

Substituting The Synthetic For The Authentic: The Contribution of Rudolf Steiner's Biodynamic Innovations in Advancing Yos Suprpto's Traditional Knowledge of Local Agriculture

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In 1970, Indonesian President Suharto's New Order Government formally adopted an international system of agricultural production known as 'The Green Revolution.' This required Indonesian farmers to adopt so-called modern farming practices as part of the first five-year national development program, which incorporated an emphasis on 'Swasembada Pangan,' or food production self-sufficiency. Chemical-based fertilizers, fungicides, herbicides and pesticides have been in continuous and widespread use in conventional farming in Indonesia ever since. Concurrently, international peer-reviewed scientific research has reported the detrimental effects of their widespread use on complex ecosystems, in particular, on pollinating insect populations such as bees. This situation greatly concerns many people, including Yos Suprpto, an Indonesian artist who articulates his social engagement through non-conventional creative practice. Since 2009, Suprpto has pioneered rice planting using the biodynamic agriculture (BDA) system developed in 1924 by the Austrian educator and innovator Rudolf Steiner. Yos Suprpto argues that, as with art, farming also requires innovation and novelty as well as an intimate understanding of human systems. This includes, an appreciation of the shortcomings associated with the modern world, namely reliance on complex manufacturing processes, often located abroad, and increasingly vulnerable and disrupted international supply chain networks. Farming, then, is Yos Suprpto's 'canvas' and the colors he 'paints' are his crops and his ability to not just see the world as it is but as it should be. This study uses productive hermeneutic and aesthetic engagement theories to better understand why Yos Suprpto has insisted on implementing organic farming techniques and how he has also taken advantage of local oral traditions, local materials, and indigenous locally-produced rice varieties to increase harvest yields without the use of synthetic fertilizers and, in doing so, support and advance not only traditional knowledge and time-honoured cultural practices, but also local human food security.

Keywords: Green Revolution, Yos Suprpto, Biodynamic Farming, Aesthetic Engagement, Productive Hermeneutics

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INTRODUCTION

The visual appearance of agriculture in daily life, whether this is farming fields, arranging plants, or using tools to process crops, reflects the values upheld by the people (Steiner, 2019). The eminent American ecologist Frederick 'Fritz' Steiner's observations challenge our imaginations, especially when he reflects on the physical environment. Until the 1980s, the Sidoarum area, Godean, Yogyakarta Indonesia, was typified by rice paddy fields, sugar cane plantations, animal husbandry and aquaculture (particularly commercial fishponds). A wide variety of mature shady trees also formally characterized the physical environment. Today many of the rice fields are given over to private housing; the cane plantations have been replaced by retail shops and the ancient trees felled and replaced with concrete warehouses and sprawling factory complexes. These changed and increasingly contested conditions represent many people's increasingly negative attitude towards agriculture. What has not changed, however, is the struggle to produce food.

These days, in Sidoarum, rice is mostly farmed by the elderly; older woman plant seedlings, while older men plough the soil and spread urea-based fertilizers. Worn out cars driven by younger men carry grain threshing machines. And that seems to be the extent of their involvement. In Sidoarum, farm work is simply not attractive to young people anymore. This situation is like what Siti Farikhah et al. found in Asinan, Bawen, Semarang, Central Java (Irmawati, 2018). The profession of farming there, as in Sidoarum, is no longer considered prestigious. One of the reasons for this is that there is little innovation to inspire or improve the quality of a particular agricultural enterprise (Irmawati, 2018). In observing the clothing worn by local farmers, it is apparent that they are not well off. This is because they do not enjoy any sort of bargaining position in society and so cannot improve their material lives. These conditions are like those found in a study by Martunisa (2018). The researcher discovered that many Indonesian farmers had abandoned farming for other jobs (usually in factories). This is much like the situation in Sidoarum, where the sale of agricultural land promotes the ever-pervasive march to greater urbanization (Martunisa, 2018).

Almost all rice fields in Yogyakarta are now 'Green Revolution Conventional'. Consequently, synthetic fertilizers and chemical pesticides are widely available in local markets and are in use everywhere. In contrast, organic fertilizers are either rare or not available. In everyday life, there is little attention paid to whether rice is organically grown or not.

