs and insisted the need for a coordination committee at District level to develop agriculture contents relevant to Wayanad district and discussed the means to reach the same to the needy people. This was meant to enhance the reach of CNP among more interested people. KVK has promised to convene a meeting of institutions providing knowledge services in Wayanad. KVK will also partnering with MSSRF in strategic partners meet.

Solving the water crisis is the prime future goal of the VKC. Dissemination of scientific knowledge in pest and disease management in various crops, enhancing crop productivity and soil health etc are important concern. Increases the accesses to Government schemes are vital for the development of Paniya community. Drop out is a serious issue among the Paniya; possibilities of initiating INTEL may be a solution. The health problems are growing among the Paniyas. Linkage with National Rural Health Mission will be strengthened to address the health problem in the village.

7. Conclusion

The innovative blending of GIS into the sketch mapping exercise of PRA engendered a remarkable experience and the expected outcome as aimed at. The participants had demonstrated their enhanced ability to replicate the PRA exercise in other areas and varied context. The outcome clearly exhibits the overall problems, issues and needs of both Thachampath and Pannimunda hamlets. The VRC staff had taken certain immediate actions as mentioned above in the follow up of the training programme. The outcome further had given a path to the staff members to plan meticulously and implement it systematically. While doing so, the pivotal part of convergence with the local development plan of the PRI will be explored to enhance the responsibility of the local governance and the sense of ownership among the community which are crucial for sustainability. To network with strategic partners, the tentacles of VRC and VKCs, meeting has to be held with them to deliver the result oriented action with synergy. All together it's a memorable experience as the outcome of this training will reach out the unreached pocket the marginalized tribal community.



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