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Integrating Organic Farming into the Indonesian Bioeconomy? Sustainable Agriculture between Productivism and Deep Ecology

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Summary
The production, utilisation and management of natural and biological resources, and the rapidly expanding web of relations accompanying them, are increasingly conceptualised as a 'bioeconomy', or as multiple bioeconomies. Various interpretations of the concept set different premises and priorities. In Indonesia, the bioeconomy as a national project aims to improve resource efficiency and to find new ways to convert biomass into a diverse and comprehensive range of products. As an object of government strategy and part of the bioeconomy, organic agriculture is directed at capital-intensive agribusiness, economic growth and (global) competitiveness. At the same time, organic farming is evolving as a social movement which aims at local food sovereignty, sustainable agriculture as well as at social and environmental justice. The values of civil society actors, and their objectives, encapsulated in the organic movement, partly overlap with and partly contradict government strategies, and present potential alternatives for the bioeconomy. Focusing on Indonesia, this study addresses the political-economic and socioecological challenges in integrating organic farming into the bioeconomy. Conceptualising organic farming and sustainable agriculture as situated between productivism and deep ecology, the paper contributes to the debates over food-policy discourses in general and organic farming in Indonesia in particular, and to theorising sustainable agriculture at the social–ecological nexus.

Keywords: Indonesia, bioeconomy, organic farming, sustainability, values, productivism, deep ecology

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Introduction: Reframing the Indonesian bioecomomy

The production, utilisation and management of natural and biological resources, and the rapidly expanding web of relations accompanying them, are increasingly conceptualised as a 'bioeconomy' (Pavone and Goven 2017), or as multiple bio-economies. Various interpretations of the concept set different premises and priorities. Bioeconomy as a biotechnological-innovation economy puts focus on biotechnology and the generation of economic output, in accordance with the Organisation for Economic Co-operation and Development's (OECD) 'Bioeconomy to 2030 Project'. This version of the bioeconomy has been criticised for its neoliberal, economic and technological bias, and the disregard of risks, ethical issues and socio-political problems (Hilgartner 2007; Parry 2007; Pavone and Goven 2015). Similarly, the concept of bioeconomy as biomass economy builds on substitution for fossil fuels and other non-renewable inorganic resources, and is presented as environmentally sustainable. Critics of this approach point out the disregard for environmentally destructive and socially unjust effects from the increased use of biomass (Smolker 2008; Asveld et al. 2011; Sheppard et al. 2011).

A different, rather critical approach is the theorisation of the bioeconomy as a form of capitalism, focussing on the local and global economies being built around bio(techno)logical materials, products and processes, and the generation and appropriation of value. With such a lens, different potential sources of value are recognised, and 'value' itself is understood in various different ways – including both economic and non-economic aspects. Birch and Tyfield (2012) distinguish between a political-economic use of the term value, referring to economic or market practices (profit and share-holder value), and a more ethical framing of the term, which rather refers to values (ethics, meanings). They argue for the emergence of an asset-based economy – in contrast to the commodity-based one related to Marxist thought – and put emphasis on assets – tangible or intangible resources – as a determinant of value. Similarly, economists have further developed the model of the value chain, and noticed a new logic of 'value constellations' (Normann and Ramirez 1993), which emerge through the interactive creation and (re)invention of value by producers and consumers.

Against this backdrop, bioeconomies emerge as political projects with institutional transformation a key aspect of them, involving conflict, struggle and resistance. The production and appropriation of value takes place in relation to the emergence of new subjectivities (Pavone and Goven 2017, 13). Therefore, this paper examines how value is generated, appropriated, attributed and distributed in the Indonesian bioeconomy. Moreover, it examines questions of values: that is, how value systems evolve with societal negotiations over food. Integrating further sustainability dimensions like social justice and local food sovereignty, this extends the concept of the value chain to value constellations. On this basis, related new notions of self and community, and the (re)production of new social categories, cultural patterns

and economic arrangements, are all investigated. To illustrate the different values, strategies and practices of civil society actors, I draw on ethnographic material – including semi-structured interviews – from Central and West Java, Indonesia.

In Indonesia, the bioeconomy represents a national project which aims to improve resource efficiency and to find new ways to convert biomass into a diverse and comprehensive range of products. Besides bioenergy, the national agro-industry is the second area politically fostered as part of the bioeconomy's development. With the 'Grand Strategy of Agricultural Development 2015–2045', the government formulated a long-term agricultural- and rural-development plan which seeks to respond to current societal challenges and trends. With a view to a bio-based economy, the Ministry of Agriculture (MoA) integrated the vision of transitioning to 'a sustainable agricultural bio-industry system to produce diversified healthy foods and high value-added products from tropical agriculture and maritime resources for food sovereignty and farmers' welfare' (MoA 2015). The foundations for a sustainable agricultural bio-industry were to be laid in the period 2013–2015 and further strengthened by 2019. The agricultural-development strategy focusses on upgrading: namely, a transition from primary agriculture to an integrated bio-industry based on local resources, sustainable (small-scale) agriculture and the creation of a favourable infrastructure for bio-businesses. The plan also encourages the development of a sustainable bioeconomy in rural villages throughout the country. In the 'Strategic Plan for 2015–2019', a policy mix is proposed which ranges from increasing crop yields, fostering clusters and capacity development for marketing to sustainability monitoring.

In the twenty-first century, organic agriculture in Indonesia began to enter the phase of standardisation and expansion towards large-scale production and trade, following a dominant agro-economic trajectory. As part of government strategy, organic farming is directed at capital-intensive agribusiness, economic growth and (global) competitiveness. At the same time, one of the aims defined by the National Standardisation Agency (Badan Standardisasi Nasional, BSN) is 'to create agriculture that is socially, ecologically and economically sustainable' (BSN 2002). To realise these sustainability goals, it is of vital importance to incorporate an integrated, participative approach on organic agriculture into the bioeconomy set out in the Grand Strategy. Organic farming in Indonesia has developed from a form of resistance towards conventional farming to a government strategy for food sovereignty. Resistance among civil society actors to some extent still exists today, and different strategic directions have been developed for solving the challenges they face. Despite different strategic approaches, knowledge- and belief systems, all actors face similar tensions and trade-offs between their respective values on the one hand and practices which are linked to the market and institutional structures of the agro-industry on the other. In sharing the values of a deep agro-ecology and organic lifestyle, and promoting eco-friendly small-scale production and consumption of local 'healthy' food, it becomes particularly challenging to reconcile socio-ecological ideals and market expansion. This fuels the societal

contestation of organic farming – between farmers' welfare and local food sovereignty on the one side and an export-driven outwards orientation and national food sovereignty on the other.

From a normative perspective, acknowledging different values and approaches on organic farming, and considering alternatives to the national framework of standardisation, certification and open trade, is essential for inclusive development of the organic sector. Such a view is crucial for the integration of organic farming into the Indonesian bioeconomy and the establishment of an agricultural system which is socially, ecologically and economically sustainable. In analytical terms, the concept of value constellations serves to help us understand more comprehensively the dialogic, interactive process of creation and (re)invention of value, beyond the economic. Tracing historical and current developments in the agricultural sector and analysing emergent value constellations, the paper shows that both state and civil society actors gradually balance their concepts on sustainable agriculture. Drawing on ethnographic material from Central and West Java, this process of balancing and redefining notions of sustainability becomes more comprehensible. I argue that within the political project of the Indonesian bioeconomy, values of deep ecology-oriented organic agriculture are incorporated into the productivist regime, while (at least some) organic practitioners make attempts at reconciliation of socioecological ideals with economic markets and profit. On closer examination, recent local tensions and different values in organic agriculture illustrate where Indonesia stands in the global trend of emerging bioeconomies. Conceptualising organic farming and sustainable agriculture at the nexus between productivism and deep ecology is presented here as a framework which integrates economic and social justice for organic practitioners, and nurtures a more inclusive development of the organic-agriculture sector.

