Strengthening Collective Action and Sustainability of Traditional Farming Organizations From an Indian Philosophical Perspective

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Abstract: Developing countries like India are formulating various models to improve farmers’ lives and agribusiness organizations’ sustainability. However, most models focus on technological interventions in improving agriculture production, pest control and creating hybrid seeds that resist climate change to achieve agriculture sustainability. They ignore the role of the collective action approach to ensure the holistic development of farmers and the agriculture sector. There is significantly less attention given to indigenous ways of building collective action and organizational sustainability of the traditional Farmer’s groups. Therefore, the researcher aims to explore the existing activities followed by traditional farmers to ensure collective action and the organizational sustainability of their groups. Additionally, the researcher maps its similarity to the Indian philosophical principles of Pancha Maha Yajnas propagated by the Vedas. Pancha Maha Yajna describes five daily obligations or sacrifices an individual must make to respect and give back to society, nature, and the divine. Firstly, Brahma Yajna, which involves knowledge creation and updating. Secondly, Dev Yajna which is seeing divinity within and around. Third, Pitru Yajna, where we acknowledge and celebrate the contributions made by our ancestors. Fourth is Bhuta Yajna, which describes an individual’s responsibility to respect and care for all living things, including people, animals, and plants. Lastly, Manushya Yajna is a service to society. A qualitative case study method was adopted to explore the evidence of applying these ancient principles in the daily activities of traditional farmers groups in India. A theoretical model to enhance collective action and organizational sustainability grounded on Vedic concepts was developed based on the evidence from the study. Thus, agribusiness organizations worldwide can implement the tenets of Pancha Maha yajnas to encourage ethical behaviour, social responsibility, collective action, and sustainability in their organizations to promote the social welfare of farmers and society.

Keywords: Pancha Maha Yajnas, Hinduism, Indian philosophy, Vedas and yajnas, Collective action, Organizational sustainability, Agribusiness organizations

1. Background

Farmers form collectives to support each other in all farming areas (Annual-Report, 2019). These formal and informal organizations can help small farmers improve their income and asset holdings (Mutonyi, 2019). Farmers can adopt new technologies and techniques, access markets, and increase their yields by pooling resources and sharing knowledge and expertise through collectives (Khan et al., 2022). Farmers gain access to local, regional, and international markets (Ochieng et al., 2018). They can produce and market their products more effectively, negotiate better prices, and reduce transaction costs (Chimombo Masautso et al., 2022). Agriculturalists manage risks associated with agricultural production, such as weather events, pest infestations, and market fluctuations, with the support of farming organizations (Gava et al., 2021). But sometimes, these organizations face sustainability issues to achieve the abovementioned goals and benefits.

Several models proposed by Government and private institutions can be used to build sustainability of agribusiness organizations. However, most models neglect the importance of collective action in ensuring organizational sustainability and focus on technological interventions to boost agriculture sustainability. There is a scarcity of models that acknowledge the uniqueness of sociodemographic characteristics and the cultural context of the farmers’ community. Sometimes traditional farmers already apply the principles of collective action and sustainability in their groups, but their theoretical foundations are unexplored and unknown to the academic world. Therefore, the current research study aims to explore the existing activities & principles followed by traditional farmers to ensure their groups’ collective action and organizational sustainability. Additionally, the researcher maps the Indian philosophical principles of Pancha Maha Yajna propagated by the Vedic concepts in Indian philosophy to the activities of traditional farmers’ organizations in India.

Pancha Maha Yajnas is a Sanskrit term referring to the five sacrifices or offerings traditionally performed in Hinduism (Woodroffe and Avalon, 1913). While Pancha Maha Yajna is primarily a spiritual concept, its principles can be applied to many life aspects, including agribusiness organizations. These sacrifices are considered a duty for every individual and are intended to show gratitude to various beings and entities contributing to human life. Performing these sacrifices is believed to help individuals develop a sense of appreciation and detachment towards their possessions and desires. Also, it allows them to cultivate collective action and a spirit of service.
towards all living beings. However, research studies are needed to reinforce its capability to act as a model of collective action and sustainability.

2. Sustainability Models for Business Organizations and Agriculture

John Elkington introduced the Triple Bottom Line (TBL) approach to sustainability in his 1994 book, *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*, which is still relevant to business organizations. The TBL framework suggests businesses should focus on economic performance and consider their operations' environmental and social impacts. The model considers economic, social, and environmental factors when making decisions (Sala, 2019; Loviscek, 2021). However, the organizations say it is difficult for them to ensure a proper balance of economic, social, and environmental factors in the long-term functioning of organizations. Because when they focus on environmental and social considerations, the organizations cannot run profitably and sometimes decide to shut down.

