

CHAPTER 8

CO-CREATION AND FOOD HERITAGE: EMPOWERING COMMUNITIES FOR SUSTAINABLE FOOD SYSTEMS

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ABSTRACT

This chapter draws on local and indigenous food practices to highlight how these can facilitate transformative actions by empowering people to imagine and realise sustainable food futures. We present empirical research conducted in Asia and in Europe where different communities draw on and adapt past food practices to co-create emergent innovative approaches to food security on a local and national level. Specifically, we use the concept of ‘food heritage’, which encompasses diverse past and present food practices, as a lens to conceptualise sustainability in the context of food systems. Our research in Indonesia focused on the *subak* system and demonstrated how it integrates elements of

indigenous agricultural knowledge and modern techniques to foster agricultural sustainability. It also highlighted the power of co-creation through *paruman* in apprehending the challenges faced by the local community and devising sustainable solutions. Co-creation in the European context, as applied by the BigPicnic project, enabled local communities to share their food practices, expanded the boundaries of botanic garden professionals' knowledge about their collection of plants and enriched their interpretation through integrating local and indigenous knowledge into canonical natural history knowledge. Employing the FAO's (Food and Agriculture Organization) entry points framework for transformative change towards sustainable food and agricultural systems we discuss the potential of food heritage for supporting innovation and sustainability.

Keywords: local and indigenous food practices, food heritage, co-creation, sustainable food systems, *subak* system

INTRODUCTION

The existing food system³⁴ undermines our health and the health of our family, the environment and our planet (Cecchini et al. 2010; Friel & Ford 2015; Neave 2023b). It has been argued that inequities in access within the food system – among other systems – lead to nutritional inequalities and health disparities, particularly in low- and middle-income communities and countries (Neave 2023a; Nisbett 2019). To turn the tide and create a sustainable food system demands immense transformations at the personal and societal level. Yet, exactly what is sustainable in relation to food is contentious and disputed. Food sustainability is a relative concept, contingent on time and place (Lang & Barling 2012; Peano *et al.* 2019). Several views, approaches and policies have been put forward

34 We adopt the FAO' (2018b) definition of the food system which 'encompass the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded. The food system is composed of sub-systems (e.g. farming system, waste management system, input supply system, etc.) and interacts with other key systems (e.g. energy system, trade system, health system, etc.).'

to safeguard the cultural diversity of sustainable food systems. Drawing on past food practices is one such approach. The importance of the adaptation of elements of past food practices³⁵ that can help produce more sustainable regimes of food practices has come up in our research and has been voiced in different ways by food producers, consumers and policy makers. It is one of the aspects of what has been termed 'food heritage', which we view as a key element of the culture and social pillars of sustainability (Hawker 2001) in the context of the food system. Some urban as well as indigenous communities are currently enacting transitions to more sustainable food practices drawing on the past, guided by a motivation to explore how the food system could be more sustainable (Faye 2010; Salavisa & Ferreiro 2019).

In this chapter, we present findings from empirical research that examined the role that elements of past food practices can play in facilitating transformative action. Specifically, we ask how local and indigenous

35 'Past' food practices refer to traditional food practices enacted by particular communities. The term does not refer to a particular time period or locale.

communities draw on and adapt past food practices to co-create emergent food practices? To answer our research question, we draw on two case studies and examine the elements of past food practices which have been updated and reshaped through co-creation processes. The first case study focuses on the *subak* system, a traditional irrigation system employed in the island of Bali, Indonesia. The *subak* system case study explores the role that food and agricultural practices of the past can play as an innovative force for the future. The second case study focuses on the BigPicnic project and, specifically, on a series of activities that were co-created by a number of European botanic gardens with diverse communities. Both case studies draw on empirical research conducted by the authors in Asia and in Europe. The *subak* system case study was part of a larger ethnographic research study carried out in Bali, Indonesia, for the purposes of a doctoral thesis (Rahman 2021). The BigPicnic adopted a qualitative mixed-method research approach (Alexopoulos & Moussouri 2021; Kapelari *et al.* 2020).³⁶ The

36 For more details on the methodology and methods used in the two case studies see Rahman 2021; Alexopoulos & Moussouri 2021; Kapelari *et al.* 2020.

case studies were chosen because they include examples of how different communities have used past food practices and adapted them through co-creation. These case studies are also relevant because they illustrate how co-creation processes promote sustainable practices by involving community members in the decision-making process. For example, the *subak* landscape is a cultural landscape that is enlisted as a UNESCO World Heritage Site encompassing, among other things, the irrigational system co-created and adopted by the indigenous community (Rahman & Fouseki 2022). BigPicnic³⁷ organised a variety of events and activities (e.g. exhibitions, science cafés) that were co-created between botanic gardens and their local communities with the aim to critically address food security and sustainability issues. In this chapter, we have chosen examples of co-creation where there was evidence that the communities drew on past food practices to generate new ones.

