

REVITALIZATION OF METAPHYSICAL AGRICULTURE FOR PROMOTING SUSTAINABLE FARMING AND COMMUNITY-BASED TOURISM

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ABSTRACT

The embodiment of metaphysical agriculture in Bali is agricultural ritual and practicing agriculture based on local genius of *Rwa Bhineda*. It is carried out by *subak* (institution for water-control-system in Bali). In this case using organic inputs towards sustainable farming is very appropriately to the philosophy of *Rwa Bhineda*. The values of tradition-religion-aspiration-culture in *subaks* were weakened and rather meaningless as the impacts of: neglect to metaphysical agriculture; and capital based tourism development. Actually the good practices of metaphysical agriculture were able to enrich and to beautify objects of tourism in villages, likewise their income generating for the population. *Subaks* were rather not powerful and not authoritative in performing agricultural ritual effectively and meaningfully, neither in signifying organic techniques in farming. Therefore, a study on revitalization of metaphysical agriculture should be conducted, with aims: (1) to determine the level of success of metaphysical agriculture; and (2) to analyze factors of *subaks* which affecting the success of metaphysical agriculture. A survey method through questionnaire was used to collect data from 42 *subaks* in 42 different *desa adats* (customary villages) which were selected using purposive sampling. The all questionnaires used Likert scale. Percentage the total score of a variable that achieved on a *subak* from its maximum score then indicated the level of the variable on that *subak*. Regression analysis was used to estimate the effect of factors of *subaks* to the success of metaphysical agriculture. Result of the research indicated that the level of success of metaphysical agriculture was medium. The factors Authority of *subak* to determine their own life; Effectiveness of *awig-awig* (*subak*'s customary rule); and Effectiveness of *sangkepan* (social-religious gathering) were strongly affected the success of metaphysical agriculture. The factor Social relation of *subak* to *desa adat* was quite affected, but Intensity of discussion Weda script in *subak* was not so significantly affected the success of metaphysical agriculture.

Based on the findings in this research, it could be suggested as follows. It needs an assistance process at *subaks* to revitalize metaphysical agriculture by counseling and demonstrating plots of organic farming with sophisticated technology. First before this program, disseminating explanation regarding: implementation of meaningful agricultural rituals and perfectly understanding to agricultural based on *Rwa Bhineda*. More adroitly to decipher *sangkepan* and *awig-awig*, and more aggressively to execute punishment to transgressors of *awig-awig*. It requires pilot project activity, namely by performing assistance for the formation of farmer cooperative at some *subaks*.

Key words : metaphysical, *subak*, revitalization, *Rwa Bhineda*.

1. INTRODUCTION

Transformation and dynamism are very essential characteristic of community and culture. It is irrefutable fact that "transformation" denotes phenomenon which always features the passage of community and its culture. There isn't a static community in absolutely. Every community always gains

transformation on time function, so there isn't a community has same portraits on different periods, neither "traditional" nor modern community, although they change with varied rapidity (Haferkamp dan Smelser, 1992).

The communities with their cultures in Bali are not exception in this case. In other words, Bali always changes from age to age and even from day to day. Something has been worried " *isn't Bali spoiled?*" due to the effect of global population dynamism that has caused intensive and extensive capital-based tourism development as the policy and program for economic improvement of the government, to catch the trend of the world.

The capital-based tourism development brought about great batterer energy that caused very structural changes in Baliness society and culture. Tourism in Bali much changed from cultural-based tourism (in the era before 1975) to be competitive and commercial tourism. Unfortunately, these competitive and commercial attitudes and behaviours spreaded to the nearly all of social-traditional-religious institutions in Bali, especially *Subaks* (institutions for agricultural water-control-system in Bali) and *desa adats* (customary villages). Actually, *subak* denotes a technology developing and synergizing with community culture. On that account, *subak* is known as an institution having socio-cultural characteristic. It is reflected by the activities of *subak* predominated by mutual assistance and ritual ceremonies (Windia et al., 2010). So much local genius and local wisdoms as the part of *subak*'s and *desa adat*'s sermons which they are neglected, mainly in the concepts and implementations of metaphysical agriculture. Finally the values of tradition-religion-aspiration-culture in *subaks* are weakened and rather becoming meaningless, whereas tourism sector apparently has been taking benefits from the assets which rooted in tradition-religion-aspiration-culture of *subaks* and *desa adats*.