Before the 1970s, most regions in Indonesia planted indigenous (local) varieties of rice. These were not only considered delicious but high yielding as well. However, almost all these varieties have disappeared, not only from existence but, from local consciousness as well: essentially forgotten (Goodfellow, 2003). These conditions greatly concern the artist Yos Suprpto. In the 1990s, he wrote many articles on the biodynamic farming system he found in operation at the time in Australia with the intention of disseminating this philosophy to friends in Indonesia. Yos Suprpto argued farming is both a creative process and a vehicle to facilitate his own social engagement. Farming is precisely a work of art (Berryman, 2018). This sense of the aesthetic was refined through his formal course of study in fine arts (Picture 1).



Picture 1. Farming innovatively for Yos Suprpto is the same as making art, producing organic rice is one of the outputs of his aesthetic engagement.

(Source: Suprpto, 2021)

In 1972, Yos Suprpto had the good fortune to meet Affandi, one of the founding fathers of modern Indonesian art. Effendi impressed on him that artists should explore all aspects of life and then draw on new experiences to inspire their creative ideas and pursuits. Affandi's words so impressed Yos Suprpto that he developed his own macro view of the world that included a desire to address socio-environmental issues (Perovich, 2018).

In not confining himself to the 'art world,' Yos Suprpto found that farming was both a medium for interpreting the world as well as a process for creativity solving its problems. Yos Suprpto's project was no less than to liberate conventional paddy rice farming from synthetic fertilizers and

chemical poisons because these had created their own severe ecological problems. This included: first, that the Green Revolution system only supported the use of seed varieties that are genetically engineered for use with specific agricultural technologies and that this process eliminates endemic seed types that only thrive in organic conditions. Secondly, commonly applied synthetic fertilizers and pesticides damage soil structure by reducing organic matter. Thirdly, chemical residues contaminate the water that flows through farmland which in turn pollutes groundwater wells, lakes, ponds and the sea. A desire to address these problems inspired Yos Suprpto to implement and develop the BDA/organic farming system in Indonesia ([Altndal, 2019](#)).

Unlike other agricultural systems, BDA/organic farming has the distinct advantage in that it conditions the soil by the addition of organic composts. According to the BDA/organic farming system, these consist of nine coded methods ([Diver, 1999b](#); [Goldstein et al., 2019](#); [Tippetts, 2012](#)). All are made up of organic ingredients, such as cow dung, rose quartz powder, oak bark, as well as some herbs and flowers. These preparations ensure that both the soil and farm practices are in philosophical harmony with what Steiner called 'bio-energies and cosmic energy' ([Altndal, 2019](#); [Pigott, 2020](#)). This then is the 'art' of the BDA/organic farming system.

Although some people regard BDA as little more than superstition, it enjoys increasing popularity worldwide as an idea. BDA/organic farming is now practised in more than 53 countries ([Olsen, 2013](#); [Pigott, 2020](#)) and is celebrated for its holistic and eco-friendly approach to sustainable food production ([Reganold et al., 1993](#)). For example, numerous BDA success stories can be found in grape production for the wine industry. Favourable reports are available in a wide range of industry and scientific journals. These especially note BDA's refusal to use synthetic substances. One positive effect for the wine industry is to leverage BDA's 'green reputation' to build ecological and environmental marketing credentials ([Gupta, 2012](#)).

This study focused on the pioneering initiative of Yos Suprpto in applying the BDA/organic farming system to Indonesia. Several questions were explored, namely, why did Yos Suprpto introduce the BDA/organic farming system to local farmers who were otherwise accustomed to using synthetic fertilizers and pesticides; how did he mediate the BDA/organic farming system for use in a largely

tropical climate, and what materials and tools has he applied in substituting Rudolf Steiner's original BDA components for local materials (Picture 2).



Picture 2. This dandelion flower was from the side of a creek at Sidoarum, Sleman, Yogyakarta, with chemical content to substitute ingredients not found in the area where his biodynamic farm is.

(Source: Marianto, 2021)

To answer these questions, Arnold Berleant's theory of Aesthetic Engagement ([Berleant, 2013](#); [Berryman, 2018](#)) and George Gadamer's Hermeneutic theory were applied to better understand the BDA activities of Yos Suprpto and how this relates to conceptual art as a series of interconnected activities requiring commitment and creativity.