37 'Big Picnic: Big Questions – engaging the public with Responsible Research and Innovation on food security' was a three-year project (May 2016–April 2019) funded by the European Commission's Horizon 2020 Programme (BigPicnic, 2023). The consortium consisted of 19 partners, which included 14 botanic gardens, two universities, a botanic garden professional organisation and NGO and a science shop.

This chapter argues that past food practices engender possibilities for co-creating new food practices with the view to better understand the role of the co-creation of local and indigenous food heritage and use it as an entry point to transformative actions around the future of food. We employ the FAO's '10 elements of Agroecology' (2018a) for transformative change towards sustainable food and agricultural systems. This framework is based on agroecological approaches to transition theory that aim to bring together concepts and research from both the natural and social sciences. We begin by introducing key concepts such as food heritage and co-creation, and situating them in the theoretical tradition of agroecology. In this context, we draw on the FAO's '10 elements of Agroecology' and, in particular, on the cultural dimensions of 'co-creation and sharing of knowledge', and 'culture and food traditions', as a frame of analysis. The chapter concludes by highlighting that co-creation has a transformative potential in supporting innovation and sustainability. The research presented in this chapter demonstrates the power of bringing together diverse knowledge systems to

foster collaboration, enhance understanding, and drive positive change in sustaining food production.

THEORETICAL FRAMEWORK

This chapter takes its inspiration from discourses that are increasingly emphasising the notion of food heritage and its connection to sustainability and food security as well as the agroecological approach that is increasingly seen as an innovative force in the global efforts to improve food systems and agricultural production. It also responds to demands to include the voices of diverse communities with different types of food heritage and, hence, expand the boundaries of food knowledge and expertise. In this context, co-creation becomes an important concept as it highlights the central role different local and indigenous communities should play in the decision-making process (Rock *et al.* 2018), in this case in constructing food heritage and shaping the future of food. A small number of studies have examined the link between past, present and future food practices. The educational psychologists Harris and Barter (2015) set out

to test the potential of different critical pedagogies to affect change in the food practices of students and adults as they engage in a reflection of past and present food practices with the aim to imagine different food futures. Using experimental, discovery and arts-based pedagogies, they engaged students in researching the past food practices of their local area. Initial findings suggested that both students and their teachers were empowered to lead their own learning, formulate research questions about food practices and research these. Other studies examined food practices of different communities with the aim to contribute to existing knowledge about food cultures in different countries (e.g. Engelhardt *et al.* 2019; Raji *et al.* 2017). At a micro-level, some studies examined what motivates particular food choices and practices (e.g. Guiné 2021). This chapter builds on this work but takes a different focus. It conceptualises past and present or emergent food practices as food heritage to show how local and indigenous food heritage can be used as an entry point to transformative actions around the future of food. We perceive food heritage as encompassing traditional practices of food production and

consumption that, first, characterise the foodways of specific groups of people, regions, or nations; second, employ forms of knowledge and craftsmanship, skills, methods, processes, and tools; and, third, are part of specific cultural or religious celebrations, festive events, performances, customs, and rituals (Rahman *et al.* 2021).

Co-creation can be understood as the practice of involving wider stakeholders or communities in the production of knowledge and meaning (e.g. Watson & Waterton 2015) or the collaboration between institutions and their audiences in creating and disseminating values, contents, ideas, or strategies (e.g. Ramaswamy & Gouillart 2010; Russo & Watkins 2007; Simon 2010). The *subak* system embodies several characteristics of co-creation, including community collaboration, where farmers collectively manage series of initiatives and responsibilities: first, irrigation and farming activities through consensus-based decision-making; second, shared knowledge and practices, which involve the transmission of traditional knowledge and agricultural techniques between farmers and across generations; third, adaptivity,

demonstrating the ability to adjust to environmental changes through collective assessments and understanding; and, fourth, equitable water distribution, ensuring fair access to resources for all members to prevent conflicts and promote communal harmony.