The agricultural activities in Bali are not only in physical study but also in metaphysical. The embodiment of metaphysical agriculture in Bali is as follows.

1. Agricultural ritual and customary ceremonies. There are two biggest ritual: *Nyapah* which take place in center village temple (*Bale Agung* temple) twice in every year; and *Usaba* in a hill temple of *subak* (*Bedugul* temple). These two rituals are very facilitated by *desa adat*. Various medium and small rituals which are arranged by members (*krama*) of *subak* in each their farm fields.
2. Practicing agriculture based on local genius of *Rwa Bhineda*. These activities of agriculture concern to keep on the balance of ecosystem in farming land. In this case using organic inputs towards sustainable farming is very appropriately to the philosophy of *Rwa Bhineda*.

The rituals were established and developed as the corollary of sincere characteristics of farmers in *subak* to possess devotion and sacred deed/*karma* through giving sacred offering to *Goddess Sri* (the omnipresent Deity in farming area), after they got crops and exploited some resources for plants farming. it was *karma* of take and give (Namayudha 1999).

Actually the good practices of metaphysical agriculture were able to enrich and to beautify objects of tourism in the villages of Bali, likewise their income generating for population in the villages. But nowadays *subaks* and *desa adats* are rather not powerful and not authoritative in performing rituals agriculture effectively and meaningfully, neither in signifying techniques for organic farming.

Concerning with the weakness owned by *subaks*, a study on revitalization of metaphysical agriculture should be conducted. The aims of this study were: (1) to determine the level of success of metaphysical agriculture; and (2) to analyze factors of *subaks* which affecting the success of metaphysical agriculture. These factors were: authority of *subak* to determine their own life; effectiveness of *awig-awig* (*subak*'s customary rule); effectiveness of *sangkepan* (social-religious gathering); social relation of *subak* to *desa adat*; and intensity of discussion Weda script in *subak*.

2. RESEARCH METHODS

2.1 Theoretical Frame of Metaphysical Agriculture Urgency

Popper, 1983 explained that every form is natural objective, and every idea is subjective. There is objective truth that unrestricted by space and time, it is in the higher level than both objective forms and subjective ideas and it has metaphysical quality.

Orderliness of the cosmos is objective and metaphysical truth, it is in transcendent level and ordered by the God as creator. The steadiness of universe, like there are: noon vs night, prey vs predator; natality vs mortality, and plentifully others are coming into sight the omnipotence of the God. These pairs of two qualities in one (dichotomies) which appear in contrary are some exsamples of *Rwa Bhineda*. The forms of *Rwa Bhineda* must be controled to be stable and balance in anyhow, anyplace and particularly in agricultural activities (producing food) which have kept on population to be alive.

The universe is pervading by conciousness. The conciousness can be classified to be partial/limited conciousness and super conciousness. When the conciousness takes embodiment through a birth, it becomes partial/limited conciousness. Since the conciousness to be restricted by its body. Sadness, happiness, anger, love, etc., are some impressions/feelings emerged by body. The super conciousness standing firmly and never be dissolved in feeling is named *Paramaatma*. *Paramaatma* denotes source of Atma, this Atma dwells within body. The merging of Atma to body performs soul, the efforts of soul continuesly to achieve *Paramaatma* makes happen metaphysical activities, while *Paramaatma* permanently in transcendent level (Sri Sathya Narayana, 1996).