Historical foundations: From Green Revolution to bioeconomy

The beginnings of organic agriculture in Indonesia go back to the 1970s, when initial approaches were developed in response to the so-called 'Green Revolution'. Indonesia's Green Revolution programmes were initially developed in the 1960s, to modernise agriculture by improving rural infrastructure, supporting agricultural extension and providing farmers with high-yield rice varieties, synthetic pesticides and fertilisers. Over the ensuing decades, Suharto's 'New Order' regime expanded the Green Revolution through a series of mass-guidance and mass-intensification programmes which successfully produced high yields and helped contain recurring food shortages in Indonesia. However, these mass-intensification programmes had various negative social and ecological consequences, such as land degradation, water pollution or shortages, biodiversity loss, health impairment and the suppression or loss of indigenous agricultural practice and knowledge. Under Suharto's authoritarian rule, the Green Revolution worked as a system of social differentiation and control to reinforce and maintain the established power

relations. The mass-intensification programmes disproportionately benefitted wealthier rural residents, who used the resources and technologies provided by the state to increase production. At the same time, the rural elites increasingly neglected their obligations to women and poorer farmers, and deprived them of land-use rights. The resulting agrarian-class differentiation contradicted an equitable distribution of resources – technology, land and capital – while nurturing the state's cultivation of patron–client networks. As Welker states: 'Ruling national parties supplied rural elites with agricultural subsidies; rural elites, in turn, acted as the state's "agents in the countryside": policing villages, distributing development goods to loyal followers, and preserving the preternatural rural stability over decades of authoritarian rule' (2012, 392).

From the 1970s onwards, civil society initiatives throughout Indonesia tried to develop more sustainable and balanced forms of agriculture, as an alternative to the Green Revolution's industrialised system thereof. Inspired by the growing international environmental movement, national and international non-governmental organisations, religious representatives and committed individuals independently launched the organic movement in Indonesia. One of the most important pioneers was the Bina Sarana Bakti (BSB) foundation, a centre for organic-agriculture development established by Reverend Agatho Elsener in 1983. BSB was the first organic farming training centre in Indonesia to educate and support farmers and organisations all over the country (Jahroh 2010, 2). Between 1985 and 1990, BSB implemented a large-scale 'Integrated Pest Management' (IPM) programme which helped decrease the use of synthetic pesticides by 90 per cent. In this programme, farmers were trained to revert to 'natural' biological, physical and chemical forms of pest control, including weather, habitat modification and the protection of beneficial predators and parasites. In 1986, devastating losses of rice crops (due to extensive plant-hopper infestation) led to a partial shift in government policies; by means of a presidential decree, Suharto restricted the use of synthetic pesticides in rice cultivation, phased out pesticide subsidies and adopted the approach of training farmers via IPM. From 1989 on, with support from the United Nations' Food and Agriculture Organization (FAO), farmer trainings were held in field schools, drawing on participatory development models (Winarto 2004; Welker 2012). However, the IPM programme was only partially successful since it reached only a fraction of Indonesia's farmers – who had widely adopted Green Revolution ideas and techniques.

Thus, the initiated shift in Indonesian agriculture towards IPM was rather inconsistent, with conventional Green Revolution and IPM models coexisting in state policies (Welker 2012, 392–393). This indicates that the Indonesian state under Suharto did not establish a unified agricultural sector, but incorporated different approaches and strategies on (organic) agriculture. In general, the implementation of these policies in Indonesia has been examined in various studies, including criticism of their intended and unintended consequences (Fox 1991, 1993; Oka 1997, 2003; Winarto 2004, 2011).

Post-Suharto liberalisation allowed for a growing number of organic-agriculture organisations, and increased the government's involvement in the organic-farming sector. Established in the year 2000, the 'Organic Farming Society of Indonesia' (MAPORINA) put its focus on research, consultation and the development of organic-farming models. The following year, after active lobbying by MAPORINA, the programme 'Go Organic 2010' was initiated by the MoA to nationally expand organic-food production (Jahroh 2010, 2). In 2003, the 'Indonesian Organic Producer Association' (APOI) was established by organic farmers to improve the quality and quantity of agricultural produce, and to secure the protection and conservation of the environment. In the same year, the MoA introduced the 'Organic Food Competent Authority' (OKPO), to formulate organic-farming policies and to establish the state's organic-certification system. The first national certification body 'BIOcert', however, was developed by the 'Indonesian Organic Alliance' (AOI) in 2002: this civil society association advocates for alternatives to state certification and for a participatory-guarantee system. By 2016, AOI was the largest umbrella association in Indonesia, with 117 members – including 80 organisations and 37 individuals located in 20 of the country's 34 provinces (Schreer and Padmanabhan 2019, 2).

Many civil society groups have taken a critical stance towards the government strategy and organic-farming policies, trying to preserve the holistic ideals of the pioneers of the 1970s while balancing socioecological values with economic demands and opportunities (more below). In 2001, the Indonesian government formally recognised the organic sector by launching the aforementioned Go Organic 2010 programme, which was envisioned as being set to establish the country as one of the leading producers of organic food in the world by that year. Although that vision would ultimately not be realised, the programme acted as a trigger for the gradual institutionalisation of Indonesia's organic-farming sector, and thus indicates a shift from mere civil society action to increased state regulation (Edwards 2013, 76). The formal recognition of the sector was both a response to the increasing number of organic-agriculture organisations and an attempt to take advantage of the growing international market for such produce. In 2002, the 'Indonesian National Standard' (SNI) was introduced to provide national standards and regulations for organic farming. OKPO then became responsible for implementing national certification, verifying certification bodies and monitoring organic produce distributed in and imported to Indonesia (MoA 2013).

Until President Joko Widodo (Jokowi) took office in 2014 (and also thereafter), a state-controlled productivist model was the dominant approach in agricultural policy-making. State support for organic farming has stood out from other more conventional elements of agricultural policy, such as agrarian-land reform, the rehabilitation of irrigation networks, control of food imports and the large-scale 'reclamation' of non-agricultural land. Yet, state-sponsored development has often favoured the accumulation of capital and land in the hands of fewer, larger farmers

and agribusinesses, and has contributed to the decline of mutually supportive small-farmer communities (Reuter 2018, 8).

Looking at the historical development of organic agriculture in Indonesia, we see various attempts by the state to integrate ecological approaches into the productivist regime as well as continuous attempts by civil society actors to bring their ideas of social justice and ecological sustainability forwards, facing up to the imperatives of economic development and the market. Under Suharto's authoritarian regime, IPM models and ecological aspects were integrated into the agricultural system to secure national self-sufficiency in food production. This partial shift in government policy was not due to a change in values but rather represented a pragmatic reaction to declining agricultural output. However, it laid the foundation for a national-development agenda for organic agriculture which incorporated sustainability considerations into the agro-industry. State regulations and national certification initiated the institutionalisation and commercialisation of the organic sector. With the main target of transforming Indonesia into an international organic producer, the government strategy for food sovereignty shows an imbalance between social, economic and ecological aspects. As shown below, state actors nonetheless progressively integrate values and principles of sustainable agricultural production which transcend the narrow productivist focus.

Organic farming as government project

Under Indonesia's current president Jokowi, the MoA installed the '1,000 Organic Agriculture Villages Programme' with the objective to create a chiliad of organic certified villages and spread organic agriculture across the country by the end of 2019. The programme is part of Jokowi's national-development agenda 'Nawa Cita' (Sanskrit: 'Nine Priorities'), and combines various government strategies to achieve food sovereignty. So far, however, it is precisely the organic-farming one which has failed to show significant progress, and the MoA has been criticised for not conscientiously implementing Jokowi's programme (Hoesein 2018). A major point of criticism is that the programme focuses on technical measures, outputs and efficiency, while failing to take proper account of the lifeworld realities and experiences of villagers – for instance, their explicit need for (subsidies for) organic fertilisers.

This critique must be viewed within the context of contested agriculture and food policies in Indonesia, and the interpretation of food sovereignty by the state. Based on the Indonesian Food Law (18/2012), food sovereignty as articulated by state actors is framed as the right of the Indonesian state and nation to develop a food policy independently. Referring to the country's vast natural resources, the state affirms its ability to fulfil the nation's demand for food in a sovereign and independent manner. 'By linking food security to national security, the government legitimises its own role in determining the country's food policies, and its definition of food sovereignty in terms of the rights of the state' (Schreer and

Padmanabhan 2019, 4). Respective state measures such as protectionist trade policies and the establishment of large-scale agricultural estates have inevitable negative effects on both local people and their environments. The initially mentioned criticism of an output-oriented bioeconomy concept applies here, in terms of a disregard for environmentally destructive and socially unjust effects – in particular on the individual and household level.