Another sustainability model of Circular Economy features ways to improve the profits of organizations by minimizing waste and maximizing the use of resources using closed-loop systems. It involves reusing, recycling, and repurposing resources to create a more sustainable approach. The focus is on resource utilization and effective resource management (Pieroni, McAloone and Pigosso, 2019).

The Value Chain Analysis model elaborates on the sustainability of a business organization's demand and supply of products. The model examines a development or service's value chain to identify improvement opportunities. It analyses each step in the product value chain process to identify inefficiencies and areas where sustainability can be improved (Cristino Mandinga Bonfim et al., 2019).

The most popular approach of Corporate Social Responsibility can also be considered a sustainability model to take responsibility for a company's operations' social and environmental impact. It consists of developing policies and programs that promote sustainability, such as reducing carbon emissions, supporting local communities, using sustainable materials, etc. (Popova et al., 2019). This model works well in corporate business organizations to empower a community or group of people as a part of their organization's vision and mission.

There is another set of sustainability frameworks specifically designed for agriculture. The Food and Agriculture Organization (FAO) sustainability assessment framework evaluates the sustainability of agricultural systems by considering six criteria: productivity, environmental sustainability, economic viability, social acceptability, food quality, and food safety (Leknoi, Rosset and Likitlersuang, 2023). The Global Reporting Initiative (GRI) sustainability reporting framework provides guidelines for reporting on sustainability performance in agriculture (Tarquinio, Raucci and Benedetti, 2018).

The Regenerative Agriculture framework emphasizes reducing inputs such as synthetic fertilizers and pesticides, promoting crop rotations, and integrating livestock into cropping systems (Giller et al., 2021). The social sustainability framework was developed using a social science-based approach to understand the complexity of social interaction in agriculture (Janker, Mann and Rist, 2019).

It’s fascinating that these frameworks focus on economic, social & environmental dimensions of agriculture sustainability. However, academia lacks a model from ancient scripts that addresses collective action and sociocultural and traditional aspects of sustainability. Therefore, this study explores the potential of the ancient Indian philosophical concept of *Pancha Maha Yajnas* in the sociocultural context of traditional farmers’ organizations. The researcher believes that recovering the relevance and application of ancient knowledge & principles in the contemporary world enhances acceptance and inclusivity of the culture and traditions followed by the farmers. In a way, it helps to preserve and protect indigenous knowledge for future generations.

3. Methodology

A qualitative case study method was done to understand the daily activities of traditional farmers’ organizations. Since this method helps to collect in-depth and real-time contextual information about the functioning in the group setting, the researcher can observe the complex natural environment of a group to derive findings related to the scope of the study.

4. Sample

A Farmers Producers Organization (FPO) located in the Tamil Nadu state in the southern part of India was taken as a unit of the study. Because this FPO is familiar to the researcher since the researcher has done several community intervention programs with them, and the FPO has covered a minimum of five years of successful
functioning as an active Farmer’s organization in the community. Purposive sampling was adopted to select the farmers for the data collection process. FPOs were formed in 2016. There were 20 members in each Farmer’s interest group under the organization. The researcher interviewed sixteen members from two farmers’ interest groups, including males and females. The age groups of respondents ranged from 25 to 65. Most of the members are above 35 years of age. Two members have graduated from college, and few completed higher secondary education; the rest are below the upper primary level of education. All the respondents were from Antyodaya Anna Yojana Beneficiaries, which denotes the poorest of the poor according to the household’s economic status prescribed by the Government of India. Table 1 shows the sociodemographic details of the farmers.

Table 1: Sociodemographic Details of Participants

<table>
<thead>
<tr>
<th>Sociodemographic details of participants</th>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Male</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>Age of participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 to 34</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>35 to 44</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>45 to 54</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>55 to 64</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Above or equal to 65</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>Education Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal education</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Completed Primary education 4th Grade pass</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>Completed Upper Primary education 7th-grade pass</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td>Completed Secondary education 10th pass</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Completed higher secondary education +2 pass</td>
<td>3</td>
<td>37.5</td>
</tr>
<tr>
<td>Degree holder</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>Above graduate level</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Economic Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antyodaya Anna Yojana Beneficiaries</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>Below poverty line</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Above Poverty Line</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non – Priority</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

