PESANTREN TRANSFORMATION SYSTEM IN THE FOOD SUSTAINABILITY

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ABSTRACT: *Pesantren (Islamic boarding school) has proven to be a formidable institution in society by ruling Islamic values and traditions, including in agricultural field. Having variety of available resources, pesantren becomes a power for agricultural development. Pesantren has transformed to be able to maintain the agricultural tradition in achieving food sustainability. This research aims to assess transformation system and formulate strategies for pesantren transformation to achieve food sustainability. This research uses soft system methodology (SSM) approach and SAST (Strategic Assumption Surfacing and Testing) technique. The result shows that pesantren transformation system uses 4R concept that is located on the reframe and renew dimensions. The strategies to encourage the pesantren transformation cycle: their lead/central figure (leadership); pesantren management to institutionalize values for both individual and collective; and having strong modalities. The anticipation for transformation obstacles includes a change that must be well managed and economic orientation for the green growth.*

KEYWORDS: Pesantren, Transformation, Food Sustainability, Strategic Assumption Surfacing and Testing

INTRODUCTION

Pesantren (Islamic boarding school) becomes one of elements of Indonesian Islamic education that is running traditional. Madjid (1999) considered that pesantren roles as an institution that is identical to the meaning of Islam at once implies the indigenous of Indonesia. Pesantren community explores Islam lesson and practices it as a way of life (*tafaqquh fi al-din*) by emphasizing the importance of morality in social life. Values and religious norms run at Pesantren roles an important part in the development of rural communities and those who are living in rural areas (Supardi 1994; Dhofier 2011). Pesantren is an exclusive (independent) community under the leadership of Kiai (Islamic cleric) assisted by ustad (religious teachers) living together among the Santri (students), with the mosque as a center of learning activities, and huts (dormitories) as the residence of the students. They run creative life and form such as a family (Mastuhu 1994; Dhofier 2011). Pesantren is also supported by natural resources such as land and water, infrastructures and facilities; religious and spiritual values underlying daily activities; and also human resources (HR) including the leadership.

Agricultural management at pesantren still faces some obstacles such as natural resources that are decreasing quality and damages, limited land, limited human resource competency, inadequate infrastructure and facilities, adaptation to information yet and technology

development, weak networking, as well as the weak organizational capacity at pesantren. Moreover, the pattern of main food in pesantren is less varied and nutrition is less balanced (Hermina et al. 1996). To minimize these obstacles, the Ministry of Agriculture initiated a program of empowerment of rural communities through independent institution rooted in the community (LM3) with pesantren as one of its targets.The program aims to improve and develop the ability of religious institutions in the agricultural business. Through LM3, pesantren can develop its role for development and society.

Considering the importance of the role of pesantren with its obstacles in the community and agricultural development, comprehensive change and continuous transformation of the pesantren need to be taken. Oden (1999) with changes becoming so fast and so complex, organizations cannot hope to cope by incremental changes. They must undergo a complete and radical change in strategy, culture, structure, and processes. Sangiorgi (2010) identifies seven key principles that show the diversity of transformation practice in the design, organization development and community action research with a focus on the issue of public services. The seven key principles are: 1) active citizen; 2) intervention at community scale; 3) building capacities and project partnerships; 4) redistributing power, 5) designing infrastructure and enabling platforms; 6) enhancing imagination and hope; 7) evaluating success and impact. The transformation in the Islamic perspective is like a hijra which has managed to bring reformation at various institutions. Rahayu (2011) examines the transformation of Services and Development Center for Higher Education becomes Semarang Growth Centre. Madmarn (1999) studies the changes on pesantren institutional becoming madrasah (school) in Patani Malay-Muslim community to bridge the Thai government's desire to implement modern education system. Ning (2007) concludes the process of transformation in Pusdiklat (Education and Training Center) using the 4R approach has not run optimally.

Complexity and great diversity becomes a fundamental actual problem of a pesantren, therefore linkage in pesantren system cannot be controlled by only one or two specific method and mechanistic. Systemic approach is a meta-concept or meta-discipline so that the formality and process of the whole knowledge disciplines can be combined successfully (Gigh 1993; Carvayal 1992). Therefore the system thinking is always looking for the integration between any departments through a full understanding. The complexity of the existing problems is formulated with a systems approach in a new framework to achieve the purpose of the changes design. This study aims to assess the transformation system and formulate an integrated strategy on pesantren transformation in various aspects towards food sustainability.

LITERATURE

Pesantren

Pesantren as an educational institution is not only synonymous with the meaning of Islam, but also implies Indonesia's authenticity (cultural heritage) (Madjid 1997; Dhofier 2011). Its existence became known in Indonesia in 13-17 century AD and in Java about 15-16 century (Mastuhu 1994). Pesantren is an exclusive (independent) educational community under the leadership of Kiai (Islamic cleric) assisted by ustaz (religious teachers) living together among the Santri (students), with the mosque as a center of learning activities, and huts (dormitories)

as the residence of the students. They run creative life and form such as a family (Mastuhu 1994; Dhofier 2011).

Mastuhu (1994) formulated pesantren goal is to create and develop the Muslim personality, that personality that believe in and fear of God, noble, beneficial to society or to the public. The purpose is realized by becoming a servant or a public servant, an independent public servant, free and steadfast in personality, proselytizing or uphold Islam lesson and love in knowledge in order to develop the personality of Indonesia people.