In response to this criticism, and to address negative socio-economic and ecological impacts, the Indonesian government has since re-evaluated and adjusted its organic-farming policies and programmes. To some extent, effective countermeasures have been taken with the implementation of poverty reduction- and food programmes, and via the support of locally based sustainable food-production systems like organic farming. Moreover, the explicit commitment to sustainability by government bodies – meaning the SNI and the BSN – has been subject to more rigorous scrutiny. The former defines organic as a label which 'declares that a product has been produced according to the organic product standard and is certified by an authority or official certification body' (SNI 2002). In contrast to its market-oriented definition of the term 'organic', the body describes 'organic agriculture' as a 'holistic production management system that increases and develops the health of the agroecosystem […], is based on minimal external input, and avoids the use of synthetic fertilizer and pesticides' (SNI 2002) and which applies site-specific management practices adapted to local environmental conditions. While its primary function is to ensure the quality standards of organic produce in order to protect consumers and producers, the more detailed description of the SNI's role focusses on its regulatory functions. Its specified role is to provide a guarantee system for the organic value chain, and develop nationally and internationally recognised certification schemes for export and import purposes, in addition to contributing to environmental-protection efforts at the local level.

The BSN has acknowledged that the requirements for producing organic food are different from common agriculture, and states that the procedure is inseparable from the identification and labelling of such produce. Defining a set of permitted and prohibited agricultural inputs and cultivation strategies, the BSN has specified technical measures for the development of organic agriculture. At the same time, it has prescribed management practices which prioritise the use of local inputs – namely, 'local wisdom and resources' (BSN 2002, 2016) – as a contribution to achieving the aforementioned aim of creating a socially, ecologically and economically sustainable agriculture. In order to implement these guidelines, government projects like the 1,000 Organic Agricultural Villages Programme have been subject to more rigorous scrutiny. In 2016, the national standard for organic agriculture was revised (to become SNI 6729:2016), and the criteria for organic certification were significantly widened (Yurlisa and Susanti 2018, 13). Furthermore, the government has involved external experts from universities and research institutes as reviewers and advisers to prevent project failure. A central

recommendation has been to take the specific needs and requirements of farmers into serious consideration (Charina et al. 2018; Juansah et al. 2019). These current developments indicate that the commitment to sustainability by the government bodies SNI and BSN is taken more seriously, and implemented through promising measures. Critical evaluation and ecological monitoring of government projects and policies contribute to the objectives of a healthy agro-ecosystem and environmental protection at the local level.

In addition, the Indonesian government has put forward socio-economic development measures in connection with strategic policy, integrating Islamic ecological values and cooperating with major Islamic organisations. As early as 1980, the Ministry of Environment cooperated with a *pesantren* (Islamic boarding school) in West Java – which could be labelled the first 'eco-*pesantren*', although the term did not exist yet (Arnez 2014, 89). In 2009, the former minister for the environment Muhammad Hatta decided to rename and develop almost 100 eco-*pesantren*; in the 2010s, the government and Islamic organisations actually established dozens of eco-*pesantren* in order to address environmental concerns. In response to global and national discourses on climate change and environmental degradation, ministries and local governments aimed to raise ecological awareness among local communities. For the same reasons, the Indonesian Council of Muslim Clerics (MUI) in 2010 issued a *fatwa* ('religious edict') on climate change, and in 2011 established the Institute for Environmental and Natural Resources (PLHSDA). Today, Islamic environmentalism in Indonesia 'has gone from fringe to mainstream' (Varagur 2020, n.p.), and become a role model for Muslims in Southeast Asia and beyond – for instance at the international Islamic Declaration for Climate Change in Istanbul in 2015.

The successful eco-*pesantren* model is based on the authority of *kiai* ('leader of a *pesantren*'), their public visibility, charisma and the expected influence they can exert with regards to environmental issues. The Indonesian government cooperates with local religious leaders of Islamic mass organisations, and draws on their broad networks of *pesantren* and influential position in society to disseminate information and implement projects. Building on strong ties between government institutions and the Muslim welfare organisation Nahdlatul Ulama (NU), Muslim scholars collaborate with government officials to develop Islamic eco-theology and implement programmes such as waste management and organic farming. Remarkably, a considerable number of *pesantren* educate their students not only in carrying out environmental practices according to Islamic theology but also in developing entrepreneurial skills. By participating in these programmes, students can learn practical skills and increase their environmental entrepreneurship, which in turn also increases the profitability of the *pesantrern* (Grossmann 2019). Many *kiai* believe that they provide attractive perspectives for their students, as they teach them how to live in accordance with Islamic regulations, provide them with entrepreneurial skills and guide them towards independence. The fact that the number of pupils has been rapidly increasing in these *pesantren* in the last few

years is indicative of the fact that this combined offering is well-received among the students and their parents (Arnez 2014, 101). Supporting the broad establishment of eco-*pesantren* and connecting organic farming with Islamic environmentalism and agricultural entrepreneurship, the Indonesian government has realigned its development strategy for sustainable agriculture. The cooperation with NU provides official guidelines for socially, ecologically and economically sustainable development on the individual and national level.

Although the objectives of government programmes could so far not be realised, the pledge of state actors to advance sustainable agricultural production signifies a contrast to the conventional state-centred, productivist approach to food sovereignty. Over recent years, organic farming has been embedded in a national agro-economic framework beyond a productivistic logic and neoliberal ideas of market expansion, therewith considering its economic potential but also solutions to the Green Revolution's shortcomings (Hidayat and Lesmana 2011). Whether the change of emphasis in Indonesian law from food security and food self-sufficiency towards instead food sovereignty represents a 'paradigm shift' (Soetoto 2018) remains debatable, especially since the notion of food sovereignty according to the state legitimises its own role in determining the country's food policies. However, by cooperating with eco-*pesantren* and combining Islamic environmentalism with agricultural entrepreneurship, the Indonesian state clearly integrates values of ecologically oriented organic agriculture into the productivist regime. Overall, the Indonesian state is becoming more open and receptive to impulses from civil society, adapting agricultural policies to different contexts and in dialogue with non-state actors.

Organic farming as a social movement – different values and value constellations

A variety of ideas, organisations and networks of non-state actors exists in Indonesia today, in which organic values are maintained and promoted. These values are sometimes in contrast to the strategies pursued by the Indonesian government, in particular the adoption of market and institutional structures of conventional agro-industry and agribusiness. Advocates of the organic social movement keep a critical eye on the implementation of the government strategy for food sovereignty, and offer new, alternative takes on the Indonesian bioeconomy. Their alternative approach – also advanced by the transnational peasant movement La Via Campesina – advocates local food sovereignty, a concept which includes not only people's ability to access sufficient food but also the right of individuals to determine their own food and agricultural policies. Both influential pioneers of organic agriculture in the country and later organisations which helped consolidate the movement react to the Indonesian government's framework of regulated standardisation, certification and open trade.

While partly rejecting the conventionalisation of organic farming (Tamtomo 2021), they cooperate with government institutions to varying degrees (Laksmana and Padmanabhan 2021). To illustrate the different values, strategies and practices of civil society actors, this section draws on ethnographic material from West and Central Java – specifically, on comparative research aimed at identifying the values and belief systems related to organic agriculture existing in the two regions.[1] Beyond identifying traditional cultural and religious values and beliefs, the study investigated how and by whom certain value models are spread and established both regionally and nationally.

One major outcome from the research is the following categorisation of civil society actors' value systems, and the emerging value constellations in the production and consumption of organic food. Three categories of civil society actors and value systems can be distinguished, with differences and commonalities in terms of their approaches to organic agriculture: namely, Islamic, Christian and local cultural agro-environmentalists respectively. Testing the concept of value constellations on these three categories, the individual or collective creation and (re)invention of value is investigated in different networks and relationships – so as to cover the entire 'value-creating system' (Norman and Ramirez 1993, 65). The concept is extended to basics of social ecology and deep ecology (Carson 1962; Naess 1972; Bookchin 1994; Marten 2001; Tsing 2001), stressing the interrelatedness of social systems and eco-systems. Analysing civil society actors' values and beliefs related to organic agriculture, these constellations include guidelines on what can be called a deep agro-ecology and organic lifestyle. The resulting value constellations comprise converging concerns of social justice and ecological sustainability (Fitzpatrick 1998), and ecological political thought based on entangled human–nature sociality (Tsing 2013).

Islamic agro-environmentalism

As shown, Islamic organisations together with the Indonesian government have established eco-*pesantren*, in which Muslim scholars collaborate with state officials to develop Islamic eco-theology and organic farming. These are commonly called 'green *pesantren*' and represent the core official bodies of Indonesian 'eco-Islam' and the 'double green movement'.[2] With political and financial support from the Indonesian government, green *pesantren* provide formal and semi-formal religious education which reflects new ecological curricula and models (Arnez 2014, 90). However, there are also *pesantren* which do not follow government curricula, and establish alternative approaches and teachings without

1 Fieldwork for this research was conducted by the author between October and December 2018, in the framework of the research project IndORGANIC.