METHODS

Methods

This research is a descriptive qualitative research that describes the creative process carried out by Yos Sudarso. The qualitative approach used in this study is explanatory. Explanatory research is used to explain the relationship between two or more symptoms or variables. While the theoretical approach used is productive hermeneutic and aesthetic engagement theories. In this study, the object of this study is BDA Systems which becomes a substitute for aesthetic embodiment.

Materials

Data collection employed in-depth participant observation as well as a literature review with particular reference to The Green Revolution, other systems of agriculture, and conceptual art ([Berryman, 2018](#)). The research occurred in fields where Yos Suprpto carried out preparation activities, making BD 500 (*Biang* -the mother), sprinkling bio-fertilizer when harvesting, and when Suprpto gave workshops to local farmers (Picture 3).



Picture 3. Yos Suprpto holds biang - the mother- he produced himself, called BD 500, from which the fertilizing solutions are made of . The material is cow dung fermented in cow horns for 3 or 4 months.

(Source: Marianto, 2021)

RESULTS AND DISCUSSION

The Green Revolution

The Green Revolution was a range of technology-driven agricultural initiatives that set out to shorten the harvest cycle while increasing yields. It emerged after World War Two to address severe worldwide shortcomings in food security. The term originated from a speech delivered by a US AID official at an official meeting on March 3 1968 (Raeboline et al., 2019). The Green Revolution, however, was more than a system of agriculture but also an economic paradigm that included so-called financial ‘support’ packages and debt financing.

Inspired by Green Revolution successes in India, Mexico and the Philippines, the Suharto Government in Indonesia enthusiastically embraced the new technology. Consequently, agricultural reform in Indonesia was adopted as one of the strategic programs of the First Five-Year Development Plan (1968-1973) (Conway, 1987). To succeed in this program, the government required farmers to plant officially-mandated genetically-modified rice varieties, use synthetic fertilizers and pesticides, build overly engineered irrigation systems, and strictly standardize and regulate modes of planting (Iskandar & Iskandar, 2018).

The Green Revolution’s success in Indonesia was inseparable from the official discourse (government propaganda), which celebrated the instant effectiveness of chemical fertilizers and synthetic pesticides, as well as the state-funded availability and supply of agricultural equipment and machinery, not to mention and the very public socio-political support of the President himself. This became especially significant after President Suharto received an award from the United Nations for advancing national agriculture. From this point, a state of food self-sufficiency national euphoria became increasingly prevalent (Thorburn, 2014n.d.). The result was that synthetic fertilizers and chemical pesticides in farming became the new normal. Alternative, or competing methods, based on ancient knowledge that had stood the test of time, and even traditional philosophical discourses engrained in history and society, were eliminated, or silenced practically overnight.

From the moment synthetic fertilizers and pesticides were widely applied in the US, the soil’s organic structure there, together with overall fertility, began to decline. Essentially, this man-made damage occurred faster than the soil could self-recover (Olsen, 2013). Researcher Elden K. Olsen noted that this was a high price to pay because it resulted in not only contaminated soil and water, but it also seriously compromised the health of farmers, their families and often their entire communities. On the balance, the Green Revolution was ultimately declared by Olsen to be economically inefficient because of the significant environmental problems it created, including the issue of dramatically reduced biodiversity (Olsen, 2013). For example, the excessive and persistent use of chemical fertilizers in India has resulted in the marginalization and extinction of indigenous crop species there as well as Indonesia (Raeboline et al., 2019).

The Green Revolution, however, had even further far-reaching social and cultural consequences In Indonesia. According to Hidayat’s West Java study on paddy farming practice during the 1980s, local farmers ceased their traditional lunar calendar cyclical planting schedule that was for a millennium their reliable guide to planting endemic paddy seed. (High Yielding Rice Varieties (HYVs) grow in any season if synthetic fertilizers are used. The result was that farmers became totally dependent on external inputs, as local rice species disappeared from circulation. The loss of self-sufficiency was then compounded because HYVs became vulnerable to diseases and pests, such as the brown planthopper (Conway, 1987). This resulted in crop

failures and in turn to significant losses for farmers ([Hidayat et al., 2020](#)).