Nijar (2011) pesantren have two functions at the first growing, as well as: education institution and religious broadcast institution. Right now they have been changing enough, but the core functions still hold at pesantren. Its original function maintained by pesantren of modernization. This is because pesantren have a social area which has a resistance to the adverse effect of modernization.

Pesantren is considered as an institution when fulfilling minimum aspects, such as: 1) actors (kiai, ustaz, santri, and administrators); 2) facilities: mosques, kiai's houses, ustaz' houses, cottages, schools, land for various purposes; and 3) software facilities: vision-mission, curriculum, learning sources (holy book, books, reading way including bandongan, shove, halaqah, and memorization methods), and teaching-learning evaluation (Mastuhu 1994). Dhofier (2011) adds that there are five basic elements in pesantren tradition, includes: 1) the cottage; 2) the mosque; 3) santri (students); 4) the teaching of classical Islamic texts; and 5) kiai.

Nijar (2011) also mations five pincipals of pesantren life: 1) sincerity; 2) simplicity; 3) selft help; 4) fraternity; and 5) freedom. Pesantren also has a habit called *Sunnah* be the way of life and value system are understood and implemented together in thier daily lifes. Formation of attitude, character and behavior of santri carried out by kiai through nurturing, guiding and fostering continous life in a family atmosphere.

Furthermore, the values underlying the pesantren can be classified into two groups: 1) the values of religion that has the absolute truth, patterned with *fikih-susfistik*, oriented to the life hereafter; and 2) the religion values that have relative truth, empirical patterned and pragmatic to solve many daily problems based on religious law. Both groups have a vertical relationship. The first group was superior to the value of the second group, and the second value must not conflict with the first value group. In this case, kiai maintains the value of the first group, while kiai and santri maintain the value of the second group. This is the reason why kiai has absolute power in pesantren (Mastuhu 1994).

Pesantren adopts a holistic approach, meaning that pesantren's tutors view that teaching and learning is indivisibility or mixed in the totality of daily activities. For the citizens of pesantren, learning process in pesantren is timeless. In their view, every moment those happens is part of a whole and always related with each other then ultimately see the truth of God (Mastuhu 1994).

Transformation

The changing process of becoming better done thoroughly and continuously is the essence of transformation. The transformation process can be defined as a dynamic process of life, growing, saturated and then peaked through the transition (Gouillert & Kelly 1995). Collins & Porass (1996) describes the organization transformation cycle into four categories: 1)

Reframing, shift of concept appears to achieve the objectives and open new mindset 2) *Restructure*, associated with the organizational form based on the level of competence, 3) *Revitalization*, effort to encourage the growth of all components of the organization with consideration of the competitive ability to anticipate changes in the external environment; 4) *Renewal*, focusing on organizational reformation related to human resources to accelerate the change process pace. Scott (2000) adds a dimension of transformation, that is *Re-inspiring*, which is a planting of commitment and energy to achieve the vision and mission together based on the values of ethics (moral), aesthetics and work ethic adopted within the organization. Akib (2011) examines the dimensions of Re-inspiring is embodied in creativity of learning organization by the reborn of ethics value, aesthetics and a work ethic based on the value of endogenous (local wisdom) it has.
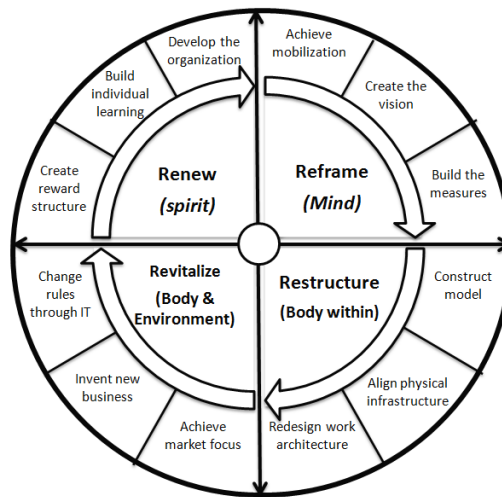
Figure 1. Transformation cycle

Food Sustainability

The concept of sustainable development emphasizing the linkage and harmonization of relevant dimensions is applied in the implementation of development in various sectors, including the agricultural sector in the wider coverage. The implementation of food endurance as one of the programs of national development strategies in the agricultural sector needs to be based on the dimensions that build the sustainable development. Thus, sustainable food security is not only measured by the indicators described earlier, but also from the social dimension side, economic and more harmonious and balanced environment.

A sustainable food system is a food system that delivered food security and nutrition for all such a way that the economic, social, and environmental based to generate food security and nutrition for future generations are not compromised (UNEP 2014). Sustainable food system is consistent with the American Planning Association's definition: A food system in which everyone has financial and physical access to culturally appropriate, affordable, nutritious food that was grown and transported without degrading the natural environment, and in which the general population understands nutrition and the food system in general (Cassidy & Patterson 2008).