Tattwamasi (you are essentially me), and *Advesta Sarwa Bhutanam* (love all creatures) were some sacred directions of Weda script. They were strong believed and done by farmers of *subak*. Because of revolution on agriculture latter, introduced pesticides that were adopted by farmers. Actually, pesticides gave more dangers to all creatures, those were poison residue in food, damaged ecosystem, resistance and resurgence of plant pests and diseases. Therefore, *Tattwamasi* and *Advesta Sarwa Bhutanam* denoted metaphysical practicality should be believed and done. For the present days, practicing organic farming is indicator for metaphysical practicality in agriculture (Geriya et al., 2006).

2.2 Data and Analytical Methods

A survey method through questionnaire was used to collect data from 42 *subaks* in 42 different *desa adats* (customary villages), which were selected using purposive sampling (in the year 2010). In the region of south Bali were selected 20 *desa adats*, and the rest 22 *desa adats* were selected in the region of north

Bali. In every *desa adat* was taken respondents which consist of 5 men from the board of *desa adat*, 10 men from the board of *subak*, 25 men members of *subak* and 10 men members of *desa adat* but not members of *subak*.

The variables those were examined can be described briefly as presented in Table 1. The strength of every element of variables was scored as very low (1), low (2), medium (3), high (4) and very high (5). Percentage the total score of a variable that achieved on a *subak* from its maximum score then indicated the level of the variable on that *subak*. So, the interval scale of variable could be categorized: 20-36% was very low; 37-52 % was low; 53-68% was medium; 69-84% was high; and 85-100% was very high. Regression analysis was used to estimate the effect of factors of *subaks* to the success of metaphysical agriculture.

Table 1. Variables description

No	Variable	Descripton
(1)	(2)	(3)
1	The success of metaphysical agriculture	<ul style="list-style-type: none"> ❖ <u>On ritual aspect</u> (Seven elements): 1) understanding to the viewpoint (<i>tattwa</i>) of the ritual; 2) coordination in ritual implementation; 3) solidarity among the followers of ritual; 4) freedom in partaking ritual; 5) orderliness of ritual processing; 6) completeness of facilities for ritual; and 7) creativity in achieving ritual. ❖ On the aspect of practicing agriculture based on local genius of <i>Rwa Bhineda</i> (seven elements): 1) intensity of pesticide treatment; 2) intensity of chemical fertilizer treatment; 3) wholeness to follow the planting season; 4) intensity of plant rotation; 5) intensity to process waste of livestocks and harvest to be fine compost; 6) intensity to plant greeneries with high level Nitrogen for fertilizer; and 7) quality of integrated crop-livestock system.
2	Authority of <i>subak</i> to determine their own life	Four elements: 1) percentage of land conversion from agricultural to non agricultural; 2) intensity of watter sources for irrigation were changed to be non agricultural purpose; 3) Intensity of blockading <i>subak</i> 's groud athway and watter canal by outer force of <i>subak</i> ; and 4) intensity of conflict between <i>subak</i> and industry/government.
3	Effectiveness of <i>awig-awig</i> (<i>subak</i> 's customary rule)	Four elements: 1) clearness of <i>awig-awig</i> ; 2) democratic system in establishing <i>awig-awig</i> ; 3) <i>awig-awig</i> socialization; and 4) firmness in executing punishment to transgressors of <i>awig-awig</i> .
4	Effectiveness of <i>sangkepan</i> (social-religious gathering)	Six elements: 1) <i>Sangkepan</i> routine; 2) follow-up of <i>sangkepan</i> 's decisions; 3) atmosphere in <i>sangkepan</i> ; 4) percentage of members of <i>subak</i> to attend <i>sangkepan</i> ; 5) sovereignty for giving comments in <i>sangkepan</i> ; and 6) sanction for members of <i>subak</i> who absent in <i>sangkepan</i> .
5	Social relation of	Three elements: 1) coordination between the board of

subak to *desa adat* *desa adat* and *subak* in holding ritual; 2) participation of *seke-seke* (small groups for special duty in *desa adat*) in ritual; and participation of *desa adat* members but not members of *subak* to attend agricultural ritual.