Our definition of food heritage speaks to the socio-cultural role of food in particular. This is seen as a legacy and resource to be preserved for both present and future generations and has gained wide recognition and interest in a variety of disciplines and more recently in the field of heritage studies (Alexopoulos *et al.* 2022; Rahman *et al.* 2021). The heritagisation and patrimonialisation of food has also been boosted by the emergence of the concept of intangible cultural heritage, supported primarily by UNESCO and several other international organisations (Brulotte & Di Giovine 2016). These developments have elevated food cultures and traditions and practices related to food production and consumption into a form of heritage that operates on multiple levels, from local to global. Inevitably, food has been recognised to play a key role in cultural sustainability and to a variety of environmental, economic, social and political issues, echoing

the growing discussions and debates on sustainable development (Alexopoulos *et al.* 2022:328–330). More recently, the heritage dimension of food has been deemed as a crucial element in discussions about food security (Kapelari *et al.* 2020), one of the greatest global challenges that refers to access, sovereignty and safety within food systems (FAO 2009).

While food has strongly entered the global heritage discourse, the potential of looking into agroecology to further expand our understanding of the sociocultural role of food in global challenges has so far been overlooked. Agroecology itself, as a discipline, has gained a lot of currency since the 1980s and has embraced various fields of expertise that attempt to implement ecological principles for the understanding and development of sustainable agroecosystems (Altieri 1989; Gliessman 2013; Rahman *et al.* 2021). As we have argued elsewhere, there is added value in the adoption of approaches that bridge the research conducted in the fields of agroecology and food heritage as this can lead to more nuanced insights on how socio-cultural aspects of food impact food systems (Rahman *et al.* 2021:13). Conceptualising food heritage

from an agroecological perspective enables us to integrate it with participatory approaches to knowledge construction. As Aguilera et al. (2020:13) noted, ‘agroecological practices have a high adaptation potential through the cocreation of local knowledge based on the integration of scientific and traditional ecological knowledge’.

Within this context, this chapter employs the framework of ‘10 elements of Agroecology’ from the United Nation’s FAO in order to discuss the potential of food heritage for supporting innovation and sustainability. More specifically we will focus on the possible entry points for transformative change towards sustainable food and agricultural systems. These entry points cover ecological as well as the socioeconomic, cultural and political dimensions. Specifically, they help conceptualise pathways of transformative change towards sustainable food and agricultural systems. In this chapter, we focus on two elements of the framework, which are most relevant to our argument, namely the cultural dimensions of ‘co-creation and sharing of knowledge’, and ‘culture and food traditions’ (hereinafter FAO’s entry points)

of the FAO’s ‘10 elements of Agroecology’ (FAO 2018a; Wezel *et al.* 2020). This framework shows that food heritage research amplifies the transformative character of agroecology which enables it to respond to the current challenge of the agri-food system and its impact on human health and the environment.

RESEARCH FINDINGS

The subak system and its connections to FAO’s entry points

The *subak* system is a traditional, community-based irrigation and agricultural practice in Bali, Indonesia, used primarily for rice paddies. It integrates water management with local religious practices, emphasizing harmony between people, nature, and spirituality. The *subak* system was first established to prevent competition over water not only amongst farmers but also between farmers and other activities, such as tourism, religious rituals, and those farmers engaged in livestock rearing. In contrast to large-scale farmers who rely on groundwater and operate independently, *subak* farmers adopt a collective approach

to managing water obtained from springs, lakes, or rivers. This cooperative management ensures that all rice fields receive an adequate water supply without depleting the water sources. To optimize irrigation, the rice fields are constructed in a terraced landscape design, allowing spring water or river flow to enter the topmost field and subsequently cascade down to the lower fields. By aligning the plantation schedule with the field positions, *subak* farmers can stagger their water usage, with the highest located rice field commencing irrigation first. Consequently, decisions regarding pesticide usage must be collectively agreed upon by the farmers, as it directly impacts the entire *subak* and its rice fields.

