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Conservation of millets: the role of community leaders in Kolli Hills, South India

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Traditional knowledge is based on vast experiences gained over centuries that is communicated from one generation to another. With growing concerns of malnutrition and dietary diversity, traditional food and cultivation practices are gaining attention of scientific and development communities. Efforts to extract this knowledge apart, there is also a need to understand how this has been transmitted. A shift from focus on knowledge to focus on practice may provide pathways to understand how communities adopt and sustain certain practices over generations. This study is on the role of community influencers – known as ‘*Oor Goundars*’ (village leaders) among the tribal communities of Kolli Hills in Tamil Nadu, South India – in conserving millet landraces. Using the Social Practice Theory, the existing role and importance of these community leaders is analyzed. The study finds that conservation of rich knowledge of social, cultural and agricultural practices reposed with traditional community influencers such as *Oor Goundars* is diminishing. It probes whether it may be possible to preserve or enhance traditional knowledge within its setting by increasing focus and attention on these influencers and the cultural practices that they impact.

Keywords: Community influencers, Kolli Hills, Millets, Social practice, Village leaders

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Communities around the world possess knowledge, based on centuries of experience, adapted to their environment and communicated from one generation to another. This knowledge manifested in various forms is acquiring greater significance in the present-day context. In agriculture, several ancient grains were used in ritual practice or even held as something to be worshipped¹. Amidst growing concerns over malnutrition, especially in India, there is a movement to re-visit dietary habits and diversity, with traditional food and farming gaining attention and efforts to document or share the knowledge with varied stakeholders for greater understanding. However, human intervention has been important in conserving traditional knowledge over centuries and the methods of preservation are central to its existence. According to the Food and Agricultural Organization of the United Nations, it has been estimated that one in nine people or about 800 million people go to bed hungry every day². The Convention on Biological Diversity, 1992, at the Rio Earth Summit recognized the importance of traditional knowledge recommending initiatives to preserve and promote it, making explicit

the link among traditional lifestyles of indigenous peoples, local communities and biodiversity³. The biodiversity wealth of a region has been linked to the cultural diversity where it is found, located in various forms and traditions. Each of these forms is in relation to the context of the cultural and natural heritage of that ethnic group. Evidence is that community participation in forest management substantially improves quality and condition of the forest more than the governments⁴ while traditional practices provide solutions to current challenges⁵. The International Union for Conservation of Nature (IUCN) emphasized ‘biocultural’ diversity as relevant for conservation and sustainability and traditional knowledge is documented through informal and oral traditions, besides cultures, social customs and community practices. This study explores social and cultural practices within the ‘Malayali’ tribal community of Kolli Hills in southern India, to preserve millets – cereals that are seen as being nutritious and hardy in rain-fed, semi-arid regions.

Kolli Hills

A majority of the people in Kolli Hills of Tamil Nadu in the south of India are ‘Malayalis’, a tribal

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community. Agriculture practised here is mainly by small and marginal farmers and about 15% of them own over 2 h of land⁶. Lack of communication between hill-dwellers and people on the plains increased dependence on millets for food security. Over years, this has led to substantial genetic variability and millet diversity⁷. Traditionally, not only the Malayali community but also other groups of people along the western belt of this state and in other Indian states consumed millets as part of their traditional diet. However, easy availability of rice for consumption free through the public distribution system, combined with increasing demand for cash crops, reduced the need for millets⁸. The traditional crops and foods consumed have a nutritious and climate-friendly quality. Millets are climate friendly in the sense they can be grown in water-scarce conditions. Millet is one of the most important drought-resistant crops⁹. Although food security is assured in the tribal areas of Tamil Nadu particularly because of the welfare measure of the public distribution system offering free rice, the dipping trend in the millet consumption in tribal areas has put nutritional and environmental security in jeopardy. Sabar's study of the Chuktia Bhunjia tribes¹⁰ in eastern India finds traditional methods, technologies and indigenous agricultural system helped people to survive within an ecosystem, manage biodiversity and prevent soil degradation. Removal or transfer of information from the group can threaten stability and may lead to inappropriate use and there are concerns over unsustainable use of medicinal plants for commercial purposes^{11,12}. The tribal communities' knowledge of the environment, the importance of conservation and the availability of a wealth of knowledge are evident in cultivation and in other practices. Millet conservation strategies included seed collection, multiplication, distribution, farmer to farmer exchange through seed storage banks and establishment of such banks were built upon traditional practice⁸. The Malayali tribes, said to be from a proto-Australoid group that lived before the Harappan civilization, had abundant knowledge of medicinal plants. With adoption of modern ways of life, there are concerns that this heritage will be lost forever¹³. One of the important influencers within this community, the *Oor Goundars* or local community leaders, command respect and lead the way in social and cultural events. They also have a role in the community's decision-making in farming