5. Data Collection Process

The researchers prepared an in-depth interview schedule to understand the functions of farmers’ groups and the sociocultural underpinnings that influence the sustainability of the groups. Therefore, there were questions about the evolution of the Farmer’s group, significant transitions, benefits attained by members and the existing challenges, if any. The interactions with the farmers are perceived from the theoretical lens of *Pancha Maha Yajnas* for deriving the same’s scope to build the study’s theoretical framework. Interpretivism, the idea that each observer’s reality is distinct from another, served as the foundation for the research philosophy in this study. The *Pancha Maha Yajnas* are considered as duty and responsibility of an individual in daily life in their family, organization, and community. So on, the researcher focussed on the respondent’s overall experience as a part of an FPO, daily duties and responsibilities concerning the FPOs, the governance process, and how the group performs and contributes to society. The steps in the data collection process are illustrated in Figure 1.
6. Data Analysis

Thematic data analysis was performed by the researcher using NVivo data analysis software. The interview transcripts were uploaded into the NVivo platform, and started coding the data. First-order coding identified essential functions, activities, roles, responsibilities, and governance processes in farmers' groups. Later these codes are grouped under themes of fivefold sacrifices mentioned in the ancient concept of Pancha Maha Yajna to project the resemblances of Indian philosophical concepts and principles followed by farmers' groups to build collective action and sustainability.

7. Ethical Considerations in Qualitative Research

Ethical considerations of privacy and confidentiality are maintained by taking informed consent from the respondents, especially before the interview. The respondent's convenient day and time were enquired before scheduling the date for the interview. A known person within the community accompanied the researcher to make the respondents comfortable openly sharing their experience with the farmers' group.

8. Results

The respondents described the critical functions of the Farmer's group. The essential functions include collecting agricultural products, identifying the market, facilitating collective bargaining and mobilizing credits from banks during production. The group's collective effort helps farmers negotiate better prices for their produce by aggregating it and bargaining collectively with buyers. Market access was direct without intermediaries enabling farmers to receive better prices for their produce. The group allows women to access credit facilities from financial institutions like banks every year. The agriculture office in the locality provided capacity building and training for farmers in areas such as production, marketing, and value chain.

The theoretical lens of Pancha Maha Yajna applied by the researcher mapped each function into the five yajnas, illustrated in Table 2. And the theoretical framework evolved from the findings is shown in Figure 2. While Pancha Maha Yajna is primarily a spiritual concept, its principles can be applied to many settings, including
agribusiness organizations. These principles are considered a duty for every individual and are intended to show gratitude to various beings and entities contributing to the organization’s development.

Table I Description of Pancha Maha Yajna

<table>
<thead>
<tr>
<th>Sanskrit name</th>
<th>English meaning</th>
<th>Description</th>
<th>General Example of Practice</th>
<th>Example of this practice in Farmers’ producers’ organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brahma Yajna</td>
<td>Sacrifice to the divine knowledge &amp; develop inspiration the self-knowledge</td>
<td>Involves knowledge creation and updating.</td>
<td>Study and teaching of the Vedas and other spiritual scriptures (Veda, 2022).</td>
<td>Capacity building and training to farmers, transfer of indigenous knowledge</td>
</tr>
<tr>
<td>Dev yajna</td>
<td>Sacrifice to the celestial beings and develop divine qualities</td>
<td>Involves the worship of the gods and goddesses through the performance of various rituals and the progression from animal instincts to divine qualities</td>
<td>Develop divine qualities of compassion, forgiveness and love for all (Jaisawal, 2022).</td>
<td>Ensure effective use of natural resources and produce quality products without harming nature.</td>
</tr>
<tr>
<td>Pitru Yajna</td>
<td>Sacrifice to the ancestors</td>
<td>Acknowledge and celebrate the contributions made by ancestors and fellow beings.</td>
<td>Offering food and water to ancestors and departed souls. Thanksgiving Day for ancestors (Adinarayanan and Rekha, 2017).</td>
<td>Honouring elderly farmers during festivals by acknowledging their contributions to agriculture development.</td>
</tr>
<tr>
<td>Bhuta Yajna</td>
<td>Sacrifice to the animals and nature</td>
<td>Describes an individual’s responsibility to respect and care for all living things, including people, animals, and plants.</td>
<td>Offering food and water to animals, birds, and insects (SIVANANDA, 1999).</td>
<td>Preservation of indigenous seeds. Exhibiting respect to animals (especially Cows) for their support during farming.</td>
</tr>
<tr>
<td>Manushya Yajna</td>
<td>Sacrifice to fellow human beings</td>
<td>Service to society</td>
<td>Offering hospitality and service to humanity (Sanskriti, 2020).</td>
<td>Provide quality products to the community and fair treatment of all stakeholders in agriculture. A portion of the harvest was given to the temple to feed needy people during a crisis.</td>
</tr>
</tbody>
</table>
Apart from the essential functions of FPOs, the sociocultural context in which the sample FPO exists has a tradition of celebrating the harvest festival called Pongal by the farmers and local community. Pongal is a four-day harvest festival celebrated by Tamil people, usually in January every year. The celebration symbolizes the passing of the winter solstice and the start of the sun’s six-month journey northward, also known as Uttarayanam. On the first day, Bhogi, people clean their homes and discard old and unnecessary items by burning them in a bonfire. The second day is the primary day of the festival, also called Pongal, where people cook a sweet dish using freshly harvested rice, jaggery, milk, and other ingredients. They offer this dish to the Sun God, thanking him for a bountiful harvest regarded as Dev Yajna in the Vedic period. The third day, Mattu Pongal, dedicated to cows, is considered sacred and an essential part of agriculture. Cows are decorated with colourful beads and flowers, and farmers thank them for their hard work in the fields, which denotes Bhuta Yajna. The fourth day, Kaanum Pongal, is for family reunions and outings. People visit their relatives and friends, enjoy traditional food, and exchange gifts. Wealthy people will donate food and clothes to vulnerable sections of society and can be considered Manushya Yajna.