2 Since the colour green symbolises Islam, civil society actors who incorporate ecology into Islamic education are in Indonesia sometimes referred to as part of the double green movement – hence combining ecological and Islamic values (Anshoriy 2012; Prianto et al. 2017).

the latter's financial support and formal acknowledgment. They combine concerns for healthy nutrition and the environment with Islamic doctrine and values, and promote organic local or home production as an alternative to agribusiness and the market. Together with their followers, and via religious-community networks, these Islamic figures integrate ecological values and social welfare into religious teachings and practice.

At Pesantren Ekologi Ath-Tharik in Garut, West Java, agro-ecological practice and teaching focus on environmental protection, the preservation of biodiversity and small-scale or home production of rice, vegetables and herbs. Concerns for healthy nutrition and the environment are combined with Islamic doctrine, and represent an integral part of student-boarders' lessons on Islamic teachings and public Islamic teaching forums (*pengajian*) – both at the *pesantren* and in other regional communities. The leaders of the *pesantren*, *kiai* Abi Ibang Lukmanurdin and his wife Ibu Nissa Wargadipura,[3] promote organic local or home production as alternatives to what is understood as 'certified yet socially and environmentally unsustainable food'.[4] This critique targets the productivist government approach for not sufficiently counteracting the negative environmental effects of the Green Revolution and for disadvantaging small-scale farmers – despite the state label *organik*. Instead of chemical fertilisers and pesticides harmful to the soil and the environment, they suggest a sustainable production system with local seeds and self-produced organic fertilisers, but without the need for additional labour. The couple advocate for agro-ecological family farming and farmers' rights, as a safeguard against the risk of indebtedness and land loss.

Their ecological *pesantren* Ath-Tharik serves as a working example and model for organic farmers' groups and associations. The everyday agro-ecological practice at the Islamic boarding school follows the principles of permaculture, polyculture, open-pollinated seeds and small-scale (family) farming. Together with their three children, the student-boarders and various guest groups, Abi Ibang and Ibu Nissa create a familial and productive learning atmosphere for their combined religious and ecological education. They share and implement agro-ecological knowledge of soil conditions and nutrients, of cultivating local rice varieties, vegetables and root crops (like cassava), and of the nutritional value of their organic produce. Besides the preservation of local seed varieties and the organic cultivation of food, Abi Ibang sees the harvesting and processing of herbs and medical plants as an important aspect of healthy living. For example, he produces Rosella tea – made from hibiscus flowers (*Hibiscus sabdariffa*) and sweetened with palm sugar, and which can be administered for treating diabetes (Mayasari et al. 2018). Besides teaching student-boarders and guests about ecological correlations, Abi Ibang and

3 'Abi' and 'Ibu' are customary titles in West Java (Sunda) or Indonesia in general, meaning 'father' and 'mother' respectively.

4 Interview with Abi Ibang held at the *pesantren* Ath-Tharik on 19 October 2018 (all interviews are the author's own translation).

Ibu Nissa provide specialist knowledge particularly to female guests at the *pesantren* about the nutritional and health benefits of certain organic produce (at specific events and times) as well as of small-scale family farming. At the *pesantren*, organic produce like dried herbs and teas are sold to visitors and local residents in the surrounding area, and everyone is encouraged to develop semi-subsistence farming and small-scale entrepreneurship in order to help reinforce local networks and markets for organic food.

In his teachings, Abi Ibang combines religious and deep-ecology values, referring to Allah and the Holy Quran. An example he gives is a verse in the second chapter of the Quran, called Al-Baqarah, which explicitly forbids exploitation or destruction of Creation (i.e. other humans and the Earth).[5] Based on such guidelines, he stresses the vital importance of humans being part of God's creation, and the soil being part of the blessings provided by Allah. Thus, the *kiai* emphasises land and nature in general should not be treated as an object but a subject, with the divine obligation of mutual care. This extends also to animals and plants, who provide us humans with the resources to keep us fed and healthy, clothed and housed, but likewise need to be protected and handled with care. Related to this awareness of the rights of other creatures is the affirmation of their roles in different ecosystems. Abi Ibang refers to ducks being used traditionally as ecological pest control and producers of organic fertiliser, and to certain species of small fish – previously widespread in irrigation systems and rice fields – appreciated as nutritious food. He also mentions the role of snakes, often regarded as a threat by rice farmers, so they hunt and kill them. Being aware of the snakes' role in controlling rat populations, Abi Ibang emphasises that they too should be protected and cared for. Not far from his *pesantren*, the *kiai* provides a concrete pit for snakes to dwell in and not disrupt farming activities. Both Abi Ibang and Ibu Nissa teach their followers and guests about the interrelationships and entanglements between humans, animals, plants and soils. In their ecological education, these bonds can be mutually beneficial and sustainable, provided that everyone's (agricultural) actions are based on the Islamic values of life and respecting Creation.

The dedicated couple's main objective is to educate people on becoming 'ecological citizens' who follow these values and contribute to sustainable living. Interestingly, the notion of ecological citizens is explicitly based on Pope Francis's encyclical 'Laudato Si'[6]; both Abi Ibang and Ibu Nissa emphasise the common values and principles of Islamic and Christian eco-theology, and support interfaith dialogue. They welcome non-Muslim guests and, quite recently, hosted future Jesuit priests as part of the international Tertianship programme in Indonesia (Dy 2019). Furthermore, Abi Ibang and Ibu Nissa nurture supraregional cooperation,

5 Same interview with Abi Ibang on 19 October 2018.

6 'The Holy See. Encyclical Letter Laudato Si' of the Holy Father Francis on 'Care for Our Common Home' (Vatican 2015).

for instance with a *pesantren* in Aceh, North Sumatra, which is dedicated to combining ecological and Islamic teachings just as Ath-Tharik is. In 2017, Ibu Nissa served as one of the resource speakers at the international Indonesian Women's Ulama Congress in Cirebon, West Java, which reflected on the various issues challenging the Islamic community worldwide. Both of Ath-Tharik's *kiai* advocate their values and ecopolitical thoughts on different scales, from the region around Garut to forms of national and international (as well as interfaith) exchange and cooperation. As Abi Ibang summarises: 'Teaching ecological awareness and the harmonious interplay of all beings in God's Creation, we educate the public to become ecological citizens. In our *pesantren* Ath-Tharik, we try to develop a role model for an agro-ecology beyond economic concerns – a holistic, environmentally and socially just agro-political system.'[7]

Similarly, at the *pesantren* Mursyidul Hadi in Yogyakarta, Central Java, organic farming is promoted, and Islamic networks are used to establish farmer networks and oversee regional organisation. Islamic values provide the grounds for bringing together and protecting farmers and farmers' groups, and for promoting the healthy production and consumption of food. The leader of the *pesantren*, Gus Qomar,[8] is innovative in his cultivating and marketing of *lele organik* ('organic catfish') as healthy food. In Indonesia various types of catfish are commonly used for food products, and *ikan lele* (*Clarias sp.*) is a popular and cheap staple. Catfish are a robust species which tolerate pollutants and substances harmful to humans, for instance through heavy-metal concentration in the fish flesh (Ernawati 2014). In his fish farms, Gus Qomar provides the catfish with good water parameters and well-controlled feed, to ensure the well-being of both the fish and the consumer. The same applies to his small-scale 'backyard' poultry farming – that is, to the care and welfare conditions employed for his chickens and ducks. Similar to Abi Ibang and Ibu Nissa, the *kiai* teaches his followers about the mutually beneficial and sustainable interrelations between humans and all other beings in Allah's Creation, as one of the core values of Islam.