3. RESULTS AND DISCUSSION

3.1 The Level of Success of Metaphysical Agriculture

The level of success of metaphysical agriculture was assessed from two aspects, ritual aspect and aspect of practicing agriculture based on local genius of *Rwa Bhineda*. From the ritual aspect, the result was described as follows.

The understanding to the viewpoint (*tattwa*) of the ritual was low, since most of the people especially in traditional institutions (like *subak* and *desa adat*) had no interest to read or to learn manuscripts regarding *tattwa* of the ritual or religion. They preferred to follow the expressions of *tattwa* like to make some complicated offerings/sacrifices. Grup dynamism in the most of *subaks* were becoming weak due to the decreasing productivity and profitability of rice farming, hence coordinations in ritual implementation were not good and *subaks* had no enough funding to complete facilities and to be creative in achieving ritual. Finally, The level of success of metaphysical agriculture from ritual aspect became low.

The success of of metaphysical agriculture from aspect practicing agriculture based on local genius of *Rwa Bhineda* was as follows. The level of its success was categorized as medium, it implied that the farmers and their *subaks* had adopted slightly organic farming methods. Chemical fertilizers (like UREA, TSP, KCl, Ponska, NPK) were still very intensively to be applied by the farmers and even they were very dependently on these chemical fertilizers, on the other hand, they were lack of treatments towards producing fine compost from waste of livestock and harvest. The farmers of *subaks* were very averse to follow the planting season in the area of *subak*. It was very potentially to cause pests and diseases continuously spreaded and attacked the growing plants everywhere, and difficultly to be cut down. All of these poured in decreasing productivity and profitability of rice farming. From the all of these explanations, it could be assessed that the success of metaphysical agriculture was in medium level.

Table 2. Description for the elements of ritual aspect

Element	Min (%)	Max (%)	Average (%)	Category level of success
1) Understanding to the viewpoint (<i>tattwa</i>) of the ritual	21.6	70.4	41.6	Low
2) Coordination in ritual implementation	47.2	88.8	49.6	Low
3) Solidarity among the followers of ritual	52.0	87.2	56.0	medium
4) Freedom in partaking ritual	54.4	97.6	87.2	very high
5) Orderliness of ritual processing	49.6	91.2	80.8	High
6) Completeness of facilities for ritual	24.0	73.6	51.2	Low
7) Creativity in achieving ritual	23.2	72.0	56.8	medium
Average			60.4	medium

Table 3. Description for the elements of practicing agriculture based on local genius of *Rwa Bhineda*

Element	Min (%)	Max (%)	Average (%)	Category level of success
1) intensity of pesticide treatment	34.5	90.0	56.0	medium
2) intensity of chemical fertilizer treatment	23.5	93.0	44.0	Low
3) wholeness to follow the planting season in the area of <i>subak</i>	27.0	77.0	46.5	Low
4) intensity of plant rotation	42.0	91.5	72.0	High
5) intensity to process waste of livestock and harvest to be fine compost	29.0	91.5	54.0	medium
6) intensity to plant greeneries with high level Nitrogen for fertilizer	30.0	84.0	61.0	medium
7) quality of integrated crop-livestock system	47.0	88.5	58.0	medium
Average			55.9	medium

3.2 Factors of *Subak* Affecting The Success of Metaphysical Agriculture

The level of factors: Authority of *subak* to determine their own life; Effectiveness of *awig-awig* (*subak*'s customary rule); and Intensity of discussion Weda script in *subak* were medium. The level of factors: Social relation of *subak* to *desa adat*; and Effectiveness of *sangkepan* (social-religious gathering) were rather high. The result of regression analysis on the factors of *subak* affecting the success of metaphysical agriculture was as follows (Table 4). The factors Authority of *subak* to determine their own life; Effectiveness of *awig-awig*; and Effectiveness of *sangkepan* were strongly affected the success of methaphysical agriculture. The factor Social relation of *subak* to *desa adat* was quitely affected the success of metaphysical agriculture, but Intensity of discussion Weda script in *subak* was not so significantly affected the success of metaphysical agriculture.