practices and symbolically select seeds and initiate the cropping season.

Methodology

Through 'Social Practice Theory', this paper examines the significance of the community leaders *Oor Goundars* and the context of local festivals, traditional habits and folklore, art or music for millet conservation. In Social Practice Theory, people are carriers of practice for a particular behaviour to be established within the community and ritualistic action becomes normalized^{14,15}. Shove *et al.*¹⁶ suggest three elements to be considered in a social practice:

Competences (the things people know how to do – embodied skills),

Materials (the technology – the actual things that we use at the time of doing - e.g. objects, infrastructure),

Meanings (the significance of the practice, and how it relates to wider ideas in society, whether seen as empowering, healthy, environmental friendly, problematic, etc.),

While referring to the practices comprising these three distinct types of elements, Nash *et al.*¹⁷ emphasize that practices are made up of all of these elements interconnected together and cannot be reduced to any single element. In the current context, each of the three components is analysed for strength or weak links in reinforcing traditional knowledge within the community (Fig. 1). The elements are abstract but made visible when they come together in a particular setting.

Materials and methods

In-depth interviews are used with guideline questions, focus group discussions and observation.

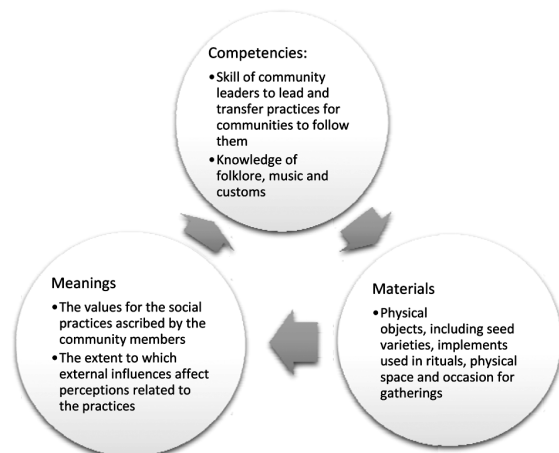


Fig. 1 — Social Practice Theory - components under study (adapted from Shove *et al.*, 2012)

These were chosen since several researchers including Qu & Dumay¹⁸ indicate the potential of semi-structured interviews to address the major concerns of the localist perspective to produce situated accounts. The communication processes in the past and present are explored in conservation of landraces, millet diversity, cropping and food and culinary practices. Also, this was chosen based on the research methodology techniques of McCracken¹⁹ who suggests that the long qualitative interview is useful, because it can help us situate these numbers in their fuller social and cultural context. The social leader of the community plays the role of the *Oor Goundars* and not the political or elected representative. Like the opinion leader who mediates mass media messages to their followers, the *Oor Goundars* mediate to the people the traditional knowledge imbibed from their ancestors as well as the modern knowledge they have learnt from the mass media and elsewhere.

Competencies in millets refer to the latent knowledge and skill in identifying millet species and knowledge of conservation, selection as well as cultivation practices, besides the relevant social and cultural traditions. Chosen traditional grains are also part of family tradition. Also, latent knowledge within the community is probed. With regard to the *materials* in terms of conservation, there are local custodians of traditional seeds, who have been handing down material from one generation to another. Materials include seeds, the various landraces of millets, as well as the means to preserve them with specific methods. The *meanings* of various practices include the presence of social and cultural festivals, traditional habits and folklore, art or music forms. Each of these holds a specific relevance in the local context. The interlinking of this to agriculture, millet production and acknowledgement of their relevance within the local community are examined. The skill and the influence of the community leaders, the availability of required material, time and space, the perception of relevance that these traditional practices have, and influence of external sources in sustaining or weakening the practices are studied.