Another similarity is Gus Qomar's concern for farmers' welfare and rights, in particular their protection against losses of land and livelihood. The *kiai* is a strong critic of the government's agro-industrial policy and the tourism policy in Yogyakarta, with them both capitalising on large-scale projects while in the process threatening or neglecting small-scale farmers. He explains that tourist development, as for instance with the growing number of hotels and shopping malls in the region, causes farmers' displacement from the land and shortages of water for agriculture and private households. The latest example he gives is the construction of the new Yogyakarta International Airport (YIA), located in a coastal area of Kulon Progo Regency. For building the 200,000 square-metre area,

7 Interview with Abi Ibang at Ath-Tharik on 20 October 2018.

8 'Gus' is the short form for 'Gusti', a title and personal form of address for royals and religious authorities.

including parking facilities and the YIA–Wojo railway station, farmland was destroyed and expropriated by offering financial compensation, yet without new allocations elsewhere. Together with the government's organic-farming policy of state certification and marketing which disadvantages small-scale farmers who cannot afford it (or refuse to pay), these developments justify their need for protection. Gus Qomar emphasises that his teachings of ecological knowledge and Islamic values aim at a healthy and sheltered life for all beings; in the case of humans, organic farmers in particular, this may mean to organise resistance against exploitative practices and large-scale projects, in Yogyakarta and all over Indonesia too.[9]

In both these cases of Islamic agro-environmentalism, Islamic values underpin the interconnection and protection of farmers, seeking to promote local, small-scale farming and food systems beyond policy requirements and government control. Criticism is levelled at the neglect of or discrimination against small-scale farmers, and at ecologically harmful or unsustainable practices. While small-scale or home production and the local marketing of organic produce are encouraged, the exploitative practices of the agro-industry and productivist approach are strongly rejected. Based on social and ecological Islamic values, particularly the respect for entangled human–nature sociality, alternative concepts of sustainable and healthy organic agriculture are promoted in the *pesantren* and their supraregional networks. Key figures herein have consolidated knowledge about the health benefits of locally produced herbs or local seed varieties which offer higher yields and better resistance to difficult environmental conditions. The value constellations they create, together with their students and visitors, combine environmental sustainability and care for all living beings in God's Creation with human health and nutrition, as well as concern for farmers' welfare and rights. These assets, in Birch and Tyfield's (2012) terms, are valued more highly than large-scale projects and agribusiness – and the generated profit and shareholder value.

Christian agro-environmentalism

The Catholic Church has played a significant role in the organic movement in Indonesia since its early beginnings. Under the auspices of the Commission of Social and Economic Development of the Catholic Church, the aforementioned BSB foundation was established by Father Agatho in 1983 – going on to become a pioneer of organic farming in the country. Other Catholic groups in Java have been actively working for the integration of their faith with ecological principles since the 1990s. Both in West and Central Java, Catholic groups promote organic farming and an organic lifestyle based on Christian values, partly in line with the government approach. At the same time, farmers' protection and empowerment as well as alternatives to state certification are important shared objectives among

9 Interview with Gus Qomar at Mursyidul Hadi on 14 November 2018.

these groups, also traceable back to the achievements of Father Agatho and BSB (Laksmana 2017, 550). Compared to Islamic agro-environmentalists and their vision of sustainable organic small-scale or home production, Catholic agro-environmentalists rather aim at organic-market opportunities and urban–rural harmonisation. Moreover, in Indonesia so far no national interfaith alliance for the environment exists, and interfaith dialogue on ecological issues has been achieved particularly in areas where Islam is not the majority religion (Reuter 2015, 1227). It is Catholic environmentalists in Java who actively pursue and shape interfaith dialogue in the Muslim-majority country, according to shared ecological values.

At the Eco Learning Camp in Bandung, farmers from the region but also school children, middle-class visitors from Jakarta and people from abroad are being taught about the environmentally friendly production and consumption of food as well as organic. The Eco Learning Camp and Foundation was established in 2002 by Father Ferry Sutrisna Wijaya and a committee comprising scientists, politicians and business people. The teachings at the Eco Learning Camp are partly in line with the Indonesian government's approach, in particular with the idea of organic agriculture villages – similar to the 'eco village' promoted by Father Ferry. As illustrated on display boards at the entry gate to the Eco Camp, eco villages are envisioned as green, clean, self-active, eco-friendly and harmonious, referring to principles of permaculture, waste reduction, sustainable energy (self-)supply and sustainable agri-business.[10]

While the envisioned benefits of organic agricultural activities at the eco village include self-supply with organic produce and additional income from the sale at local markets, state certification is no specified objective. The three pillars (or basic triangle) of the Eco Camp are organic farmers, organic markets or consumers, and the younger generation of ecologically aware citizens referred to as Ksatria Shambhala ('warriors for awakened living').[11] A key concept at the Eco Learning Camp is environmental education in the form of educational tourism, which is provided by young tutors (already Ksatria Shambhala) and primarily targeted at school children and students (future Ksatria Shambhala). Participating in various activities, such as preparing seedlings and planting vegetables, young people are taught about natural cycles and relationships through first-hand – and often first-time – experience (Agustina 2017).[12] Waste management, in particular the reduction and recycling of waste, and reduced meat consumption or vegetarianism are presented as important aspects of healthy and eco-friendly living.

10 Author's own translation from Bahasa Indonesia.

11 'Shambhala' (or 'Shangri-la') is a concept of Tibetan Buddhism, referring to awakened living in the world.

12 Susanti Agustina presents a beautiful phenomenological account of the practical learning experience (of families and children) at the Eco Learning Camp.

The Eco Learning Camp and Foundation are sponsored by large companies (e.g. Ultra Milk, The Body Shop), and some of the teachings appear contradictory to the products and production systems of these companies. For instance, the use of plastic bottles or the industrial production of dairy produce contradict the ecological principles advocated. However, Father Ferry explains that besides functioning as sponsors for the Eco Camp, these companies also can be influenced by its ecological teachings – something attempted on every possible occasion.[13] In regular meetings with representatives from business and agriculture, the focus lies on expert knowledge and innovations, like a rich liquid organic fertiliser based on microorganisms, which was developed by one of Father Ferry's friends and is claimed as a revelation of God.[14] This liquid organic fertiliser is envisioned by Father Ferry as a game changer for the widespread development of organic farming across Indonesia, potentially replacing both ecologically harmful chemical fertiliser and the labour-intensive production of common organic fertiliser.[15] In summary, the intended impacts of the Eco Learning Camp operate on different levels, teaching the younger generation ecological awareness, leading large companies towards eco-friendly production and packaging, and supporting the widespread adoption of organic-farming practices among farmers and villagers.

The ethical foundations of the teachings at the Eco Camp, as Father Ferry explains, lie in Catholic eco-theology, like the papal encyclical Laudato Si. Together with colleagues and friends, Father Ferry has recently published a booklet entitled *The Rosary Prayer Laudato Si. Essential insights from experiencing the rosary prayer of the encyclical Laudato Si* (Binawan et al. 2020).[16] Herewith, the authors aim to translate the Pope's verses into a more concrete, practical and easy-to-understand form of guidance for the wider population, drawing on examples and references from the Indonesian context. A recurring theme is the worth and value of all creatures living on Earth, and the interrelations between humans and other beings which impose an obligation of care (Binawan et al. 2020, 10, 12, 19). Interestingly, the authors refer to the current global Covid-19 crisis as a response of the Earth to humans not adequately taking care of the environment and Creation (Binawan et al. 2020, 2). The building of widespread, global ecological awareness is presented as the only solution for planetary health. Another interesting detail in the booklet is that the authors explicitly refer to God as 'Allah', despite drawing on references from the Bible.

Organic farming and lifestyle based on Catholic values are promoted on the producer and consumer level, but without putting Christian ecological values centre stage. Father Ferry emphasises common interreligious ecological values and objectives, and actively promotes interfaith dialogue. Delegates of the Eco

13 Interview with Father Ferry at the Eco Learning Camp on 24 October 2018.
14 Same interview with Father Ferry on 24 October 2018.
15 Same interview with Father Ferry on 24 October 2018.
16 Author's own translation of the original Bahasa Indonesia title.

Learning Camp have undertaken visits to France (2017) and Thailand (2018) for Christian–Buddhist dialogue on environmental protection.[17] Christian–Islamic dialogue is part of the everyday interactions at the Eco Learning Camp, for instance with visitors from the Islamic Community Parenting Club or in discussions with scholars (of Agriculture, Economics, Ecology) from Islamic universities in Jakarta. Father Ferry states that: 'The overall objective for all of us must be harmonisation. With the Earth suffering from human exploitation, we need to forge new paths for mankind to live harmoniously with Creation. With millions of people around the globe living in cities like Jakarta, we need harmonisation between the urban and the rural. And since in all world religions the protection and care of Creation is prescribed, we must adhere to this obligation harmoniously across different religious denominations.'[18]

At Father Gregorius Utomo's Ganjuran Church and Temple in Yogyakarta, similar values and objectives are attended to – albeit on a slightly different basis and under alternate conditions. At Ganjuran, the 'World Food Day Secretariat for Farmers and Fishermen' (SPTN-HPS) was formed in 1990 to combat the negative environmental impacts of the Green Revolution, and to empower small-scale farmers and landless farmworkers (Ganjuran Declaration 1990). A combination of Catholic and Javanese cultural values are used to promote environmental protection and sustainable rural and agricultural development which is environmentally friendly, affordable and socially just. In particular, these values serve to substantiate self-sufficiency and the protection of farmers, acknowledging the latter's rights to choose their cultivation methods, to assemble (based on their own needs and aspirations), and to form representative groups.