Sustain defines sustainable food as food that should be produced, processed and traded in ways that: 1) contribute to thriving local economies and sustainable livelihoods – both in the UK and in producer countries; 2) protect the diversity of both plants and animals (and the welfare of farmed and wild species); 3) avoid damaging natural resources and avoid contributing to climate change; 4) provide social benefits, such as good quality food, safe and healthy products, and educational opportunities (PASA 2009). The food system incorporates a a holistic approach that involves all aspect from production, processing and distribution, to consumption, disposal and diversion of food. Applicating the complexity of this system Calgary EATS! takes a system approach to reach its vision. For this reason, Calgary EATS! considers 6 key principles that constitute a sustainable food system: local, accessible, secure supply, envireonmentally sustainable, health, and community economic development (Calgary's report 2015).

Brotojoyo (2009) explains the sustainable principle in increasing agricultural production is able to meet the present needs without compromising the needs of future generations on food and a healthy environment. Food security not only can be seen on the fulfillment of food on short term but also its sustainability in the future. Its can only be achieved by implementing and developing sustainable agriculture. Sustainability of a healthy environment can be achieved by cultivating eco-friendly farming.

Strategic Assumption Surfacing and Testing (SAST) Process

SAST is a process which reveals the underlying assumptions of a policy or plan and helps create a map for exploring them. Mason & Mitroff (1981) SAST incorporates the following principles:

(1) *Adversarial* - based on the premise that the best way to test an assumption is to oppose it.

(2) *Participative* - based on the premise that the knowledge and resources necessary to solve and implement the solution to a complex problem is distributed among a group of individuals.

(3) *Integrative* - based on the premise that a unified set of assumptions and action plan are needed to guide decision making, and that what comes out of the adversarial and participative elements can be unified.

(4) *Managerial mind supporting* - based on the premise that exposure to assumption deepens the manager's insight into an organization and its policy, planning, and strategic problems.

The above principles are employed throughout the five phases of the SAST process, which are:

Group formation: Key individuals from across company functions are formed into small (6 - 8 persons) groups. Each group should consist of individuals who get on well with one another (minimize conflict). Each group should differ in its particular knowledge and problem perspectives (maximize differences). Each group should have a different orientation, perspective or policy option from which to tackle the issue.

Assumption surfacing and rating: Each group meets separately and begins to identify the assumptions inherent in the issue (from their viewpoint). A way in may be to identify as many stakeholders as possible. List all the assumptions generated.

Within group dialectic debate: Firstly, each group now eliminates irrelevant assumptions by asking themselves "If the opposite of this assumption is true, does it have any significant bearing on the issue?" If the answer is "No", then the assumption is not very relevant to the problem. Any assumption accepted as a strategic premise must meet two criteria:

   a. Importance, it should have a significant bearing on the outcome of the strategy chosen and implemented.

   b. Certainty, it should be as "self evident" and "certain to be true" as possible.

The assumptions are now ranked for importance by the group and entered in an Importance/Certainty matrix. If a more precise scaling is required here, the Analytical Hierarchy Process (AHP) is used to carry out pair wise comparison (each individual group member) and to calculate normalized weightings from the combined data. The individual data should also be open for discussion at this stage.

The resulting data is now plotted on a graph or 2 x 2 matrix whose scales are (relatively important/unimportant) & (relatively certain/uncertain). Assumptions that are both important and certain become the pivotal or "bedrock" assumptions for the policy. Assumptions that are important but uncertain may require research. Assumptions in the other two quadrants may well be dropped. Using the graph as an aid, each group should debate "which are the pivotal assumptions?" and come up with a prioritized list of pivotal assumptions.

Between groups dialectic debate: The groups are brought together and a spokesperson for each group presents their importance/certainty graph and pivotal assumptions. Only clarifying questions are permitted at this stage. When all the groups have presented, all the assumptions are combined on one slide and thrown open for evaluation, debate and discussion. Agreed assumptions are extracted as premises from which to proceed, while contentious assumptions are debated further and may be modified to achieve agreement.

Final synthesis: All participants are asked to propose assumptions to resolve outstanding controversies. If no agreement is reached on an assumption it becomes an issue requiring further investigation. Each issue and key assumption is subjected to further analysis to adduce the data and warrants (what beliefs the assumption is based on) that underlie its claim. Where data is inadequate, business intelligence and management information systems activities are undertaken to acquire the specific data necessary to resolve the strategic issue. A planning book is produced that contains:

   a. A prioritized list of the most critical issues management faces as revealed by SAST.

   b. An assessment of the current state of knowledge with respect to the solution of these issues.

   c. A list of current and planned information-producing activities designed to improve the state of knowledge relevant to the critical issues.

When the policy decision must be made, the results of the information producing activities are collected and related to the issues for which they were undertaken. A final debate is held and a judgment is made on the best set of assumptions from which to proceed. Finally, an appropriate policy is chosen, based on the new information and the synthesis that emerged.

METHODOLOGY

This research uses soft system methodology (SSM) approach with 7 stages, namely: 1) identification of the faced-problems situations; 2) expressing problem situation in the *rich picture* (RP); 3) developing root definition (RD) in accordance with purposeful activity model (PAM); 4) designing conceptual model with a system approach based on RD; 5) comparing the conceptual model of the problem situation; 6) discussing the desired change; and 7) the corrective action as a solution (Checkland 1981; Jackson 2003; Jackson & Poulter 2006; Shankar et al. 2009). Raharja (2009) also uses the SSM approach to the development of river shed management models. Process modeling was identified no systemic characters and characteristics of the organization which have learning disability. The formulation of the basic definition of the issue uses CATWOE analysis, that is: **Customers (C)**, the parties who would gain or lose from the problem-solving activities; **Actors (A)**, parties implementing problem-solving activity; **Transformation process (T)**, activity converting input to output; **World view (W)**, the understanding of various parties about the profound significance on problem situations; **Owners (O)**, who can stop the activities of the organization; **Environmental constraints (E)**, system environment obstacles that cannot be avoided (Jackson & Poulter 2006; Raharja 2009; Eriyatno & Larasati 2013). The stages are the effort to understand the issues that are very complex and dynamic.