The three components were probed among community members in Kolli Hills in the villages of Thuvaparallam and Naduvalaivu. A total of 31 persons were interviewed in groups of different categories.

These included

i) *Oor Goundars* (community leaders) & their family members (5 Nos.),

- ii) members of farm families (7),
- iii) two women's self-help groups (8+9)
- iv) representatives from non-governmental organization (NGO) (2)

were also interviewed to understand the social and cultural context. For qualitative interviews, sample size selected was based on Baker *et al*¹⁹.

Naduvalaivu village: The name 'Nadu Valaivu' means the centre bent. The village is picturesque, and the houses have a front area that is shaded usually with seating spaces. The agricultural activity here includes coffee, sago and mainly cash crops. They used to engage in substantial millet cultivation earlier, though this has given way to market-driven crops. In a sense, their present cultivation practices reflect the on-going change in the village and in the neighbourhood.

Thuvaparallam: The name of this village also means a basin / crater or a low-lying area of legumes (pigeon pea). Along with millets, these legumes are popularly grown in this region and are part of the regular diet. The shift to cash crops is also happening here but the women are also active in taking decisions on agriculture either along with their husband or independently through information from their peer women farmers and children.

Meeting with women's groups

Focus group discussions were held with women in Naduvalaivu and Thuvaparallam villages. In the rural setting in this region, women are also farmers and they are engaged in farm-related activities. However, many of them do not refer to themselves as farmers and only some actively take farming decisions. Women who are engaged in group activities and are members of self-help groups facilitated by the government are more articulate and involved in active decision-making. There are also women's and men's groups set up by the NGO M S Swaminathan Research Foundation (MSSRF) in this region. Due to the intervention, women are also actively involved in millet processing activities, running their own unit.

The two groups of women were probed on traditional practices and influencing factors in conserving millets and how they were related to traditional knowledge on this subject.

Results

Conservation practices gleaned from literature, from discussions with the community members, and

observation during field visits are listed below. These were discussed with the community members. The practices that were probed were *Oor Mugatham*, custodian farmers, *Ponneru*, *Oor Goundar*, folk songs, culinary and food habits, and external influences. Of these, the role of the *Oor Goundar* alone is taken up for a more detailed discussion.

Oor Mugatham

The symbolic start of the agricultural season is with the ritual of *Oor Mugatham* which from Tamil roughly translates to 'start of auspicious time' for the village. It is led by the village community leader who indicates the upcoming agricultural season. As part of the rituals during the *Oor Mugatham*, the community leader chooses and includes a set of varieties to be cultivated by the community in the upcoming season. These are the particular varieties that are deemed more productive for the upcoming season. Following the choice, the community sets out to procure and farm these varieties on their land. This ritual also contributes to agricultural diversity. The community decisions are to be guided by choice of seeds of the community leader. This ritual was recalled by almost all those who were interviewed.

Custodian farmers

The tribal community here has a practice handed down over generations which involves preserving traditional seed varieties within their families. These seeds are stored in conventional methods, usually in the form of a clay pot. The seed varieties that are stored in this manner with ancient roots would be sustained simply because for the family it is a custom, a habit, pride and a means of preserving their family agricultural heritage. In recent years, several families maintain these seeds more as a matter of ritual, rather than actually using them in their fields. Lower productivity and lack of economic incentive in a market-economy are also reasons why these have diminishing popularity. However, since there is a tradition to set aside some seeds, this is being followed more as a ritual. While some community members holding onto traditional seeds continued to cultivate it, others moved on to cash crops or dispensed with this traditional system.

Ponneru

Translating to 'the golden plough' *Ponneru* is a ritual, during which the community leader pulls a

plough into a designated spot in the village. This ritual is accompanied by multiple festivities and a feast. However, here too, community members have decreased their independence in order that they may catch up with what has been laid down in the traditional practice. The festival *per se* has its own significance and place of importance within the community as they recall and speak about it among one another. The belief is that this gives a good harvest and is important to start the cultivation season. In practical terms, the village as a whole begins the cropping season together, after this ritual, leading to more discussion, cooperation and sharing of resources through this traditional practice.