Rejecting strict government regulation and the use of chemical fertilisers, pesticides and factory seeds, Father Utomo advocates sustainable farming practices: that is, the maintenance of local/cultural farming practices and crop varieties. Together with SPTN-HPS, training for farmer groups is provided which includes organic-farming techniques but also support for organisational management, for developing trade in organic produce and for growing businesses (Tamtomo 2022, 5). From the late 1990s on, the Ganjuran Church developed into a major pilgrimage and tourist site in Indonesia, with Javanese Mass services held on the first Friday of every month attracting up to 5,000 pilgrims (Bramasti 2015, 36). At these large-scale events and in regular Mass services at Ganjuran, Javanese culture and tradition are integrated into the procedures, including attire, song, dance and musical accompaniment by a classical Javanese Gamelan orchestra, as well as arrangements of fruits, vegetables and rice which serve as offerings in the local (agricultural) tradition (Bramasti 2015, 46). At Ganjuran, visitors and pilgrims are taught about ecological interrelations and responsibilities, not only in sermons but also in theatre- or musical-like performances which complement the

17 See: https://plumvillage.or.id/tag/katolik/ (last accessed 6 June 2020).
18 Interview with Father Ferry at the Eco Learning Camp on 23 October 2018.

Holy Mass.[19] Bramasti (2015) argues that the Javanese Hindu(-like) temple at Ganjuran is an artwork which, under the patronage of Father Utomo, engages and encourages people's spiritual, cultural and environmental awareness.

In both these cases of Catholic agro-environmentalism, a combination of cultural and Catholic values serve to promote ecological awareness and responsibility among the broader population, and to support farmers and farmer groups. While at Ganjuran farmers are encouraged and supported to maintain local/cultural farming practices and crop varieties, the Eco Learning Camp in Bandung seeks innovative opportunities to spread organic farming on a broader level. However, both sites capitalise on educational tourism, with the Eco Camp providing a hands-on experience of eco-agriculture and Ganjuran serving, meanwhile, as a pilgrimage site which combines spiritual practice and ecological awareness. The value constellations shaped at these education facilities are similar to those created at the *pesantren* presented above. Catholic values equally underpin environmentally friendly agriculture and care for all living beings in God's Creation, the production and consumption of healthy and nutritious foods, as well as farmers' protection and welfare. Here, too, these assets are valued more highly than large-scale projects and agribusiness, and the generated profit or shareholder value. Yet, an additional aspect – or asset – integrated by Father Ferry is the support of innovative technology for the widespread development of organic farming across Indonesia. In addition to small-scale family- or backyard farming and local markets, this means a more favourable view on development towards more industrialised, large-scale organic farming.

Local cultural agro-environmentalism

In Java, cultural traditions and beliefs about human–nature relations no longer primarily reflect ideas about organic farming and related practices. This is partly due to the New Order regime's implementation of the Green Revolution, but more generally an outcome from the modernisation of agricultural production in terms of refined crop-growing methods. Cultural traditions and values are, nonetheless, used as the foundations for promoting healthy, sustainable, eco-friendly farming and living. Sundanese cultural traditions are used to promote environmental protection as cultural heritage among the broader public. The aim of these communities, whose territories are officially recognised by the government as preservation areas and tourist sites, is to promote sustainable living 'with nature'. In Central Java, similarly, cultural traditions and Javanese philosophy are used to promote organic farming and lifestyle, in particular among farmers and small-scale producers. Besides sustainable-agriculture techniques and methods, the approach chosen in Yogyakarta supports farmers' sovereignty – also vis-à-vis the government.

19 Personal observation by the author at a Holy Mass service at Ganjuran Church on 6 August 2015.

At Joglo Tani ('Farmhouse') in Yogyakarta, visitors, farmers and farmer groups are trained in Javanese philosophy related to human–nature relations and in sustainable agriculture. This cultural centre and tourist site was founded in 2008 by To Suprapto, who has been advocating organic-farming practices since 1989. His teachings focus not just on agricultural techniques and methods but also on conveying a holistic approach which supports farmers in establishing sustainable practices; his vision for Java and Indonesia is to achieve food self-sufficiency and food sovereignty in particular from the farmers' side, which is different to the government idea of food sovereignty (see above). Joglo Tani has been the subject of a number of case studies (Winarto 2004; Sadiyah 2015; Setiadi 2020); interestingly, affiliated young farmers and farmer groups are described as effective agents in supporting government programmes.

In his book *Food self-sufficiency in the style of Joglo Tani*,[20] Suprapto (2018, 63–64) explicitly supports President Jokowi's *Nawa Cita* agenda and plan to overcome the dependency on food imports. For Suprapto, the younger generation of (potential) organic farmers must be educated on integrated farming, marketing and community empowerment in order to realise this goal and a sustainable, just agricultural system in the long run. For him, integrated farming means a combination of agriculture, fishery and livestock farming, since these three components are inseparable and complement each other in a mutually symbiotic relationship (cf. Syadiah 2016, 159). Combining the three components and exploiting the resultant synergy effects would guarantee high-quality organic fertiliser and pest control, as well as self-supply and surplus production in a variety of healthy foods. In order to improve their incomes, farmers are taught about promotion and marketing, and how to sell their produce lucratively at local and traditional markets. As Suprapto emphasises, this is a concept from which all sides can benefit: the farmers, the local community as well as animals and the environment.[21] Furthermore, he adds that his concept of food self-sufficiency would also imply community empowerment on a larger scale. Suprapto encourages young farmers and visitors to work together with government agencies, scientists, researchers and students, and the broader public 'to raise public awareness about the important contribution organic farmers make to the well-being of the Indonesian people and nation'.[22]

At Jolgo Tani, Javanese cultural traditions and philosophy are used to promote organic farming and lifestyle among farmers and farmer groups as well as the broader public. Key concepts of this tradition and philosophy are the 'Surroundings of the preserved food house' (Kawasan Rumah Pangan Lestari) and the 'Mataram-style storehouse' (Lumbung Mataraman).[23] The underlying idea here is that in the

20 Original title in Bahasa Indonesia: *Mandiri Pangan ala Joglo Tani*.
21 Interview with To Suprapto at Joglo Tani on 21 November 2018.
22 Same interview with To Suprapto on 21 November 2018.
23 Lumbung Mataraman refers to the pre-Islamic 'Old Java' (Java Kuno) and the Javanese Hindu-Buddhist Mataram Kingdom which flourished between the eighth and eleventh centuries.

rural surroundings of the storehouse, farming activities provide for all human needs – food, clothing and housing – in a self-sustaining, integrated system. There is no waste, pollution or exploitation, since all natural-waste products are utilised for soil cultivation and animal husbandry. An important element of traditional Javanese knowledge and philosophy is the use of plants and animal products for healthcare and the medicinal support of both humans and livestock (Suprapto 2018, 67–68). Therefore, a key insight from Javanese tradition which Suprapto aims to convey to farmers and visitors at Joglo Tani is the mutually symbiotic relationship between humans and nature, between integrated farming activities and the rural eco-system.

In comparison, Kampung Naga ('Dragon Village') in Tasikmalaya, West Java, is not as active in teaching organic-farming practices and ecological interrelations but rather sets a practical example and exists as an educational-tourism site for local culture and tradition. Kampung Naga is widely known as a village community where local Sundanese traditional culture and lifestyle 'with nature'[24] are being preserved; the village is officially recognised by the government as a preservation area and tourist site. Interestingly, though, while ritual practices and festivities are maintained, food production is not necessarily organic – in the sense that chemical fertilisers and pesticides are used by some farmers.[25] The aim of the Kampung Naga community is, nonetheless, to promote sustainable living with nature. Sundanese cultural traditions are used to promote environmental protection as cultural heritage among the broader public. Similar to Joglo Tani in Yogyakarta, Kampung Naga is self-sufficient in the cultivation of a broad variety of farming produce (plus harvests from aquaculture and forestry too), while surpluses are sold on-site and at local markets.