As an institution having socio-cultural characteristics, *subak* has a power or wisdom and weakness. Some of those indigenou wisdoms are organization having good governance, flexibility, having capability of absorbing or adopting tecgnology developing around them and having capability of absorbing the culture developing in surrouding community. If the all of factors of *subak* are vigorous and effectively, actually the force in *subak* can be an indigenou wisdom and social asset that can shore up some government programs, especially the food security program and community-based tourism development. Meanwhile, the weakness of *subak* as an institution having socio-cultural characteristic is that it could not resist the intervention from external parties. This incapability is reflected in the large number of land undergoing transfer of function to sectors beyond agriculture like to building for hotel and building for hausing complex. In addition, there is relatively a large amount of withdrawing of irrigation water and blockading *subak*'s groud pathway by other sectors such as Municipal Waterwork, hotels and other tourism components.

Table 4. The result of regression analysis on factors of *subak* affecting the success of metaphysical agriculture

No	Factor of <i>Subak</i>	Coefficient	t-ratio	Sig.
1	Constant	-8.039	-7.731	0.000*
2	Authority of <i>subak</i> to determine their own life	0.297	6.074	0.000*
3	Effectiveness of <i>awig-awig</i> (<i>subak</i> 's customary rule)	0.335	4.632	0.000*
4	Effectiveness of <i>sangkepan</i> (social-religious gathering)	0.227	3.731	0.001*
5	Social relation of <i>subak</i> to <i>desa adat</i>	0.106	2.240	0.031*
6	Intensity of discussion Weda script in <i>subak</i>	0.131	1.480	0.147 ^{ns}
R Square = 0.9938		F = 1201.5*		

Informations: * = significantly; ^{ns} = non significantly

4. CLOSURE

4.1 Conclusions

Based on the previous descriptions, it could be concluded as follows.

1. The level of success of metaphysical agriculture was categorized into medium.
2. The factors Authority of *subak* to determine their own life; Effectiveness of *awig-awig*; and Effectiveness of *sangkepan* were strongly affected the success of methaphysical agriculture. The factor Social relation of *subak* to *desa adat* was quitely affected the success of metaphysical agriculture, but Intensity of discussion Weda script in *subak* was not so significantly affected the success of metaphysical agriculture.

4.2 POLICY IMPLICATION

Based on the findings in this research, it could be formulated policy implications as follows.

1. It needs an assistance process at *subak* to revitalize metaphysical agriculture by counseling and demonstrating plots of organic farming with sophisticated technology. First before this program, disseminating explanation regarding: implementation of meaningful ritual for agriculture and perfectly understanding to agricultural based on *Rwa Bhineda*.
2. More adroitly to decipher *sangkepan* and *awig-awig*, and more aggressively to execute punishment to transgressors of *awig-awig*.
3. It requires pilot project activity, namely by performing assistance for the formation of farmer cooperative at some *subaks*.

REFERENCES

- Geriya, W., Yudha Triguna, dan I Nyoman Dhana, 2006. *Pola Kehidupan Petani Subak Di Bali*. Javanologi: Denpasar.
- Haferkamp, H. and Neil J. Smelser. 1992. *Social Change and Modernity*. The University of California Press: Berkeley.
- Namayudha, I.B., 1999. *Upacara Ngusaba Nini*. Parisada Hindu: Denpasar.
- Narayana, S.S. 1996. *Discourses on Bhagawad Gita*. Sri sathya Sai Book and Publication Trust: Bangalore-India.

- Popper, K.R. 1983. *Realism and The Aim of Science*. Rowman and Littlefield: New Jersey.
- Windia, W., Ketut Suamba and Wayan Sudarta. 2010. The Development of Food Security Model Based on *Subak* System In Bali. *Jurnal SOCA*. Vol. 10. No.1. Februari 2010: 8-14.