Oor Goundar

The *Oor Goundar* is the community leader of the village, and has to be a married male looked up to for resolving various issues. He is usually given a place of honour at important festivals. With expertise in identifying seed varieties and selecting for the cropping season, these leaders play a role in conservation of traditional agricultural practices. When there was an issue in the village and the violation of a social rule by a villager, a 'verdict' given by the *Oor Goundar* –, e.g., in the form of a fine, etc., would be accompanied by a meal to all villagers. The feast would consist of a series of grains including millets and legumes to be eaten by all in the village. Sometimes, the neighbouring villagers would also join in. The date for the feast would be fixed by the local priest along with the *Oor Goundar* and the cost would be borne by the violator as penalty for their actions. The *Oor Goundar* loses place of prominence when he is single. Some marry more than once to retain their status. Finding an heir is difficult with the younger generation moving on to modern lives.

Folk songs

The community has a treasure of songs for different occasions. Several of them are even made up on the spot – depending on the situation e.g. on seeing a beautiful woman, or during the month-long festival of Aadi collecting cash and contributions. These songs evoked spontaneously and directed to another person brought in an imbibed culture of folk songs. In fact, the community used to sometimes even sing loudly to scare away wild animals when there were tigers and bears in the region. These have been

recorded in a book 'Kolli Malai Songs'²⁰. These songs reduced the drudgery of farming but also provided insights and knowledge into how people performed these actions. At the time of a death also, music and millets played a prominent role. When someone died, there are separate lament songs and millets are used in the customs. Five types of grains are offered and mourners beat their chest and do the *kummi* (a type of group dance, usually performed by women, moving around in a circle) during the ritual. This practice is, however, slowly diminishing now.

Culinary and food habits

Women here are not seen as being the primary custodians of agricultural tradition or traditional knowledge. However, when it comes to nutrition or cooking healthy food and traditional ways of cooking millets, these are recounted with nostalgia by and in relation to women. The cooking of millets is recalled with nostalgia and relevance and an important point of reference in the presence of these cereals within the community. The food is believed to give strength for the hard labour that agriculture demanded, when millets were a staple diet. However, this is not the primary diet now and the non-indigenous idli (steamed rice cakes) or dosa (rice-based pancakes), or rice-based meals are mentioned by all the respondents as being part of the regular diet, while millets form an additional or optional food. Since the public distribution system provides rice, rice is now consumed more than millets or legumes that were traditionally eaten. In the Tamil month of *Aadi*, however, there is a feast for the village, through contributions from people, and new clothes are distributed with a meal of millets.

External influences

In recent years, the work being carried out by the government and the value additions to millets that the communities have been trained in have made a difference to the economic value for millets. Earlier, each of the families used to store their traditional seeds. Now that practice had gradually waned but NGOs are making efforts to reinforce this practice. These institutions have had a role in reinforcing, recognizing and documenting these practices as well as making efforts to revive them. Some of these farmers who have made significant efforts towards conservation have been recognized by international institutions such as the Bioversity International.

This study looks primarily at the role of the *Oor Goundar*, and the existing influence and potential for promoting and conserving traditional knowledge on millets.

Discussion

Community structure and livelihood practices

The primary source of information is from the self-help groups (groups of women who come together for microfinance and development activities) from which they get seeds, information on when and what crops to cultivate. Some of the women take these decisions in discussions with their husband. When it comes to agricultural practices, some of them say they do not have the practice of conserving seeds though it was done in earlier generations. For their group activities, they also get support from the government as well as from local non-governmental organizations.

Cultural practices and agricultural rituals

The practice of setting up the *Oor Mugatham*, during which the *Oor Goundars* or village leader makes a symbolic start to the farming season, is a ritual that women recall as an important agricultural custom. They refer to the practice 'Ponneru' as a key ritual. However, these are not necessarily key influencers in farming decisions.