Implementation of SSM was conducted with literature study, expert surveys and focus group discussions (FGD). The choice of objects of research done purposively in 6 pesantrens that have agricultural activities in three regencies, they are: 1) Yayasan (foundation) Agriculture Pesantren Darul Fallah, Bogor; 2) Pesantren Assidiqiyah 7, Bogor; 3) Islamic Education Foundation Al Uzlah, Cianjur; 4) Yayasan Pesantren Al Muhajirin Al Musri, Cianjur; 5) Yasayan Pesantren Al Barkah, Bandung; and 6) Pesantren Al Ittifaq, Bandung. Those pesantrens used as sample are formal institutions with legal entity as a foundation. Determining thinking respondents is based on the following requirements: 1) an extensive background in the discipline; 2) the group composition which has a variety of positions; 3) the uniformity of the mindset of mutual interest; 4) the awareness of participants about the importance of giving responsible opinion; and 5) does not expect occurrence of a forced consensus (Eriyatno & Larasati 2013). The most important selection of respondents is also based on a voluntary to be respondents. Data and information obtained from thinking respondents are 18 people from all pesantrens.

Formulate strategies was analyzed by strategic assumption surfacing and testing/SAST method (Mason & Mitroff 1981; Jackson 2002; Rathoyo *et al*. 2014). The function of SAST method is to raise conflict of interest among the stakeholders to the surface so that they can be further anatomized and resolved (Jianmei 2010). Steps being taken to the formulation of the strategy include: 1) the formatting the group (group formation); 2) assumption surfacing; 3) the assessment of interest significance and certainty of alternative assumptions with ordinal scale; 4) dialectical discussion; and 5) synthesis.

RESULTS AND DISCUSSION

Situation Analysis of Pesantren

Pesantren has experienced dynamic development without leaving the Islamic-rooted tradition since long time ago. Most pesantrens are still continuing the tradition without a radical

change (likely to survive). The others are more responsive and open to meet the needs of santri and the surrounding community (Suhendra *et al*. 2012).

The number of pesantren has developed quite rapidly both followed by the number of santri (Table 1). West Java Province in the period 2012/2013 has recorded 7592 pesantrens (29.44%) (Kemenag, 2014). This amount already includes traditional and modern pesantrens. Nur Hamidi (2010) notices an increase of santri occurs naturally, as the result of the effects of social relations of santri with the community and public's trust to pesantren. When compared to the number of santri and pesantren, it appears that the number of santri who are interested in pesantren is lower than the growth of pesantren itself. In fact, one pesantren has only few santri or almost no santri at all. Parents send their children to study in pesantren in order to avoid the influence of the environment and the negative impact of modernization.

Table 1. The growth number of pesantren and students

	2009/2010	2010/2011	2011/2012	2012/2013
Pesantren	25 785	27 218	27 230	29 535
Santri	3 648 893	3 642 738	3 759 198	3 876 696

Source: EMIS, Direktorat Pendidikan Diniyah dan Pesantren, Kementerian Agama 2014

A pesantren can be said to be an entity that has a complete enough resources, from natural resources, human resources, infrastructure and facilities, as well as the values contained in the norms, rules and exemplary figures. The assets are aligned so as to make pesantren has distinct characteristics. This is being their respective advantages as well as capital changes pesantren in the future. Pesantren's land for example, is generally still owned by pesantren's management or administrators. The land condition is not currently a major concern that results the utilization and management of pesantren is not maximized yet. Similarly, the management of water resources has not been followed by activities to maintain and preserve its availability.

All pesantrens for instance have facilities quite complete, though in terms of feasibility is still lacking, particularly the feasibility of students lodgment (*kobong*/hostel). Sanitary facilities such as landfills mainly domestic waste is not owned, so that the waste collected is just burned away. Some pesantrens which already have a business unit, residual waste from production activities is utilized as raw material for the manufacture of compost and organic fertilizer.

Most of the results of agricultural businesses that have been done are used to fulfill the needs of pesantren as well as to meet the demand for local and regional markets. For pesantren doing agricultural activity usually has a characteristic that has not become its business superiority. The same as the wisdom possessed has not been recognized by the local community as an agricultural innovation. However, the existing agriculture has become the medium forming the character of superior santri. Budiyanto & Machali (2014) see agricultural activities can form the character of discipline, hard work, religious, togetherness, simplicity, and the responsibility and sincerity.

Pesantren is built based on a clear vision of its founders. Management of pesantren as a whole has been running since pesantren built. Pesantren were not supported by systemic and strong framework, also the adequate personal. Monitoring and control system implemented in

pesantren life is done through communication forum by managers, administrators or *asatidz* routinely and periodically.