The tragic decline of local rice varieties also led to decreased 'mental flexibility' in farmers. This was expressed as the loss of problem-solving skills vis a vis seasonal food security issues, now made more severe by the challenges of climate change ([Iskandar & Iskandar, 2018](#)). Most significantly, however, was the extinction of local rice varieties. This situation was documented in the Baduy community, Kanekes, Lebak Regency, South Banten, West Java and in Kampung Naga, Tasikmalaya, West Java ([Iskandar & Iskandar, 2018](#)). The study concluded that the Green Revolution was simply not adaptable ecologically or economically to farming conditions in Indonesia.

Further to this, Mariyono found that agrochemical's primary function was to be, essentially, poisonous. Pesticides are toxic because they are produced with the sole intention of killing (eradicating) diseases and so-called pests. Empirically, human exposure to pesticides has been in observation in China (Qiao et al., 2012), in Indonesia (Pawukir and Mariyono, 2002), and in Vietnam (Dung and Dung, 2003) for more than two decades. These studies showed that farmers who were contaminated by pesticides experienced headaches, vomiting and skin irritation ([Mariyono, 2011](#)).

In Sidoarum, farmers have not only experienced the same physical signs and symptoms but significant untoward social and cultural consequences as well ([Mariyono, 2011](#)). The facts are, that in Sidoarum and everywhere in Indonesia, non-ecological farming has not benefited farmers' socio-economic conditions while seriously degrading local ecosystems ([Hidayat et al., 2020](#)). Curiously, these profoundly negative outcomes have not attracted any level of significant public criticism or protest.

Rudolf Steiner's BDA System

The term biodynamic is derived from the Greek words 'bio' and 'dynamic,' meaning 'life' and 'energy.' BDA utilizes 'biological' and 'cosmic' energies to generate 'a life force' in seeds and then the organic nurturing of plants to produce high quality, clean, plant-based food (Nabi et al., 2017). In this, Rudolf Steiner's principal teaching involves an awareness of the relationship between the pedosphere (the soil), the ecosphere (the living elements) and the atmosphere (the air) to efficiently operate a successful and sustainable farming enterprise ([Olsen, 2013](#)). The result is that BDA promotes an increased general awareness of ecological, economic, and human health ([Olsen,](#)

[2013](#)) and, in turn, inspires socially responsible agricultural practices (Demeter International).

The BDA system regards soil, water, air, plants and livestock, as a wholly living system with each element interconnected and complimentary of each other. The basis of Rudolf Steiner's teaching is an awareness of the whole. And regardless of empirical proof, raised positive awareness of better ways of doing things became BDA's greatest attribute. Hence, at a purely philosophical level, biodynamic farming refers to working synergistically with bio-energies (the earth) and cosmic energy (the sun and the moon) to generate and maintain life (Nabi et al., 2017; [Olsen, 2013](#); [Ram, 2021](#)).

In terms of practice, BDA uses cow manure, powder of rose quartz, herbs, flowers, and plant barks to make a particular type of high potency compost with cow manure as the bio-enhancer or 'prime starter of the biodynamic' ([Altindal, 2019](#)). Yos Suprpto himself has named this 'Biang,' meaning 'mother.' To make a bio-enhancer BDA practitioners place cow manure into cow horns, then bury them for several months to ferment ([Ram, 2021](#)) as part of BDA's nine-step preparation process. This is a whole system that regards the farm as a self-contained entity, much like we would regard a human with an individual identity ([Diver, 1999a](#)). Integration between harvests and livestock is one of BDA's principal teaching points. Foliage, livestock manure, and in fact, any organic residues found on the farm can be recycled to uphold the quality foods produced ([Diver, 1999a](#); Nabi et al., 2017).

The nine steps to create a BDA preparation are as follows: 'BD 500,' or the bio-enhancer, is made by inserting cow manure into cow horns. These are then buried throughout autumn and winter (in the northern hemisphere) and allowed to ferment. Later a dilution of 'BD 500' mixed with clean freshwater is broadcast across the farms' entire soil surface ([Sharma et al., 2012](#)). 'BD 501' is made of powdered quartz and like 'BD 500' is also buried in cow horns for two seasons, in this case spring and summer. Later, 'BD 500' is applied as a foliar spray to stimulate growth. 'BD 502' comprises Yarrow blossoms (*Achillea millefolium*). 'BD 503' comprises Chamomile blossoms (*Chamomilla Officinalis*). 'BD 504' comprises Stinging nettle (the whole plant in full bloom) (*Urtica dioca*). 'BD 505' comprises Oak bark (*Quercus robur*). 'BD 506' comprises Dandelion flowers (*Taraxacum officinale*). 'BD 507' comprises Valerian flowers (*Valeriana officinalis*). 'BD 508' comprises silica-rich horsetail plant (*Equisetum arvense*), which has been found to be effective as a foliar spray to

eradicate fungi in plants ([Diver, 1999a](#); Nabi et al., 2017).