Local Leaders

The *Oor Goundar* is considered a powerful person, in that, even if he needs to convene a meeting in the middle of the night, the drum beater (tandora) starts to make the announcement to assemble the people. However, when it comes to decision-making, major influencers in farming decisions the women make are not as much as those of the political leaders or the *Oor Goundars*. Nevertheless, senior members from within the women's group are powerful. The information that they receive from the group is cited as a major influencer in decisions. Also, influential women in their village on whom the group relies for information are named. In this case, the women are *Rajamma* and *Bakhyamma*.

Media habits

The TV watching routine of women intrudes into the time for traditional social engagements. Every evening after 5 or 6 pm, women say, they finish their cooking and proceed to watch TV. This influence has intruded and impacted some of the earlier social

engagements that women had, resulting in diminishing awareness of traditional music and folklore. Also, the advertisements seen on TV are cited as a reason for their children demanding urban and marketed food products rather than their traditional meals.

NGO intervention

According to this group, information and support comes both from the Government as well as from NGOs. They are satisfied with this information. The people who, however, help take these decisions that guide them are family members. Those who are married into this village get knowledge on farming practices from their in-laws. Often, knowledge are transmitted just by listening to and observing their elders.

Cultural practices reinforced millet diversity and nutrition

While music was a major part of earlier generations, modern education is cited as a reason that people have moved away from traditional music knowledge. While songs related to millets have been sung here in the past, this knowledge is declining and only one or two women in the group could recall these; while none of them could actually sing these songs. Women do sing lullabies to their children, but this is different from traditional songs linked to agriculture and farming practices. Millet-related traditional practices recalled by the women include temple festivals with millets in the feasting and festivities. Cropping patterns do include millets along with other crops. However, women find that the next generation children take to the changing lifestyle, where the priority is to study and to move away from agriculture if they want to. Their food habits also are a movement away from the tradition tribal foods though most of them consume millets at least once a week. Millet varieties have been handed down in families across generations. However, this is seen more as a ritual rather than seed conservation for farming. Women feel more strongly about cooking methods and practices besides agriculture. For instance, cooking practices of types of millets learnt from their elders has helped imbibe those traditionally more nutritive cooking forms, and kept the tribal people healthy in the past. Now, modern foods are replacing these on their daily menu, especially those of children.

Farm family perspective

Farm families are essentially those where most of the family members are engaged in agricultural activities on their farm which may be on their own or leased land. Farming workload in these families is shared collectively, but decisions related to farming and agriculture are taken by the head of the household, usually a man. This is also changing now as there is a shift to more women farmers, and women-led farms and more collective decision-making by both men and women. The decisions are also guided by influence of the market forces and of the education or migration of children. In the groups we met, a mixture of farming for food as well as for cash crops is carried on. Women and men equally answered questions pitching in, one for the other.

Community structure and the government

The structure of the family is a major determinant of influencing decisions related to agriculture and farming. Most decisions are taken after discussions with the elders. A lot of the decision-making is guided by the government's Agriculture Department. The reliance on the panchayat that they used to contact earlier for information has somewhat reduced. However, whenever required they do contact them. Besides those on saplings or seeds, enough information is got from the Agriculture Department. But more support for loans or for information related to machinery is desired. Among cultural practices, the *Oor Mugatham* is considered important, but not much in the context of influencing farming decisions. Other influences specifically with regard to market information and better livelihood opportunities play a part. Here too, women's groups influence decisions farm families take.

Local leaders, media habits and NGO intervention

Besides the government, they get primary information from the NGO MSSRF that is working actively in the region. They also get information from their women's groups and self-help groups. They also get regular training in millet value-addition and processing, both of which are important for sustaining farming practices. About the role of the leader of the village – the *Oor Goundar* – they say that his importance is more in being a figurehead of the community, and less in actual agricultural decisions. However, they acknowledge that this person is an important information source and shares his wisdom

on a number of issues including on various disputes related to the people in his village. On the use of technology, while they have mobile phones, it took a while to get used to them. However, they still do not get much marketing information in spite of the availability of mobile phones.