The village community is Muslim, yet maintains traditional local practices and beliefs – of which some can be interpreted as having Hindu influences (Permana 2015, 26–30). Many of these – such as the belief in holy forests and sacred places or in benevolent and malevolent spirit beings – are closely linked to traditional agro-ecological knowledge about human interaction with the environment (or 'biosphere': *lingkungan*), interrelations within local ecosystems and sustainable-farming approaches like permaculture and polyculture (Permana 2015, 43–45). The basic idea underpinning traditional Sundanese ecological knowledge and belief is that we as humans are part of a circulatory system which provides for all our needs and for those of all living beings too. As a guide at Kampung Naga stated: 'We simply need to know and acknowledge the needs of rivers, soils, plants, trees and animals to benefit from natural resources without causing any damage. At Kampung Naga, this kind of knowledge has been passed on from generation to

24 From a brochure advertising Kampung Naga as preserving 'traditional, responsible dealing with nature' and 'life in harmony with nature' (author's own translation from Bahasa Indonesia).

25 Interviews with farmers at Kampung Naga held on 25 November 2018.

generation, and the village serves as a living example of the traditional ecological knowledge of the Sundanese people.'[26]

In both of these cases of local agro-environmentalism, culture and tradition provide knowledge and values for maintaining ecological standards and a holistic agro-ecological way of life in accordance with nature. While Joglo Tani uses Javanese philosophy, values and knowledge for integrative, practical teaching and support of farmers and visitors, Kampung Naga serves as a living example of preserved Sundanese traditional ecological knowledge and values. Both groups are self-sufficient vis-à-vis a broad variety of farming produce, and surpluses are sold to the local public and on local markets. In essence, both educational-tourism sites aim to raise public awareness about ecological interrelations, as well as about the combined social and environmental benefits of a traditional organic agriculture which respects and reflects these interrelations. The value constellations created at both education facilities uphold organic agriculture in accordance with natural cycles and conditions, and per local traditions and culture. Thus, an essential part of their value constellations is the aspect of preserving traditional knowledge and lifestyles – equated with healthy and environmentally friendly living. While the marketing and sale of organic produce is not fundamentally rejected, here again other assets are valued more highly than agribusiness and generated profit or shareholder value.

Collectively, in a dialogic and interactive process, value is being created and reinvented by educators, farmers, students and visitors alike. This process involves a hands-on approach and practical experience in dealing with natural resources and of having contact with livestock. The assets which determine value go beyond the economic, combining concerns for farmers' and consumers' health, welfare and sovereignty with ones for local ecosystems and the well-being of all forms of life. The entire value-creating system is based on a deep agro-ecology which acknowledges the interrelatedness of social systems and ecosystems. It is important to note that the deep agro-ecology advocated by the agro-environmentalists presented here goes beyond the debate between deep ecologists and social ecologists about the 'nature of nature' and the contested ontological divide between humanity and the rest of nature (Humphrey 2000). For the educators in all three categories, the human being is neither the sole object of value in the natural world nor, indeed, the one of greatest value therein (Humphrey 2000, 249). As part of God's Creation or as preservers of an ecologically oriented culture, humans share the obligation – or moral responsibility (Humphrey 2000, 261) – to care for nature as the basis for livelihood.

This means that humans are seen as part of nature, yet human interference and the impact of human activity should not damage local ecosystems but instead respect

26 Statement of a guide at the entrance to Kampung Naga, interviewed on 25 November 2018. Remarkably, the term 'traditional ecological knowledge' (*pengetahuan ekologi tradisional*) has become widely established in connection with Kampung Naga.

natural cycles and relationships. A deep agro-ecology, as promoted in West and Central Java, is based on the premise that both human beings and all other living beings benefit from an organic-agriculture system in which mutual dependency and care lead the way. Since profit and shareholder value are of only secondary importance, civil society actors defend themselves against the adoption of market and institutional structures of conventional agro-industry and agribusiness (and thus the government), and insist on determining their own food and agricultural policies. Therefore, the emerging value constellations comprise converging concerns for social justice and ecological sustainability, and ecological political thought based on entangled human–nature sociality.

Organic value constellations – reconciling deep ecological ideals and productivism?

Coming back to Indonesian government policy and programmes, and to the observation that values of ecologically oriented organic agriculture are incorporated into the productivist regime, the question remains to what extent civil society actors in turn adapt to government regulations and make attempts at reconciling socioecological ideals with economic markets and profit. Based on a social-network analysis (using Net-Maps), Laksmana and Padmanabhan (2021) identify three categories of organic farming actors based on their different degrees of engagement with the government: (1) disengaged; (2) partially engaged; and (3) fully engaged.[27]

(1) Members of the disengaged group are defined by their complete rejection of interaction with the government. The group primarily consists of activists who follow the groundwork of the early pioneers in Indonesian organic farming and emphasise that 'the prohibitive cost of organic certificates perpetuates the injustice that prevails in conventional agriculture' (Laksmana and Padmanabhan 2021, 10). Advocating against an organic-farming sector which follows the blueprint of conventional farming in increasing engagement with agribusiness, they establish 'local organic-market communities' (*komunitas pasar organik lokal*). Instead of links with government actors, the group establishes connections to non-governmental and private sector organisations to further expand organic farming and market communities.

(2) The partially engaged group is defined by strategic adaptation to government regulations, while retaining certain positions of the organic social movement – in particular the support of farmers against forced adoption of conventional agricultural standards. Collaborating with the government at the level of village administration, the group gets access to monetary resources (village funds) and at

27 The Net-Map method was applied as a tool to explore tensions, cooperation and potential spaces for resolution constructed by organic-farming actors, with the active engagement of these actors themselves. It was part of a transdisciplinary, participatory workshop held in Yogyakarta in 2017, in the framework of IndORGANIC.

the same time influences local policymakers in terms of agricultural development. 'Due to their influence and centrality in the network, partially engaged actors have the opportunity to disseminate the holistic principles of the OF [organic farming] movement while simultaneously promoting alternative OF systems that are distinct from the government's approach" (Laksmana and Padmanabhan 2021, 13). Members of this second group collaborate with state actors to different degrees, without renouncing their agro-ecological values and their objective of a socially just and environmentally sustainable agricultural system.

(3) The fully engaged group is characterised by their adaption to the current organic-farming regulations defined by the state. The legal framework for organic farming, with its set definitions and standards, allows actors who do not necessarily identify themselves as belonging to the organic movement to partake in the organic-farming system. In this case, the latter provides a mechanism for the trade of organic food as premium agricultural goods, which protects both consumers and producers from misinformation or fraud (Laksmana and Padmanabhan 2021, 14). Members of this third group are not as well-connected to other actors in the private sector or from the organic movement as other groups, but rather depend on input or exchange of information with government officials.

Beyond engagement with the government, Tamtomo (2021) has investigated to what extent different groups reject or accept the conventionalisation of organic farming.[28] His findings support an assessment of the value constellations created by agro-environmentalist groups in terms of compromises with the productivist approach, meaning potential attempts to reconcile deep-ecology ideals with productivism. Despite different doctrines, and divergent knowledge and belief systems, the examined agro-environmentalist groups share common values of a deep agro-ecology and organic lifestyle, and promote the eco-friendly, small-scale production and consumption of healthy, local food. All groups face similar tensions and trade-offs between their respective values on the one hand and practices which are linked to the market and institutional structures of the agro-industry on the other. Smallholder producers and (potential) organic farmers face similar hurdles including the cost of certification (which can hinder them from entering the formal organic market), the lack of support by extension workers, the small number of organisations among organic farmers as well as shortfalls in market access and price control. Tamtomo (2021) identifies two major strategic directions for solving these tensions being taken by organic actors: (1) those who maintain their deep agro-ecological principles, and oppose any engagement in the official organic market and (2) those who are open to developing their trading business and expanding their organic market.

(1) The first group includes activists who are adamant about the holistic ideals of the organic-farming pioneers, and encounter problems with the current direction of

28 This research was also conducted in the framework of IndORGANIC.

the conventional market on different levels. In terms of market opportunities, they face inequality vis-à-vis its relations of power – meaning the control of price premiums and profits by traders or agribusinesses. In terms of sustainability, they see organic agriculture as being reduced to organic inputs but without further consideration of the socioecological implications, such as equitable consumer–producer relations, multi cropping and reduced external inputs. Their deep ecology-oriented organic agriculture, which emphasises farmer sovereignty and alternative marketing, can only be commodified to a limited extent. Representing the 'deep green organic side of the conventionalization debate' (Tamtomo 2021, 21), their market is defined as community-based, built on short-range supply chains and a manifestation of direct interaction between consumers and producers.