The *subak* system, which originated in the 9th century, is over a thousand years old.³⁸ Deeply rooted in indigenous knowledge and food heritage, the *subak* system offers valuable insights into the historical challenges faced by Bali's agricultural society and provides potential solutions to address those challenges. The

³⁸ Evidence of *subak*'s existence and significance includes ancient stone inscriptions, water temples, oral traditions, agricultural landscapes, and colonial records.

collective body of farmers within a *subak*, known as a *subak* organization, has a pivotal role in this context. Acting as overseers of the system, mediators, and catalysts for adaptability, the *subak* organization holds significant influence. By wielding the authority to enforce *subak* rules and regulations, it shapes farming practices and ensures adherence to these rules and regulations throughout the community. This multifaceted entity serves as a vital tool that enables farmers to modify farming rules and regulations when necessary, fostering a dynamic environment for sustainable agriculture in Bali.

In the *subak* system, the farmers' meeting, known as a *paruman*, serves as a vital means of achieving collective decision-making regarding farming activities, water management, and cultural affairs. It represents the highest level of the decision-making process within *subak* and holds significant influence over the work and direction of the *subak* organization. The head of farmers, called the *pekaseh*, is mainly a facilitator who does not have an individual authority to enact change in the *subak* and its community. The *pekaseh*'s role lies in mediating between farmers and

in representing farmers when problems arise. The farmers themselves, through the *paruman*, assume the central role as decision-makers in this democratic structure that has endured for thousands of years. This participatory system helps to limit new or unsustainable farming methods that deviate from the principles of *subak*, and thus it embodies the co-creative aspect of the cultural management of the *subak* system.

At the heart of the *subak* system lies the profound concept of *Tri Hita Karana*, which serves as its driving force. Derived from Balinese culture, the *Tri Hita Karana* philosophy encapsulates the pursuit of harmonious relationships between humans, the spiritual realms, the environment, and other non-human beings. These guiding principles profoundly shape the interactions among farmers, offer insights into the optimal care of the rice fields, and establish limits to any potential attempts to influence traditional knowledge. *Tri Hita Karana* serves as the cultural bedrock upon which the *subak* system is built, promoting sustainable practices, holistic well-being, and a deep-rooted sense of interconnectedness within the Balinese community.

Farmers acknowledge that employing traditional farming tools and utilizing local rice varieties yields superior outcomes for their rice fields and crops. Moreover, traditional methods are not only cost-effective but also readily available. For instance, the traditional ploughing system promotes enhanced soil aeration, leading to improved soil conditions, stronger crop growth, and extended soil longevity. However, despite this awareness, there is a prevailing preference for using modern farming tools alongside the traditional *subak* system. The time-consuming nature of utilizing solely traditional tools and methods poses a challenge, as it hinders farmers from exploring alternative sources of income that could support their agricultural activities.

Here, the role of the *paruman* primarily revolves around ensuring and fostering consensus regarding appropriate changes within the framework of *subak* rules and regulations. *Tri Hita Karana*, as one of the fundamental principles of Balinese culture, guides the *subak* system by aligning changes with the adaptability of Balinese practices while fostering a strong



Figure 1. Local farmers employ an innovative tool during the harvest season in Bali, showcasing the dynamic evolution of agricultural tools within the adaptive Balinese culture. Photo: Diana Rahman, 2018.

interconnection among the community, their food heritage, their environments, and the spiritual realms that represent their ancestors. By upholding these principles, farmers are able to find innovative ways to improve and sustain their agricultural practices as well as nurture their indigenous knowledge and practices.

Figure 1 shows one of the harvesting methods employed by farmers within the *subak* landscape. These innovative tools and techniques have emerged as the preferred choice among many farmers due to their efficiency compared to the solely traditional harvesting method. The wider use of the tools demonstrates

how change is embraced within the *subak* landscape. This finding is aligned with the French anthropologist Michel Picard's research:

...the Balinese seem to have shown a particular genius in the course of their history for assimilating outside influences in a selective way, adopting only those that suit them, and integrating them harmoniously into their own cultural fabric. The result today appears as an original combination of objects and images, customs and beliefs that, despite their diverse provenance, have become acknowledged as 'typically Balinese'. Picard (1996:11)

Figure 2. Botanic Garden Meise staff worked with FoodBridge Director, Maureen Duru (pictured here), to engage members of the African diaspora. Photo: BGM 2017.