BDA as Art and Subversion

From comparative studies on farmland soil health cultivated with conventional/modern or industrial farming approaches and managed lands through BDA approaches in Australia, Austria and New Zealand, biodynamic farming systems show higher soil quality. This is because the BDA/organic farming approach conditions microorganisms to decompose organic matter soil, which in turn creates rich binding humus ([Reganold 67](#); Altieri Agroecology 352).

Walter Goldstein's three-way research comparing conventional, organic, and biodynamic farming methods states that samples of BDA test plots have more microbial biomass and higher organic matter levels than both conventional and organic plots. BDA plots have also been demonstrated to generate more root growth during winter than both conventional and organic systems. The result of Goldstein's research confirms that BDA/organic farming preparations increase soil carbon assays, root growth and yield stability ([Goldstein et al., 2019](#)).

Another study conducted in 1986 in the US State of Washington by Goldstein also examined conventional, organic and biodynamic farming methods. Goldstein also compared crop growth and soil properties in conventional, organic and biodynamic farming systems ([Reganold 70](#)). Again, Goldstein's study showed that samples obtained from BDA fields had more microbial biomass, that is, higher amounts of organic matter than both conventional and organic systems. In this study the biodynamic soil also generated more root growth during the winter than both the organic and conventional test plots ([Goldstein et al., 2019](#)).

The research relating to BDA and its effectiveness, productivity and positive impact for both the soil and environment, as well as a growing scientific consensus on the best methods to review BDA, continues to increase. This research increasingly presents evidence of the positive impact of applying the BDA system ([Brock et al., 2019](#)). Significantly, ecological degradations across all the world's human and natural ecosystems are urgently prioritizing natural ecosystem management and sustainability ([Olsen, 2013](#); [Scollan, 2006](#)).

There is also an unexpected but potentially subversive aspect to BDA emerging from the Covid-19 epidemic. For example, the Chinese Government

has encountered an unlikely form of resistance from a generation of young people who are rejecting calls for 'continuous struggle' in what is a deeply ingrained culture of overwork ([kuo, 2021](#)). Rebuffing the elusive promise of advancement in their individual quality of life, they are instead opting to 'lay flat' or *tanping* (躺平). For many, what this means is a return to ancestral rural villages where they are taking the first tentative steps towards learning to grow enough food to subsist outside of the consumer paradigm.

The same process is mirrored in the West and has various names: 'The Great Resignation,' 'The New Great (Covid) awakening' 'The Great Reset,' and the 'I quit the movement.' As in China, millions of young workers are opting for a simpler life characterized by communal gardens in cities and small backyard plots in towns and in the countryside. (This can also be seen as part of a growing commitment to urban 'Tiny Green Spaces' that re-establish and sustain urban wildlife biodiversity.)

The 'Sustainable food movement' also includes the widespread adoption of backyard chickens. (In the US, Canada, New Zealand and Australia, community permaculture groups are both popular and widespread.) This is a global movement looking for a theory. Young people everywhere naively understand that when they use their own compost (made from, amongst other things, food scraps and chicken manure), their yields not only increase, but pest impacts on healthy plants decline and pollinating insects thrive. This is nascent organic and biodynamic fundamentals. It unconsciously draws on surviving fragments of food growing expertise that actually work. The challenge now is to align this contemporary thinking to organic farming practices.