The existence of a Kiai brings tremendous influence both for santri, ustaz and surrounding communities (Fatimatuzzahroh *et al*. 2015). Kiai still be a role model, especially for *santri* and *ustaz*. Almost all kiai at pesantren has more open mind, has a vision for the future, and be good example. Kiai and ustaz views the need to do a better transformation. However, the kiai has to be very carefully to reform pesantren in order to adjust to the changing times (Dhofier 2011; Suhendra *et al*. 2012).

Salafiyah students look very well mannered and obedient to the religious kiai, ustaz, and visitors at pesantren. Ma'rufah *et al*. (2014) mentions the compliance of students in the running of norms and rules are stimulated by the power authority of kiai as pesantren leader who prioritizes charismatic. This resulted the santri's activity is done automatically, without orders and appeals. Kiai provides exemplary discipline in religious activities, so there is a balance between reward and punishment. However, such activities related to environmental and productive business, have not seen the discipline. Although there have been efforts to build skill areas of santri's interest.

Associated with agricultural interests, kiai believes that agriculture is a job that brings a bless. *QS. An Nahl* (16):49 states that all creatures are subject to and glorify *Allah SWT*, so that planting will multiply as many creatures that exalt, and vice versa. Kiai Fuad Affandi has 8 reasons to remain a farmer: 1) the blessing work; 2) the easiest job without conditions; 3) never give up; 4) Indonesia is agricultural country; 5) any person could be a farmer; 6) high work ethics; 7) the lifeblood; and 8) Muslims. While Pesantren Al Uzlah stays aside from city life to create a new civilization as a manifestation of the mandate of its founder, which is to develop agriculture. Kiai gives a good example directly to santri and ustaz to work on the land, although the time and what to plant different for each of the pesantren.

In addition to agricultural knowledge, spiritual values from kiai to maintain the environmental balance are high enough. Kiai Fuad encourages students and the surrounding community to keep the environment under the motto "there should not be an inch of idle land, there should not be a piece of junk that is inconsequential, and there should be no time wasted". Within the meaning Al Ittifaq, that is working well together, pesantren makes the concept of silaturahmi (gathering) as the efforts to develop agribusiness as well as in order to meet the needs of pesantren, including food needs. The independency is embodied by Al Musri to build business units and optimize local potential. Al Musri also develops life skill education for santri to manage the farm.

On the other hand, the problems faced by pesantren running agricultural activities are not that simple if it is seen from various aspects including bio-physical, structural and cultural. Pranadji (2011) observes the problems faced by schools in three things: nature resources, value system, and organization. Utilization of natural resources in sampling pesantren faces land ownership that is not strong enough (still owned by the management/board pesantren). Related with its functions, there are few issues of traditional management that is not professional and rational. Nurkhamidi (2010) sees the causes of it are as low creativity by management, lack communication on the pesantren issue, no partnership, as well as government programs that are not running. Pesantren is also facing the issue of environmental destruction that affects the continuity of the activity and also to the surrounding community. Encountering such circumstances, pesantren cannot work alone,

especially its strategic role to encourage parties to work together in the strength and independence in order to achieve sustainability of food in pesantren with harmony.

Pesantren Transformation Systems

Pesantren with agricultural activity seen by aspects of biophysical, structural and cultural as well as its transformation process is in reframe and renew partially (Figure 2). Pesantren are constantly experiencing change which is based on the transformation paradigm. High spirituality owned by pesantren can be a transformation asset, but not all reflected in public life. The concept and idea of a transformation is reflected by the central figure in pesantren. Implementation of spiritual values in pesantren has not been measured with clear indicators. There are pesantren that are already realizing the idea from the figure in the form of the tasks division for the management of pesantren, including santri. The organizational structure has also been formed, but still lacked of operational standards. Therefore, the structures developed yet effective and have not yet fully reflected the vision and mission of pesantren.
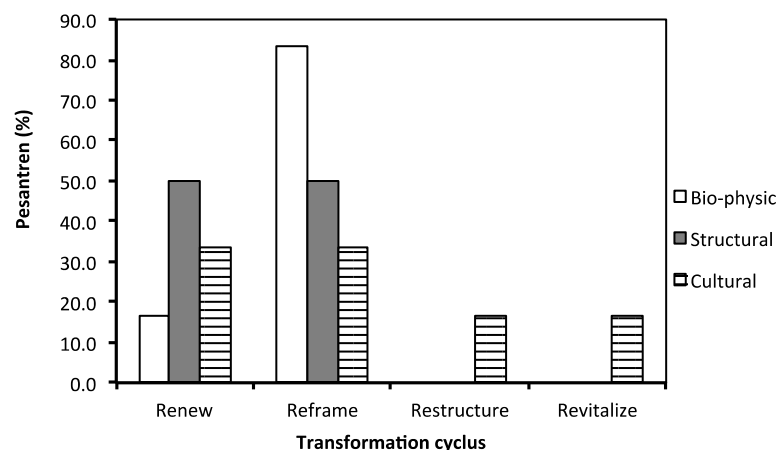

Figure 2. Cycle of transformation process in sampling pesantren

The figure leaders and pesantren community have largely understood bio-physical condition and have a desire to manage it better. The organizational structure has also been formed, but still lacked operational standards. Some pesantrens even have already had resource management activities, but has not yet become a pesantren community culture/habit. This can be seen from the gap between leaders' thought with asaatiidz and santri in addressing changes to its nature resources. Generally Pesantren is depended on only one active leader, while other members and santri seem passive in accepting all the values, norms and regulations in pesantren. This submmissive condition sometimes become an obstacle to innovation and the openness of the santri, unless there is an understanding of the diversity of cultures that are not separated from the understanding of faith, morals and across-mazhab fiqh (Istighfaroh 2012).