Millet diversity conservation and nutrition

Millet are being grown in recent years due to a boost received from NGOs. However, traditional seed conservation mechanisms are very limited and are gradually eroding. Most people who are custodians of traditional seeds have a small quantity preserved in traditional pots. Their families have stopped farming with their seeds, but keep a small quantity, for the sake of tradition. Community seed banks are considered a better means to preserve seed varieties. Farm families also find that millets do not grow as well as they used to and there is reduced seed diversity. The shift to cash crops such as cassava (tapioca) for starch-producing factories in the neighbouring districts has brought them a better income. However, this has also meant that they have moved away from the nutritious crops that they were used to cultivating. Now, from the profit from the sale of cash crops, they buy rice from the market (besides getting free rice from the public distribution system) and consume it. In consumption, they say, life has come a full circle since people in the cities are buying millets and eating them now. The tribal people also buy millets from outside sometimes than actually growing them on their own lands. However, traditional cooking methods still need to be learnt, such as the *kali* (a form of cooked millets) which information is passed on from mothers to daughters and daughters-in-law. This knowledge is still prevalent in the community as are practices such as cooking foxtail millet for pregnant and lactating mothers.

Cultural practices reinforced

Some cultural practices that were engaged in such as singing while doing labourious tasks helped feel reduction in drudgery. However, the present generation is unable to follow or understand the cultural and social context of many of these songs and, therefore, this practice is largely absent. Musical knowledge, acquired by listening, was not transmitted through any formal learning system. The role of songs in various agricultural activities, household chores and/or taking care of children is recalled. There were also songs during cooking millets (which was time

consuming) and while carrying heavy loads, to help ease the burden.

Oor Goundar – community leader perspective

The community leader of the village is looked up to for resolving various issues and given a place of honour at important festivals. Engaged in agriculture, usually these leaders are affluent or come from families with larger farm holdings. About 10 acres of land is considered a large holding in this region where most are small farmers with fragmented farmland. Numerous paddy varieties, types of millets, and vegetables and fodder crops are grown. The cropping pattern ensures that the land remains fertile and also, there is fodder and some biomass utilization e.g., in the form of rope-making from fodder crops. The primary source of information for the community leaders have been their father. They would engage in various activities together, even competing to see who does a better job and learning in the process. Knowledge on crops, on maintaining fertile land, and about songs during various activities were experienced and learnt.

Community structure, government & cultural practices

Oor Goundars need to stay married and have children to maintain their position of prominence in the village, leading them to remarry for this status or in case their first spouse did not have children. *Oor Goundar Malaisamy*, whom we met, has been married four times, just to keep his social status to retain his place of prominence. The community believes that a married leader is more auspicious. The intervention of the government is limited here, though with elected representatives also being part of the social fabric, the role of *Oor Goundars* in dispute resolution becomes reduced. The knowledge and transmission of cultural practices is decreasing, since the family members and children of the *Oor Goundars* are adopting to more modern lifestyles. Also, education and non-farm jobs have meant the time spent with their father has been limited, and knowledge of agriculture and seed variety selection experience are limited in the next generation. While this is usually a hereditary position, women cannot claim the same place that their father holds in this role. It is only the sons of the leader who gain this importance. As *Oor Goundar Malaisamy*, who was interviewed, says, “To really learn, you need to get into the field you need to experience the activity that is how you get the exact technique.”

Local leaders, media habits and NGO intervention

Music is seen as a treasured skill here. Songs are used for different occasions and even made up on the spot. The villagers even used to sing loudly to scare away animals, when tigers and bears roamed their villages. Government schemes have involved people of the village including the *Oor Goundars* in various activities such as ticket collection at local sites or being part of the community patrolling the forests. NGOs provide support and technical inputs on new methods and technologies. Interestingly, value-additions to millets facilitated by these organizations have made a difference to the economic value of millets. However, it is still a struggle to compete with cash crops grown in the region. Traditional seed storage is a waning practice. Also, the presence of cattle was important to the whole agricultural landscape, besides alternative cropping patterns to support crop diversity and soil health. *Oor Goundars* were

experts in checking the seed varieties and assessing which ones were good.

Cultural practices, millet diversity and nutrition information

The methods of cooking, especially of millets, was carried out in such a way that once eaten, it equipped them for hard labour and they would not feel hungry for hours together on the fields. But the families, including the old mother of the *Oor Goundar*, says that this millet recipe is not much used now, having given way to rice and more non-tribal foods like rice pancakes. Even on the day of the interview, rice was being cooked in their homes, a stark difference to the traditional meal that they speak to us about from the past. The younger and educated children of the *Oor Goundar* admit that they are not too knowledgeable about these things. The concern is how this knowledge could then be transmitted as the youngsters are not too keen to step into their father's role in the future.

