🛀 🛛 Saumya John 🌮 · May 23 · 5 min read

# Confluence of Academia and Traditional Knowledge Systems: Towards Climate Resilient Agriculture

Parindey: Dr. K. G. Sreeja

Alivelihood: Paddy farming, Climate change Research and Consulting Region: Thrissur, Kerala



Dr. K. G. Sreeja (Photo: Saumya John)

We are defined by what we choose to do- consistently and convincingly; instrumental of our being, and a voice to our priorities. Sreeja is no different! As a farmer (by chance), livelihood researcher and climate change consultant, she adorns many roles. She sets the tone of her day around the burning of her fire hearth (*viraku aduppu*) followed by planning her day around the seasonal rhythms of her paddy field. Thereby, leading a slow-paced life by becoming more conscious of her actions. For each life necessity such as food, education or medicine, her farm is the central point, which enchants her with the possibilities of experiential and wakeful living.

Sreeja's involvement in paddy farming alongside her academic accomplishment of attaining a Ph.D. in agricultural sciences is deeply ingrained in her values. She has been part of various movements and protests against government projects that have had a damaging impact on the environment such as the proposed Athirappilly hydro-electric project in Kerala. She is now based in Thrissur, with her partner Dr. Madhusoodhanan (fondly called Madhu)

# Confluence of Academia and Traditional Knowledge Systems: Towards Climate Resilient Agriculture

and her mother-in-law. They own a share in the nearby *paada shekharam* (paddy fields); which was a by-product of a dissent.



Sreeja and Madhu in their paddy field (Photo: Saumya John)

Back in 2005, the Thrissur Municipal Corporation had planned to divide a fallow paddy land polder behind their newly acquired home, into smaller plots for house construction. However, this move did not take into account that the said land is a floodplain wetland that is completely inundated during the monsoons, acting as a natural reservoir that reduces the impact of riverine floods in the region. This led to an uprising among farmers and other community members joined by Sreeja and her partner. Further, they led a signature campaign, and forced by numerous meetings and tenacious efforts; the corporation withdrew the decision.

Around the same time, an old farmer offered a piece of his paddy land at an affordable rate to Sreeja and her partner. They bought it so as to have a stake in the area, as there were questions raised as to why they were involved in the region without any tangible stake. Their well-wishers also invested and some bought bits of land to support them. In 2008, the Kerala Conservation of Paddy Land and Wetland Act was brought out by the Kerala government which lent strength to their struggle to conserve the stretch of paddy lands. At present, they own 4

## Confluence of Academia and Traditional Knowledge Systems: Towards Climate Resilient Agriculture

acres of land, completely crowdsourced. As a result of their actions, increased state support of paddy cultivation and the newly minted law- the region saw a revival of the Padashekhara Samithi (the paddy holder association), cultivation of fields that had been fallow for decades, and a slow return of cultivators into paddy, hoping to be part of the community again.

The paddy land that they farm on is environmentally and geographically important in terms of its role in sustaining and regenerating the symbiotic existence of nature. A river is a collation of many streams wading to it, forming micro-watersheds that then form the larger river basin. These streams in the midland stretches of a basin often originate from wetlands that are the floodplains of the river when in spate (flooded or about to flood). These wetlands are ideal for growing paddy as they are mostly watered perennially, thus acting as a natural water reservoir; enriching the groundwater and giving 'rooms for rivers' when they flood during the monsoons. In Kerala, there are four main rice-producing regions - the district of Palakkad, the Kuttanad and Kole deltaic wetlands below mean sea level and the midland agro-ecological zone spread across the state from north to south, including in the Thrissur district. Sreeja's field is located at the mid-stream of Karuvannur river in Thrissur. These wetlands are sanctuaries for a diverse group of weeds, insects, and migratory birds that ensure that the nutritional value and balance of microorganisms remain intact. Though Sreeja had studied this as part of her agricultural sciences course, it was only when working on-field that she experienced this interdependence in nature closely.



Sreeja in the forests of Vazhachal with Raman, member of the Kadar Tribal community. (Photo: Saumya John)

# Confluence of Academia and Traditional Knowledge Systems: Towards Climate Resilient Agriculture

The entire process of the discovery of learning farming was alongside when the couple discovered each other through idiocies and idiosyncrasies. They weaved together a life thread by thread. The struggles during the initial farming days brought them closer and stronger together. Now they are each other's support systems, powered by their common love and dreams. This aspect of interdependence and mutual support is synonymous with addressing challenges as a community practising paddy farming. Non-seasonal rainfall and infrastructural issues of storage require agile management, especially during climate change. The uncertainty requires an alert community capable of collaborating with local and district authorities. Oftentimes, this community action is missing because of a lack of real-time information backed by data.

Sreeja and Madhu are bridging this gap, as they understand the importance of data and its dissemination for mitigating climate-related challenges. She explains it thus, "In order to face a challenge that is being experienced by everyone for the first time, all sorts of authentic, well-curated information is required."



Session at Cochin University of Science and Technology on Energy Conservation (Photo: Saumya John)

Kerala had been facing consecutive floods over the past years. In the year 2020, when the nation was under lockdown owing to the pandemic; a flood could have added more to the worries of locals. During this time, Dr. Jayaraman, an energy management expert, conversed with Sreeja and Madhu and shared his concerns as well as inquiries; <u>EQUINOCT</u> was thus born- with the intent to find solutions to climate change-related issues and set up community sourced modeling solutions. They are setting up an integrated knowledge base using mainstream scientific tools and the traditional practice-based knowledge from the lived experiences of generations. Their

### Confluence of Academia and Traditional Knowledge Systems: Towards Climate Resilient Agriculture

expertise in research and technology is being leveraged to support climate change solutions, prepare for disasters and design energy efficiency programs for policy interventions.

Sreeja looks at the integration of multiple sources of data as a means to advocate for accountability from the government and ensure proactive involvement. Furthermore, it equips and empowers communities to collect scientific data to understand what is happening to the environment around them. In her previous experience of studying the administrative responses to the Kerala floods, she had seen voluminous data and information that were left without any assessment or evaluation. A study of the indigenous and experiential knowledge of the fisherfolks on the seas during climate change brought out the further marginalisation of these subaltern knowledge systems as well, in the management of climate change impacts and disasters.



A meeting with community members of Vellotupuram to discuss issues faced by tidal floods. (Photo: Saumya John)

To mitigate such issues, EQUINOCT now works with communities affected by climate change to collect crowdsourced data about groundwater levels, rainfall levels, and tidal floods. The community component is very strong in her livelihood and lifestyle interactions; be it in helping communities reach out to the government or in building a community of paddy farmers vocal about their rights.

## Confluence of Academia and Traditional Knowledge Systems: Towards Climate Resilient Agriculture

EQUINOCT is registered as a business for this very reason, as the idea of profit is beyond "just monetary". They persuade various government departments such as the Disaster management authority, Kerala State Electricity Board, Agriculture department of the state and various industries and institutions, to collaborate with the ones affected by and be equipped to manage climate change challenges.

The macro and micro-systems of nature work in tandem to survive. Similarly, the role of micro and macro in climate change resilience is paramount. Sreeja works with her equally passionate team to ensure that all community voices are heard, all-natural parts are valued and sustainability is defined in one's own context. She believes that the more affected by climate change will be the ones with the most resilience to act towards improving its impact. It is her hope to drive collective endeavours from individuals and organisations to reduce the disparity between the affected and the privileged.

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