This unequal understanding and demands of multiple roles cannot be avoided anymore. Pesantren are faced with a wide choice of change that is interlinked with other parties. This is very complex and multidimensional condition that requires a mechanistic and non-linear draft concept in shape Rich Picture (Figure 3). Holistic view is also narrated in a Root Definition (RD) format, which is brief and comprehensive statement about the intervention system (Checkland & Poulter 1996; Eriyatno & Larasati 2013). Defining the relevant system enriched by CATWOE analysis with the results of pesantren complexity are: Society and

pesantren (C); Leader (figure)/Kiai, ustaz, santri (A); Institutionalization of pesantren spiritual values (T); Pesantren as an institution that can be played for the achievement of national goal (W); Pesantren and Government (O); pesantren new paradigm (E). CATWOE strengthens the input-output and the transformation process in the system developed with the right basic definition. In other words, RD is a statement that describes the activity of the system to be formulated into purposeful activity model (PAM). RD concepts that can be developed in this research are useful for modeling and enrich the idea of pesantren transformation activity model as follows:

"Making pesantren changes in biophysical, structural and cultural harmony aspects, is through the strengthening of the transformation process in pesantren with 4R steps (reframe, Restructure, Revitalize, Renew) based on its dynamic capability, to the application of spiritual values in resource management and the environment for the achievement of sustainability food"
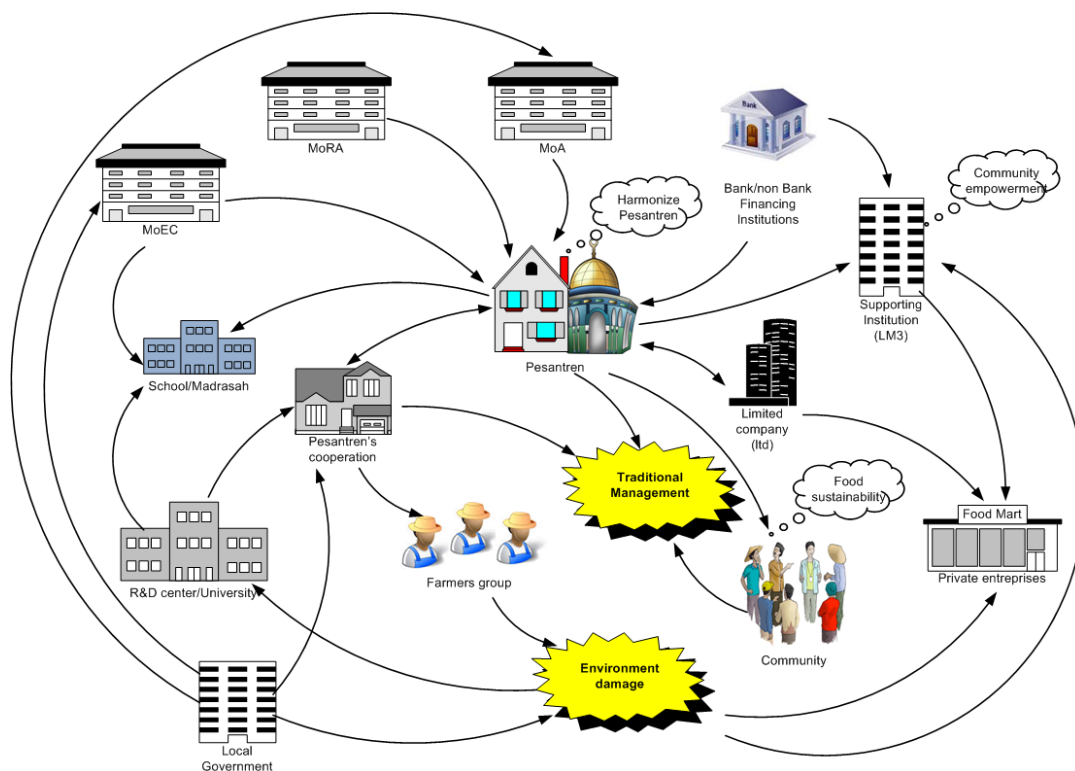

Note:

 MoRA (Ministry of Religious Affairs)
 MoEC (Ministry of Education and Cultural)
 MoA (Ministry of Agriculture)