The significance of Pongal for farmers is enormous. It is when they celebrate the harvest and offer gratitude to the Sun God, who they perceive as responsible persons for a good crop. The festival also marks the beginning of the farming cycle as the farmers start preparing their land for the next season’s crops. Pongal is a significant festival for Tamil people and holds great cultural and agricultural importance. FPO members in this study viewed their work as a form of worship and service to the divine by producing food that sustains life and supports human well-being. Overall, Pancha Maha Yajna’s principles aligned with agribusiness organizations’ activities to promote ethical and sustainable practices and foster a sense of connection and responsibility towards the natural world and the communities they serve.

9. Discussion

Indian philosophical rituals, traditions and customs always have significance in the well-being of humans (Jayalakshmi, 2020). Indigenous traditional spirituality practices from Indian philosophical concepts have been practised and developed as a curriculum for healing practices in some Urban Indian health centres in America (Gone, Tuomi and Fox, 2020). Proper knowledge of Indian spiritual concepts improves life satisfaction among youngsters (Lourembam and Ete, 2021). The tribal population in India who still possess the rich tradition of practising ancient spiritual principles in their daily life are living happily (Rowkith and Bhagwan, 2020), and their actions help in the conservation of nature (BAMIN, Yakang; GAJUREL, 2015). These ancient spiritual values and principles can create such an impact in various dimensions of life. In that case, it is evident to remark on its impact and relevance in the context of agribusiness organizations.
The Farmer's groups in the study are pleased to take agriculture practice in the spirit of Yajna. The practice of Pancha Maha Yajna has two dimensions, one is external, which is the practice of five yajnas as a ritual, and the second is internal, which is the attitude of Yajna, the philosophy of offering or giving away possessions out of compassion (Misra and Kapur, 2014). Both external and internal dimensions of Pancha Maha Yajna were visible in the life of farmers in the study. They are practising yajnas by preserving nature. They respect the animals, especially cows which helps in farming. They transfer their indigenous knowledge to their younger generation. They also possess the attitude of offering. They used to offer help to their fellow group members during the economic crisis, and they bonded together as a group and shared the loss created by natural disasters. This attitude of collective action was learned from the spiritual principles they adopt in their daily life. Thus, the farmers were able to sustain their activities even amid vulnerabilities. The application of Pancha Maha Yajnas greatly benefited the Farmer's group in building collectivism and sustainability. However, the generalization of the application of Pancha Maha Yajnas for promoting sustainable agriculture practices in farmers' groups has both strengths and weaknesses.

Strengths are it is a holistic approach that integrates spiritual, economic, social, and environmental aspects of well-being. This approach recognizes the interdependence of human beings with the environment and promotes a sustainable way of life. The Pancha Maha Yajnas can help preserve nature and traditional knowledge essential for sustainable agriculture by incorporating traditional rituals and practices into agricultural activities. The Pancha Maha Yajnas emphasize community involvement and social responsibility. This can form strong social networks and develop collective action towards sustainable agriculture practices. These Yajnas prioritize the long-term sustainability of agriculture rather than short-term profits. This can lead to developing sustainable agriculture practices that harmonize with nature and prioritize future generations' well-being.