Yos Suprpto's BDA Achievements

Yos Suprpto has long been concerned with synthetic fertilizers. In 1999 he was introduced to the BDA system by practitioner Alex Podolonsky. He then adopted BDA from Tom Meredith, a geologist Yos Suprpto met when he was living in the town of Lismore, New South Wales, Australia. From this time, Meredith has been Yos Suprpto's BDA discussion partner. In 1994, Suprpto wrote several articles about biodynamic farming. He sent this work to the Indonesian non-governmental organization Bina Desa to disseminate. In the same year, he had a solo exhibition of his art at Taman Ismail Marzuki – the art and cultural centre of Jakarta. This was entitled 'United with Nature,' and it was here that he exhibited his installations,

sculpture and performance art sponsored by Bina Desa. He also visited Lampung in Sumatra and toured Java with the purpose of introducing the BDA system across the country.

In 2009, Yos Suprpto began to practise the BDA system in Bangorejo Village, Banyuwangi, East Java after he gained support from several NGO and ecoactivist figures which turned out to be not easy, because he had to readapt to the culture in Indonesia after more than 25 years living in Australia. After returning to Indonesia, he tried his luck as a full-time artist and in the process interacted with environmental activists who then motivated him to engage in biodynamic farming as a form of realization of the concept of aesthetic engagement. He did this through an approach to fellow artists, social activists, and environmental activists to link art praxis with eco art work.

He experimented with an endemic rice variety, namely 'Hoing,' which he eagerly introduced to his neighbours. Over time, Yos Suprpto's BDA rice field began to look physically different to his neighbour's rice fields, which were all cultivated using conventional agricultural systems. Yos Suprpto's rice harvest was clearly more abundant with a higher number of grains in both quantity and quality.

Unfortunately, these differences resulted in social jealousy from neighboring farmers. Some of his neighbors, including his cousins, accused Yos Suprpto of using a 'supernatural' and 'religiously unclean' system. Moreover, his envious neighbors ironically alleged that BDA undermined their so-called 'traditional' farming system. As the friction came to a peak one day in 2010, while he was away, Yos Suprpto's paddy plants, which were almost ready to harvest, were cut down. In 2015, he left his farm and moved to Yogyakarta, where he engaged with communities of local artists and social activists who were concerned about the future of domestic agriculture in Indonesia.

For Yos Suprpto, introducing the BDA system to farmers in Yogyakarta was not simple because conventional agriculture using synthetic fertilizers and chemical pesticides had become wholly accepted practice. Yos Suprpto only managed to teach the BDA system to local farmers there in 2016 after convincing a social activist interested in organic farming to conduct counselling and workshops.

Since this time, Yos Suprpto has also befriended community leaders in two legendary ethnic

communities in West Java, namely the Naga Tribal Community and the Baduy Community. Both communities uphold the values and socially integrated processes of ancient Sundanese agriculture. These govern how their respective community members integrate their farming practices with the natural world ([Iskandar et al., 2018](#)).

Today, Yos Suprpto helps farmers in several places across Yogyakarta, namely in Sentolo (Kulon Progo Regency), Mionggir (Sleman Regency), and Guwosari (Bantul Regency). Outside Yogyakarta, Yos Suprpto supports young farmers who are members of Sarekat Tani Karawang, in Sanggabuwana Village, Karawang, West Java and, in Desa Pasirgitung and Pasirgitung Village, Banten.

This success has been based on BDA training workshops conducted by Yos Suprpto himself. These have focused on three areas. The first is to showcase actual BDA farmers who have experienced successful farming without using synthetic fertilizers and pesticides. Second, teaching that farming is not merely about managing crops, but also about looking after the local ecology. And finally, imparting the knowledge that all organic materials can be used to create compost and that BDA farmers can be free from having to buy expensive and damaging chemicals/synthetics.

Notwithstanding, Yos Suprpto's greatest contribution to the developments of the BDA system is to demonstrate that it can also be adopted to a tropical climate just as well as in the northern hemisphere. As an illustration, the making of 'BD 500' and 'BD 501' in temperate climates takes place in early winter to mid-summer (taking approximately seven months). In Indonesia, this occurs in early august until before the rainy season starts in late October or about three to four months. Yos Suprpto's other contribution is in learning how to substitute the ingredients needed for the 'BDA 9' preparation with endemic ingredients. For example, he has substituted Rose quartz powder for the 'BD 501' preparation with benzoin styrax resin available locally. The idea arose from a long tradition held by the Baduy ethnic group, which ferments the resin obtained from Benzoin styrax and other materials to make compost. Yos Suprpto has also substituted oak bark for Trembesi tree bark for the 'BD 501' preparation, replacing silica containing Yarra flowers with the Latheng plant, which grows in bushes or bamboo shoots. Other plants Yos Suprpto has used in BDA preparations include the Moringa tree, Mangium nuts, and Turmeric plants for

supporting specific germination needs. For 'BD 500' and 'BD 501' distillations, Yos Suprpto refers to the 'Primbon,' or the traditional Javanese lunar calendar that calculates favourable or less than favourable planting days based on the phases of the moon. (See Table of the BDA System by Yos Suprpto.)