Figure 3. Rich Picture of pesantren complexity

Based on the RD and pesantren situation described as rich picture (RP) then it is designed the pesantren transformation activity model in the form of PAM. This model becomes a temporary solution (intermediate solution) of changes made to achieve the goal. Phases of activities are designed based on the results of discussions with experts and stakeholders (Figure 4). Transformation activities begin from phase of clear vision formulation with the

support of progressive leader in order to instill his vision to the pesantren community. This leads to the professional management development with competent personnel readiness and pesantren character. Character is used as asset for pesantren organizational structuring to be able to manage the program and their actions as well as changes that occur. Evaluation and monitoring based on efficiency indicators, effectiveness, transparency and sustainability, is used to control all activities in harmony.
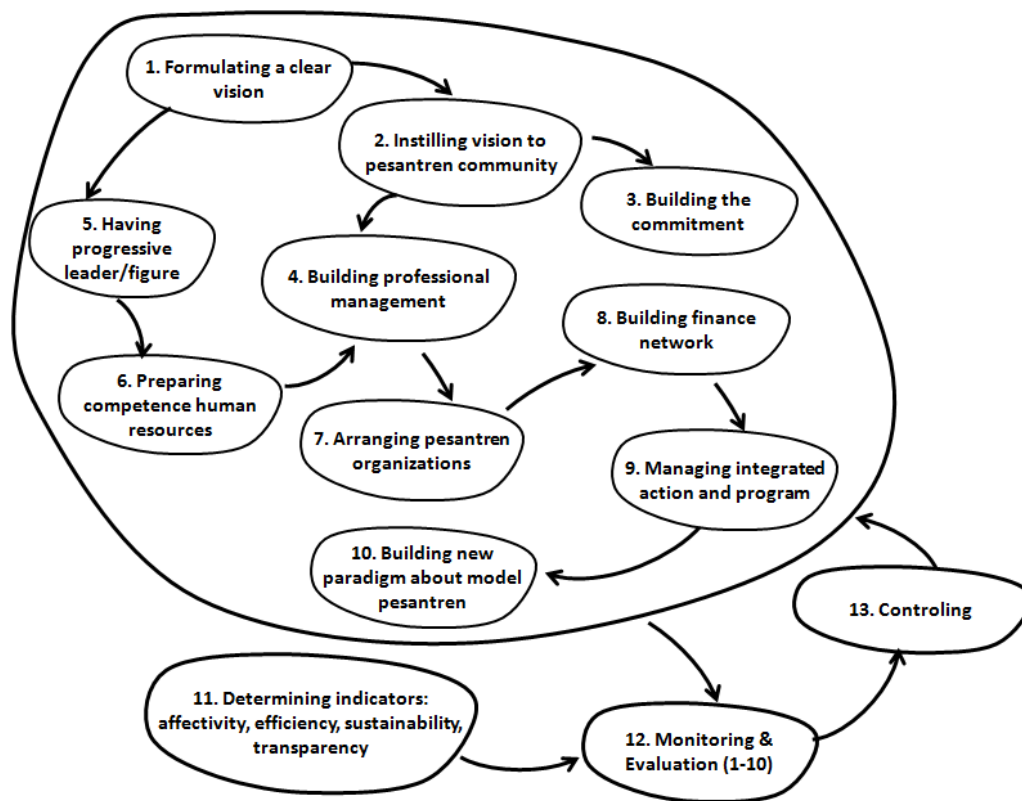
Figure 4. Purposeful activity model of pesantren transformation

The transformation activity model requires the strategic assumption that must be anticipated and drivers of success. Assumptions in critical thinking is done by: 1) providing support for the basic reason that is presented in the argument and 2) raising the missing steps in the argument that is an additional reason to build a conclusion, or as an intermediary conclusions supported by reason and in turn supports the main conclusions (Jackson 2003). The basic assumption in the system becomes a subject that cannot be solved in the form of constraints, inhibiting factors, conditions that could not be changed and the subject that must be met by agreement of the stakeholders.

The use of SAST method on assumption appearing stage of FGD identifies 24 aspects as an alternative solution in the pesantren transformation. Linkage of interest level and certainty level of the assumptions that have been agreed or assumptions that could produce new strategies are grouped in two quadrants (Table 2). Assumptions in quadrant II is confirmed and brings important influence on the success of the plan (planned to be sure) that it becomes the driving performance or the success of the transformation. However, to avoid problems in

implementation of the transformation activity model it is needed the success prerequisite or anticipation with assumptions in quadrant III (Figure 5).

Table 2. Assumptions in pesantren transformation

	Assumptions	Scor
Quadrant II		
A	Having a central figure/leader	(5.4;5.2)
B	Clearly of pesantren typology	(4.9;4.0)
C	A clear management process in pesantren	(5.1;4.2)
D	Provide chances for selft-development	(5.2;4.0)
E	Having integrated general and religion sciences	(5.5;4.1)
F	Pesantren management to institutuoonalize values (individual and collective)	(4.9;4.8)
G	Having assets (law, norms, ideology, geography, disciple, independency, etc)	(5.1;4.6)
H	Update of innovation and technology, as well as information disclosure	(4.7;4.0)
J	Public acceptance of pesantren	(4.6;4.3)
K	Having the collectivity	(4.5;4.7)
L	Community involving to conduct changes	(4.9;3.9)
M	People trust the against pesantren	(4.9;4.2)
N	Local wisdom believed in society	(4.4;4.1)
O	Compliance with the needs of society	(4.9;4.0)
R	The stable national economy	(4.5;3.7)
S	Agriculture as blessing business	(5.0;4.3)
T	Management of natural resources that is adaptive to environment changes	(4.9;3.7)
U	Utilization potential environmetal friendly	(5.0;4.1)
V	Well understanding about environmental ethic	(4.9;4.1)
X	There is no natural disaster	(4.0;3.9)
Y	Understanding that save environment is the same as save religion	(5.0;4.1)
Quadrant III		
I	Well managed of changes	(4.7;3.3)
P	The existence of an open competition	(3.7;3.3)
Q	Economic orientation on green growth	(4.7;3.0)