The BigPicnic project and its connections to FAO's entry points

Co-creation and sharing of knowledge

The notion of co-creation has been central in recent efforts to make cultural organisations more inclusive and socially relevant and to increase public participation in activities offered by the sector (Govier 2009; Haviland 2017; Simon 2010). Co-creation was at the core of the approach followed in the BigPicnic project activities (Alexopoulos & Moussouri 2021:83–83). In this case, different levels of expertise and different forms of knowledge were brought together through dialogue, interaction and collaboration that was based on exchange of values and ideas. One especially effective way of achieving the afore-mentioned

interaction was the introduction of science cafés. Botanic gardens are well placed to support this type of work for a number of reasons: as centres of plant expertise and education, with strong links to scientific and academic audiences, they can act as hubs in their local communities, facilitating discussion and providing a place to explore food security topics. They are also good settings for carrying out co-creation work through science cafés as they can draw on their collections, other resources and expertise. Science cafés were used as a co-creation approach because of their ability to connect different stakeholders and create an atmosphere in which all participants felt encouraged to listen to others and to share their thoughts (Kapelari *et al.* 2019).



Figure 3. Members of the African diaspora and BGM staff during a co-creation session in the Tropical Rainforest greenhouse of the Plant Palace. Photo: BGM 2017.

Science cafés have been increasingly popular, particularly in Europe, since the 1990s and have become a very useful medium not only for rendering science more accessible to different publics, but also for creating more fruitful dialogue between scientists and non-scientists (Alexopoulos & Moussouri 2021:89; Davies *et al.* 2009; Riise 2008). For the purposes of the BigPicnic project, more than 100 science cafés were organised with a total of around 6,000 participants (Kapelari *et al.* 2019:5). These science cafés – each focusing on a specific topic relevant to food security – consisted of events hosted in casual settings that became a platform for conversation and debate between scientists and different publics. In many cases, the science café participants offered perspectives and viewpoints

rooted in their own cultural traditions, habits of food consumption and production, resulting in discussions that revealed and promoted solutions to food security problems that were based on traditional forms of food knowledge (Alexopoulos & Moussouri 2021:90).

The emphasis on co-creation through science cafés allowed discussions on food to become a meeting point for different people and different cultures, and this was particularly evident in the case of the activities organised by the Botanic Garden Meise (BGM) in Belgium. The members of the botanical garden collaborated with a non-governmental organisation, FoodBridge (<https://www.thefoodbridge.org/>), and engaged members of the African diaspora community in a series of activities (see Figure 2). The activity ‘The

Face behind the food’ aimed to help people who had migrated from Africa to re-connect with their foodways and food cultures and also to share with botanists and other experts their traditional knowledge of specific plants and their uses. The activities included science cafés, the sharing of cross-cultural meals, gardening courses and visits to the BGM where conversations and exchange of information were encouraged. Using the plants displayed in the greenhouses as a point of reference, participants visited the BGM and shared their memories and stories (see Figure 3). These stories provided insights into traditional culinary practices and traditional knowledge about the production, consumption and the sociocultural significance of certain African plants. A wide range of insights into local traditional knowledge from different countries and regions of the African continent, such as healing and medicinal properties, symbolic connotations and other cultural traditions and associations, was also included. In addition to this indigenous perspective on the value of the plants, members of the African diaspora highlighted their desire to have better access to healthy and reasonably priced

food that also taps into their traditional cuisine and eating practices.

‘The Face behind the food’ activity was an opportunity to bring together the scientific knowledge of botanists with indigenous forms of knowledge. This process enabled the future inclusion of additional layers to the scientific knowledge already promoted by BGM. These layers encompassed alternative narratives and stories related to the horticultural and food heritage, so the whole process provided a platform for other voices to be heard. This sharing of knowledge was an opportunity to touch on not only the importance of food culture and traditions but also food security issues. For the educational services of the botanical garden, the indigenous knowledge provided by members of the African diaspora community was considered useful for informing future interpretations of the plants and engendering relevant activities such as workshops, guided tours and exhibitions (BGM 2023).

Culture and Food Traditions

Some of the BigPicnic activities facilitated a connection between people and traditional plants and eating



Figure 4. A display of native aromatic plants, 'Greek superfoods', at the Balkan Botanic Garden of Kroussia. Photo: Theano Moussouri, 2016.

practices. Activities organised by the botanical garden partners focused on fruits, vegetables and herbs that have a long tradition within their respective countries and/or regions of origin. These foods were selected because of their healthy and nutritional qualities, their link to traditions and food cultures and the fact that they were often replaced by other products that were not locally grown and were less nutritious and/or not associated with traditional foods. This was an attempt to reintroduce food traditions or reinforce existing connections between food traditions and people. In addition, reinforcing this connection had the potential both of improving contemporary eating habits and food security, and of promoting local/national food cultures.