Yos Suprpto has introduced the BDA system to Indonesia with both patience and tenacity. In doing this, he has overcome cultural barriers and challenged so-called 'modern farming' that is entirely dependent on synthetic fertilizers and pesticides. Yos Suprpto has brought an original creative novelty to the 'art of farming' to produce agricultural products of significant ecological, social, and economic value.

Yos Suprpto has also succeeded in finding local or endemic materials capable of substituting those formalized in Rudolf Steiner's original system of BDA. This substitution makes BDA/organic farming both realistic and contextual for conditions in Indonesia. Yos Suprpto has clearly proven that the BDA/organic farming system can be adopted in the tropics to produce delicious, nutritious and economical indigenous rice varieties.

CONCLUSION

Significantly, Yos Suprpto has re-named Rudolf Steiner's BDA system 'Sustainable Natural Farming' (SNF). His vision is that the system he has pioneered and developed will, in time, constitute a serious and viable alternative to the current Green Revolution agricultural system. He has also succeeded in finding a local or endemic materials capable of substituting those formalized in BDA system. This conditions clearly proven if the systems of organic farming can be adopted in Indonesia. Through what Yos Suprpto calls 'the praxis of conceptual art,' he has produced outstandingly creative work in the form of a sustainable natural agricultural system, whose aesthetic value lies in its functional usefulness and ecological value. And also in the world of art praxis, the concept offered by Yos Suprpto is a form and substitution for the application of conceptual art practice, which is realized through SNF. In other words, art is not bound by technical limits and conventional media alone, but its activities also involve the practical world beyond what already exists. (See Picture 4)

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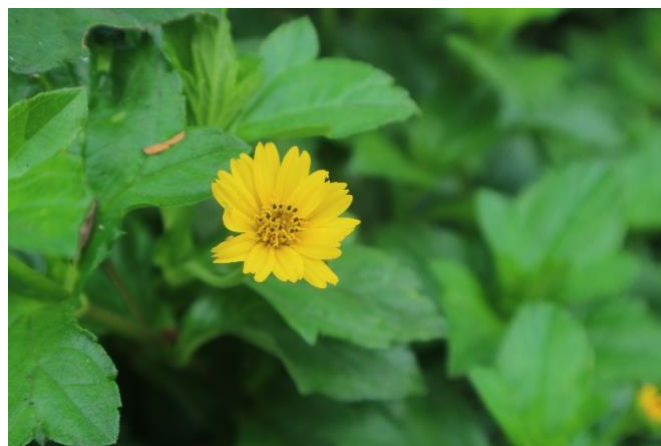
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ADDENDUM

Picture 1. Farming innovatively for Yos Suprpto is the same as making art; producing organic rice is one of the outputs of his aesthetic engagement. The photo was taken at Guwasari, Bantul, Yogyakarta, 2021; Yos Suprpto's collection.



Picture 2. This dandelion flower was from the side of a creek at Sidoarum, Sleman, Yogyakarta, with chemical content to substitute ingredients not found in the area where his biodynamic farm is. Photo-taking by M. Dwi Marianto, 2021.



Picture 3. Yos Suprpto holds *biang* - the mother- he produced himself, called BD 500, from which the fertilizing solutions are made of . The material is cow dung fermented in cow horns for 3 or 4 months and photographed by M. Dwi Marianto, at the Bantarjo filed, Sentolo, Yogyakarta, in June 2021.



Picture 4. Harvesting at Guwasari, Bantul 2020 resulted from a three-day workshop held in Banteng, Sleman, Yogyakarta, in September 2020, in which M. Dwi Marianto participated in the workshop to start the research.



Picture 5. Dandelion flowers growing by the creek. The photos was taken by M. Dwi Marianto on the side of the creek in Sidoarum, Sleman, Yogyakarta in 2021.