Note: scor (X;Y) is average of (imprtance scor; certain scor)

Figure 5. Quadrant of strategic assumptions

Transformation Strategic

Pesantren is like a torch that provides a bright light in the life of society. Sugiarti (2011) states that pesantren can become the center of Islamic civilization. Pesantren should also be sensitive (responsive) to the needs of the community so as to give the value of people's lives (muamalah) and open to the current changing, while still keep sticking to Al-Quran and Al-Hadith without leaving the traditional values and culture of pesantren. Suwito (2008) states the effectiveness of empowerment capabilities at pesantren occurs if there is a change of perspective at pesantren, which are not only oriented to pure religion but also a social reality. Challenges in the future more and more complex with modernization friction, then pesantren should actively make room for transformation and appreciative, and selectively respond to developments and culture pragmatic (Azhari 2014).

Pesantren's sensitivity to fulfill the needs of community brings it as an entity that can play a role in national development. One of them is related to the fulfillment of people's food produced agricultural development. Hanafie (2010) sees an error indication in agriculture and rural development are due to: 1) the legal uncertainty of land ownership; 2) vagueness and indecision of the implementation of the spatial plan by the government; 3) conversion of arable land or wetland into non-agricultural functions; 4) deforestation; and 5) pollution of land, water and air as a result of the application of unintegrated agricultural technologies. Ministry of Agriculture (2014) formulated seven issues in agricultural development, namely: 1) conversion and a narrow land ownership causes the difficulty of farmers access to abandoned land/forests; 2) weak of seeding system and seed distribution; 3) high damage irrigation, high cost of production and transportation; 4) limited human resources both in quantity and quality; 5) the difficulty of farmers to access capital loans; 6) the weak of farmers institutional capacities and religious institutions; and 7) still using undeveloped production technology. Besides that, poverty and the inaccurate agricultural technology application in the community could potentially harm the natural resources and the environment. Emotional and spiritual intelligence pesantren community provides effective contribution to pro-social behavior (Sabiq & Djalali 2012). Pesantren are among the changes that occur in the community, so that its role as an agent of transformation can be felt by the community in real.

To realize such pesantren, based on SAST result then pesantren minimumly should improve matters related to the definite plan (booster) to strengthen its capacity and also to anticipate obstacles in facing the challenges. The strategy that is encouraging includes in three things. First, having a progressive prominent leader, who is not only becoming leader, but also the manager. Ochugudu *et al*. (2013) states that the success of an organization depends on leadership and leadership styles.Yuliana (2015) concludes that pattern of transformational leadership with professionals organizational culture needs to be applied in local government organizational change. To get such leaders, it needs to do regeneration to find future leader that excellent characters and understand the problems of his pesantren. Second, pesantren should be able to institutionalize a value either individually or collectively. Efforts can be made by establishing rules of the game agreed and clearly, be role models both in thinking, speaking, acting and behaving in daily activity. Other efforts by working together of the value of spiritual, emotional and intellectual started from each individual, as well as the minimization of the boundary with the surrounding community. Third, having a powerful asset in the form of formal institutions, which is increase the capability of resources to meet the needs and demands of society. In addition, pesantren must respond to issues in society so

that it can play an active role in it, building partnership with related parties based on ukhuwah Islamiyah (islamic brotherhood), as well as adaptive to Islamic science and technology.

Anticipation strategy covers two things. First, the changes are well managed. Attempts were made to improve the ability to organize them selft, strengthen gathering to familiarize sensitivity to others and the environment, has a decisive paradigm, as well as plan changes within clear framework and structure. Second, having orientation on green growth. The orientation can be executed with mutually agreed commitments, improving innovation capabilities, obeying regulations, and embracing frugal lifestyles.

Implication

Pesantren changes is a necessity that is interpreted as a driver of the increasing multiple roles of food sustainable development. Overall change in pesantren with a strategy of transformation is done to encourage the success and the anticipation of the existing problems. The strategy has implications for the activities of pesantren and policy stakeholders, so that the development process runs properly and advantageous. Pesantren should begin selft empowering by holding on strong spiritual value in food needs. Furthermore, the implications of the transformation of pesantren for the government is synergy food sustaibility policy with the pesantren activities and the parties concerned.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

(1) Pesantren has human resources, natural resources, management, infrastructure and facilities, interlinked norms and traditions and becoming asset to start transformation in the management of natural resources and environment that contributes to the food sustainability.

(2) Pesantren perform complex changes gradually and continuously with retaining Islamic values and traditions. The transformation process of sampling pesanten applies 4R concept that is at reframe (concept and mindset shift) and renew (organizational development) to achieve the goal.

(3) The strategies to promote pesantren transformation cycle in achieving food sustainability are: their pesantren's central leaders/figure (leadership); pesantren management for instituting values individually and collectively; having strong assets. Strategies to be anticipate obstacles including well-managed of change and economyc orientation on green growth.

Recommendations

Considering the pesantren transformation process is very complex and dynamic, further partnership research model is needed to be done involving all parties, especially those who are managing natural resources and agriculture.

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