The weaknesses are the use of Pancha Maha Yajnas for promoting sustainable agriculture practices may not be acceptable to all farmers, particularly those who do not share the same religious beliefs. Secondly, the effectiveness of Pancha Maha Yajnas in promoting sustainable agriculture practices has not been scientifically validated. This may limit the credibility of these practices in the outside world.

10. Social Implication of the Model

The Indian philosophical approach of Pancha Maha Yajna, which translates to “Five Great Sacrifices,” has implications for agriculture organizations in the future. Here are some implications of the Pancha Maha Yajna for agriculture organizations:

- **Brahma Yajna** – Emerging technological interventions like GeoFarmer, a monitoring system for agricultural practice, are introduced to transfer factual time information about farming to the farmers. Farmers and agricultural professionals find it beneficial to manage their farms and crops better, lower risk, boost productivity, and enhance their quality of life (Eitzinger et al., 2019). Conversely, the transfer of indigenous knowledge regarding farming practices remains stagnant without much attention. Therefore, traditional agriculture organizations can be reinforced to practice Brahma Yajna, which can focus on acquiring and sharing indigenous knowledge about sustainable and eco-friendly farming practices, soil health conservation, and natural resource management. Through this Yajna, traditional farmers are encouraged to educate young farmers about the benefits of integrating both emerging and indigenous farm practices to achieve sustainability.

- **Deva Yajna** - Due to organic foods' benefits for nutrition and health, an increasing number of individuals are making this choice. Furthermore, organic farming protects the environment and has a more significant economic impact on a nation. (Das, Chatterjee and Pal, 2021). Various initiatives were taken to promote organic farming in the country. When agriculture organizations apply Deva yajna, that is, seeing and developing divine qualities within and outside the world, it helps them to see divinity in everything they do. They treat natural resources respectfully. They adopt organic farming methods, reduce the use of pesticides and chemical fertilizers, and promote sustainable practices that protect the soil, water, and air. They take action to supply good quality products because they can separate themselves from the customer. This attitude of deva yajna can improve collection action, cooperation and social cohesion among the Farmer's group.

- **Pitru Yajna** – Indian Government has honoured Cheruvayal Raman, a tribal rice farmer from Wayanad in Kerala, with the Padma Shri Award (highest civilan award of the nation) for his exceptional achievement in preserving more than 50 regional types of rice. This recognition encouraged traditional farmers to maintain traditional farming practices and techniques. Such recognitions are possible via farmers' groups at the community level by implementing Pitru yajna. Farmers' groups can
encourage locally available seeds, crops, and livestock breeds and support farmers in maintaining their connection to their ancestral land and farming practices.

- Bhuta Yajna – Studies show that farmers' practical knowledge of participatory biodiversity management and maintenance is crucial to India's agriculture and economy. The top-down decision-making regimes are the least effective at achieving sustainable development in traditional Indian farming landscapes (Bisht et al., 2020). Therefore, community-based agriculture organizations can promote the welfare of animals and wildlife in their areas using the concept of Bhuta yajna. They can support biodiversity conservation and encourage sustainable farming practices that do not harm the environment or animals.

- Manushya Yajna – India is the most populated country in the world, and apart from government initiatives, the people require support from humanity to satisfy their basic needs. Agriculture organizations can contribute to the socioeconomic development of their communities. They can help economically backward people cope with food insecurity and poverty. Through Farmer's organizations, unemployed people can be mobilized and provided training, credit, and market access. They can also promote fair trade practices and work towards creating a sustainable and equitable food system.

11. Conclusion

The study investigated the practices currently used by traditional agricultural producers to guarantee collective action and organizational sustainability. A theoretical framework was developed to understand the analogies between the practice and the Pancha Maha Yajna principles promoted by Vedic thoughts in Indian philosophy. However, the researcher claims that using Pancha Maha Yajna principles in agribusiness organizations has both strengths and weaknesses. These practices offer a holistic and long-term approach to agriculture that emphasizes collective action, community involvement and preservation of traditional knowledge. There is a limitation in the applicability of this framework because people may think it is only meant for a specific religious-affiliated population. Lack of scientific validation and cost and time implications are the other limitations of this framework. Nevertheless, such limitations can be fixed by conducting future research studies that can validate such indigenous models. Another potential research directions are the quantitative studies that assess and rate the applicability of this framework because people may think it is only meant for a specific religious-affiliated population. Lack of scientific validation and cost and time implications are the other limitations of this framework. Nevertheless, such limitations can be fixed by conducting future research studies that can validate such indigenous models. Another potential research directions are the quantitative studies that assess and rate the applicability of this framework because people may think it is only meant for a specific religious-affiliated population. Lack of scientific validation and cost and time implications are the other limitations of this framework.

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