Table 1 — Social Practice Theory - Findings of influencers and barriers at Kolli Hills

	Competencies	Materials	Meanings
Influences positive to traditional knowledge	Local community leaders' role in decision-making on agriculture, on traditional seeds and practices including the cultivation of millets. Belief in competency of the village leader to take these decisions; this is a prestigious and long-standing tradition. The knowledge imbibed from the ancestors, has been learnt through close interaction and personal experience, with a wealth of latent knowledge. Some external influencers reinforce this knowledge and competencies – such as work by non-profit and research organizations to document these skills and competencies	Cultural traditions, <i>Oor Mugatham</i> , community gathering, custodian farmers help reinforce the millets in their lives. Availability and access to traditional grains as well as to the practice of storing and farming with these grains. Families that continue traditional storage methods have used more of the traditional seeds in their agriculture practice. External influences support in preserving seeds, systems and methods of traditional knowledge within the community; MSSRF, for instance, conserves 21 varieties of millets <i>in situ</i> .	The rituals and customs as well as the belief in the traditional structures ascribed importance by the villagers. Traditions and customs are still being followed and those interviewed believe largely in these social practices. Communities where they still believe in the rituals, the conservation practices exist in a more sustained manner. When external agencies, reinforce and give greater prominence to the seed custodians or the traditional structures, the role of these people acquires new respect and meaning.
Influences reducing impact of traditional knowledge	Additional sources of information from outside the village impact perceived role of the community leader in reinforcing traditional practices and among the villagers. Change in lifestyle of the families of the social leader – moving to urbanized jobs or lack of knowledge and interest in holding on to the family stature of leader. The struggle is in maintaining the criteria for <i>Oor Goundars</i> , knowledgeable people who provide inputs for agricultural practices and seed systems.	Cash crops and markets dictating cropping practices; migration of family members; giving up traditional storage practices or storing but not using traditional seeds. Increased cash crops or changes towards modern and possibly less nutritious food, also decrease in production and consumption of millets. Strong marketing strategy & incentives of seed companies in pushing their varieties among the farmers to replace traditional seeds.	Decreasing effect of the importance and reduced participation in traditional rituals, due to migration and urbanization of younger generation. Information from government extension workers, NGOs, self-help groups, marketing representatives, changing cropping pattern and food consumption. Lack of connectivity or reduction in belief in the rituals and social practices; closer connect with modern education and urban jobs and influences.

Conclusions

The interactions with different types of groups, farm family, women's groups, millet processing groups and *Oor Goundar's* family have several common and salient features. These are analysed from the perspective of the Social Practice Theory – the aspects of competencies, materials and meanings with the following findings (Table 1).

In this predominantly tribal community of Kolli Hills, there is a wealth of traditional knowledge, systems and materials that still exist. These knowledge systems through various social and cultural practices have been detailed herein. To sustain their traditional knowledge and materials in the form of seeds and methods of farming, reinforcement of cultural ambience, rituals, and positive social norms is needed. While these practices exist, their reliance on the role of the social and community leader, the *Oor Goundar*, as a main source of information is limited. The increasing educational levels and market interventions that are now influencing this remote hilly region are also an important factor. In tandem, challenges in the changing lifestyle and difficulty in reinforcing the role and relevance of the social leader do exist. While the *Oor Goundars* continue to be a treasure-house of knowledge and customs, within the given pressure and with the next generation seemingly not as equipped to take on the role, the question remains – how long can their relevance be sustained? This study has provided a sense of the importance and prevalence of certain traditional practices in millet conservation in Kolli Hills. There is opportunity, however, to probe into more detailed behaviour change aspects, especially from the perspective of social practices and their link to knowledge reinforcement and conservation.