One interesting example was an activity that promoted the idea of turning to traditional medicine and culinary practices to inform contemporary eating habits. The Balkan Botanic Garden of Kroussia (BBGK), located in the North of Greece, organised co-creation activities for increasing public awareness of Greek native and/or endemic species with special nutritional properties, named 'Greek superfoods'. Superfoods are generally considered to be types of food that have been known in the past and have now been re-discovered, and that not only have nutritional value, but also contain unique properties that render them of medicinal value (Wolfe 2009:1-2). In recent years, superfoods have been gaining popularity worldwide as a healthy and clean source of food of high nutritional and biological

value that also links with sustainability (Fernández-Ríos *et al.* 2022). Despite some debate about the way ‘superfoods’ are actually portrayed and marketed to customers – for example as ‘natural’ (Hassoun *et al.* 2022) – these types of food are usually related to traditional production practices that originated from indigenous cultures with minimal processing and technological intervention (Fernández-Ríos *et al.* 2022:2).

One of the activities organised by BBGK was the ‘Aromatistas’ portable exhibition, promoting Greek medicinal aromatic plants as superfoods. The aim was to make the public aware of plants and herbs that are locally grown and can be used in traditional recipes. One hundred and thirty-six people, including both specialists and non-specialists, assisted in the creation of the portable exhibition that was set up in many different venues. The evaluation showed that people were not aware that some Greek Medicinal Aromatic Plants can be considered superfoods. Among the superfoods displayed were: the dittany of Crete, the mastic of Chios, Greek mountain tea, rock samphire, wild thyme, savoury, fennel and marjoram (see Figure 4). The emphasis on these types of traditional plants was underlined not only for their economic and

nutritional benefits but also for creating links to traditional eating practices. The organisers noticed that Greek Medicinal Aromatic Plants are underutilised while, at the same time, the current trend is to choose imported superfoods.

CONCLUSION

Co-creation as a knowledge construction practice is not a novel approach to knowledge creation, problem solving and power-sharing, as the *subak* system in Bali demonstrates. Contemporary co-creation approaches, such as those used in the BigPicnic project, have also been employed as a way to bring together different types of knowledge that exist in the interface between people, their environment and food traditions that bridge human and non-human elements.

The BigPicnic project was an opportunity for different ‘food cultures’ to meet and for different publics to exchange thoughts and share their values, cultural references, meanings and traditions associated with their eating habits. Co-creation activities were not only a process for sharing knowledge and giving a voice to European citizens from diverse backgrounds.

They were also a medium that allowed the botanical gardens to engage with a wide range of stakeholders and embrace different food cultures, providing a series of activities and some research findings that played a key role in the effort to promote food security, sustainability and, consequently, to highlight the importance of food heritage for tackling global challenges. By embedding the FAO entry points of ‘culture and food traditions’ and ‘co-creation and sharing of knowledge’ in their co-creation approach, botanic gardens added additional elements to their influential status as public institutions of educational and social value. They were able to build on existing knowledge included in their collections systems by adding traditional food knowledge and including these in the interpretation of their exhibitions. Hence, they brought together canonical natural history knowledge about plants and local and indigenous knowledge that enriches collections and interpretation. These connections demonstrate the potential of food cultures for supporting innovation and sustainability.

The *subak* system seamlessly integrates elements of indigenous agricultural knowledge and modern

techniques to foster agricultural sustainability. The *subak* organization and the *paruman*, as integral components of the system, exemplify the power of co-creation in comprehending the challenges faced by the community and devising appropriate solutions. The *paruman* enables collaboration, encourages the active involvement of farming communities, and facilitates discussions. By effectively integrating innovation into traditional knowledge, the *subak* system enables local communities to adapt to the ever-changing environmental landscape. In addition, the integration of local and indigenous knowledge into agricultural practices has further strengthened their ability to promote food security, sustainability, and to utilise the preservation of food heritage as a way of tackling global challenges.

The connections formed between food cultures, canonical knowledge, and local and indigenous knowledge underscore the transformative potential of co-creation in supporting innovation and sustainability. These examples demonstrate the power of bringing together diverse knowledge systems and perspectives to foster collaboration, enhance understanding, and drive positive change for food production, conservation, and heritage preservation.

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