(2) The second group consists of organic organisations which expand their efforts to support farmers and farmer groups towards the establishment of a marketing network for organic produce. Tamtomo (2021, 22) identifies the change in organisational funding as an important factor behind this shift to marketing: While formerly external donors had provided funds for farmer-group trainings and monitoring, the organic organisations now rely on trading produce with the objective of economic expansion. In addition to their environmental concerns and commitment to farmer sovereignty, they increasingly consider opportunities for profitable economic prospects too.

Both papers referenced here provide helpful categories for understanding organic-farming actors' varying degrees of cooperation with the Indonesian government, and their stance on conventionalisation. These different categories partly overlap and partly differ, which becomes clear by comparing them with the value constellations presented above. Most interestingly, the various agro-environmentalists and their value constellations analysed in this paper partly transcend the categories suggested by Laksmana and Padmanabhan and Tamtomo. This will be demonstrated based on identifying the reasons for specific actors taking the positions which place them in a particular category – and which of the values they uphold are the ones making them (un)able to engage with the government or (un)willing to accept different degrees of conventionalisation.

In terms of cooperation with the government, Abi Ibang and Ibu Nissa from Ath-Tharik belong to the category 'disengaged'. They fundamentally reject the concept of the government-funded eco-*pesantren* which must follow all statutory and official regulations, as well as state certification and organic labels which are perceived as subordinating organic principles to market demands. Organic home production and local organic markets are seen as the only way of preserving agro-ecological knowledge and organic-farming practices. Abi Ibang and Ibu Nissa also meet the criteria of Tamtomo's first group, maintaining their deep-agro-ecology principles, and opposing any engagement in the official organic market. Promoting backyard or family farming and local organic markets as the only environmentally and socially just agricultural system, they are not amenable to compromise on

socioecological concerns. With such a value constellation, a reconciliation of their deep-ecology ideals with productivism and the agro-economic framework seems very unlikely. The creation of incentives for engaging in the organic market (and thereby improving the economic welfare of producers) and alternative agri-food arrangements – such as participatory-guarantee schemes, regional markets and organic boxes (delivered directly to consumers) – could initiate a rapprochement. However, since assets like nutrition and health benefits are valued much more than economic income, it remains doubtful whether these incentives and opportunities are sufficient. In a way, Abi Ibang's vision to establish a national and international network of Muslim agro-environmentalists, and to jointly address the conservation of natural diversity in agriculture, transcends both previous categories. If the state – or any other institution – would commit to preserving agro-ecological knowledge and diversity, the *kiai* could to some extent accept the imperatives of the market economy; this would, however, require a shift in cost–benefit calculations which no longer subordinated organic principles to market demands.

As regards their willingness to cooperate with the government, Gus Qomar from Pesantren Mursyidul Hadi and actors from Ganjuran Church and SPTN-HPS belong to the category 'partially engaged'. They share information on the philosophy and technical aspects of organic farming among each other and with local policymakers, while supporting the expansion of the Indonesian Peasant Union (SPI) and the continuation of the organic movement as a form of activism. Similarly, Pak[29] Suprapto from Joglo Tani and Father Ferry from the Eco Learning Camp cooperate with policymakers, primarily to influence their (ecological) political thinking, and to get political support for their ecological teachings and educational facilities. The Eco Learning Camp is an exception here, since the broad spread of organic-farming practices via industrialised liquid organic fertiliser (see above) is an approach which other agro-environmentalist groups reject as an oppressive government strategy. Most of the agro-environmentalist groups in West and Central Java can also be assigned to Tamtomo's second category, being open to developing their trading business and expanding their organic market. For both Catholic groups, the Eco Learning Camp and Ganjuran/SPTN-HPS, the main donor is no longer the Indonesian Catholic Church; instead, a combination of external and internal funding is raised for their educational and support activities. While the Eco Learning Camp receives sponsorship from large companies, SPTN-HPS has developed its own business unit which trades in organic produce (under the label *lestari*, 'sustainable', not *organik*, since they have not pursued official certification).

Similarly, Gus Qomar at Pesantren Mursyidul Hadi and Pak Suprapto at Joglo Tani encourage farmers to establish small-scale businesses and sell their organic produce lucratively at local and traditional markets. For those who take the initiative in developing their trading business and expanding their organic market,

29 'Pak' is the short form of 'Bapak', a polite form of address for older men.

government support for certification and the development of marketing networks for organic produce could be an additional incentive. The majority, however, so far remain critical and unwilling to accept the agro-economic system and regulations defined by the government, as both Gus Qomar and Pak Suprapto noted. In their value constellations, economic growth, productivity and income remain subordinated to assets like equitable consumer–producer relations, environmental and biodiversity protection, and the freedom to determine their own food and agricultural policies. Both Islam and local cultural tradition provide a strong societal embedding for these values, and a good way to communicate them in terms which resonate with the wider population. Thus, they can take a mediating role between government bodies and both consumers and producers of organic goods, and potentially influence the direction of the Indonesian government's policies and action in the field of organic agriculture.

In addition, in a wider sense, Kampung Naga could be included in the category 'fully engaged', although the village community is neither dependent on the organic certification system nor oriented towards premium agricultural produce. As an officially recognised preservation area and tourist site, Kampung Naga cooperates fully with the Indonesian government, and as shown, some farmers have even adopted conventional agricultural practices to increase productivity. However, traditional agro-ecological knowledge and practices are being preserved in the village community, and the village as a whole is not shifting its organic agriculture towards conventionalisation. Similar to the other actors described above, Kampung Naga rather successfully promotes organic values among the wider population, and serves as an educational institution and mediator for the government.

Assigning the agro-environmentalist groups in West and Central Java to these respective categories, it becomes clear that most of them strategically engage with the Indonesian government to some degree. They benefit from financial support while adhering to their agro-ecological values and principles, and maintain their objective of a socially just and environmentally sustainable agricultural system. Their active engagement aims at influencing the government on agricultural policies, and makes a significant contribution to the incorporation of ecologically oriented organic-agriculture principles and practices into the productivist regime. In this way, they contribute to the reconciliation between productivism and deep ecology, with a clear positioning for agro-ecological value constellations.

Conclusion

The given examples show that not all organic actors are willing to make an attempt at reconciliation of socioecological ideals with market expansion and industrial-scale production. The presented results are particularly interesting since they explain why specific actors – with the values they uphold – are (un)likely to engage with the government or (un)willing to accept different degrees of

conventionalisation. Pesantren Ekologi Ath-Tharik rejects cooperation with the Indonesian state and the concept of the government-funded eco-*pesantren*, as well as state certification and organic labels. Against a subordination of organic principles to market demands, organic home production and local organic markets are promoted as the only way of preserving agro-ecological knowledge and organic-farming practices. In contrast, Pesantren Mursyidul Hadi is at least partially engaged with the government, sharing information on the philosophy and technical aspects of organic farming with local policymakers while still supporting the continuation of the organic movement as a form of activism.

This confirms that there is no homogeneous Green Islam in Indonesia, but different value constellations and respective interpretations of sustainable agriculture among the country's Muslims. Other religiously or culturally determined actors, such as the Eco Learning Camp, SPTN-HPS or Joglo Tani, are also partially engaged with the government and accept a certain degree of conventionalisation; they do not generally reject the extended marketing of organic produce. However, their outlined value constellations uphold assets like equitable consumer–producer relations, environmental and biodiversity protection, and the freedom to determine their own food and agricultural policies.

In conclusion, organic farming in Indonesia must be seen critically as wavering between productivism and deep ecology, depending on actors' value constellations and their willingness to cooperate with the state. Nonetheless, by providing incentives and establishing middle grounds or alternative spaces for different groups of organic organisations and their strategic orientations, the government could influence their further development towards agro-economic expansion in the long run. Furthermore, the official target of socially, ecologically and economically sustainable agriculture would need to incorporate the more comprehensive criteria of the country's agro-environmental groups. This, in turn, would require greater concessions and collaboration with organic actors in formulating more context-based organic-farming guidelines and more coherent related policies. That way, organic actors could contribute and realise alternative, sustainable opportunities to the Indonesian bioeconomy.

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