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References

- 1 Dalton TJ, Global Supply of Ancient Grains in the 21st Century: Keys to Unlocking Their Full Potential, *Gluten-Free Ancient Grains: Cereals, Pseudocereals, and Legumes: Sustainable, Nutritious, and Health-Promoting Foods for the 21st Century*, Ed. Taylor, John RN & Awika, J.M. Wood head Publishing Series in Food Science, Technology and Nutrition (2017) 13-20.
- 2 FAO 2015, *How to Feed the World in 2050*, n.d.
- 3 Bavikatte SK, Robinson DF & Oliva MJK, Biocultural Community Protocols: Dialogues on the Space Within", *Other Ways of Knowing*, 2015, 1-31.
- 4 Ming'ate, Felix Lamech Mogambi, A framework for linking forestry co-management institutional arrangements with their associated livelihood outcomes, *Progress in Development Studies* (2016): 329-347.
- 5 Singh RS, Pretty, J, Pilgrim, S & Singha, RK, Traditional knowledge and biocultural diversity: learning from tribal communities for sustainable development in northeast India, *Journal of Environmental Planning and Management* (2010): 511-533.
- 6 King EDIO & Nambi VA, *Integrated Approaches in Small Millets Conservation: a Case from Kolli Hills, India. Chennai, India: M S Swaminathan Research Foundation, 2009.*
- 7 King EDIO, Bala Ravi S P & Padulosi, S, Creating an economic stake for conserving the diversity of small millets in the Kolli Hills, India, *Community Biodiversity Management promoting resilience and the conservation of plant genetic resources*, Ed. Abishkar Subedi, Nivaldo Peroni, Marja Thijssen and Elizabeth O'Keeffe Walter Simon de Boef. Routledge, Oxon, 2013, 194-200.
- 8 Kumar A, Community agro biodiversity conservation continuum: an integrated approach to achieve food and nutrition security, *Current Science* Vol. 109, No. 474 3, (2015): 474-487.
- 9 Saleh, ASM, *et al*, Millet Grains: Nutritional Quality, Processing, and Potential Health Benefits, *Article In Comprehensive Reviews in Food Science and Food Safety* (2013).
- 10 Sabar B, Bringing Culture Back: Traditional Agricultural Knowledge, Food Production and Sustainable Livelihood among Chuktia Bhunjia of Orissa, *Social Change* 42, 2 (2012): 203-227.
- 11 Balasubramanian AV, Knowledge and belief systems in the Indian subcontinent, *Ancient Roots, New Shoots: Endogenous Development in Practice*, Ed. Bertus Haverkort, Katrien Van t Hooft and Wim Hiemstra, London: Zed Books, 2003, 44-48.
- 12 Torri MC, Bioprospecting and Commercialisation of Biological Resources by Indigenous Communities in India: Moving Towards a New Paradigm, *Science, Technology & Society* (2011), 123-146.
- 13 Rajendran A & Manian S, Herbal Remedies for Diabetes from the Kolli Hills, Western Ghats, *Indian Journal of Natural Products and Resources*, Vol 2, (3), September 2011, pp. 383 - 386
- 14 Ferguson J, Huysman M & Soekijad M, Knowledge management in practice: Pitfalls and potentials for development, *World Development* 3 (2010): 1797-1810.
- 15 Schatzki TK, Knorr-Cetina & E. von Savigny (eds) *The Practice Turn in Contemporary Theory*. London: Routledge (2001).
- 16 Shove E, Pantzar M, Watson M, *The Dynamics of Social Practice: Everyday Life and How It Changes*. London: Sage Publications; (2012).
- 17 Nash N, Whitmarsh L, Capstick S, Hargreaves T, Poortinga W *et al*, Climate-relevant behavioral spillover and the potential

- contribution of social practice theory, Ed. Lorenzoni, I, Hulme, M., *WIREs Clim Change* (2017).
- 18 Qu SQ & Dumay J, The qualitative research interview, *Qualitative Research in Accounting & Management*, (May 2011).
- 19 McCracken G, The Long Interview, *Qualitative Research Methods Series 13*, Sage Publications, California. (1988).
- 20 Vedavalli L & King, EDIO, *Kolli Malai Makkal Padalgal*, Ed. Balasubramanian K & Baluswamy S, M S Swaminathan Research Foundation, Chennai, (2002).