Effectiveness of Environmental Leadership Indicators Based on Local Wisdom in Development Horticultural Agriculture in Ngada - Indonesia

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ABSTRACT
This research delves into the pivotal role of farmer groups in driving the development of horticultural agriculture in Ngada Regency, Flores, Indonesia, under the leadership of their respective group chairmen who adopt an environmental leadership approach rooted in local wisdom, recognizing its significance in fostering effective agricultural development. Employing an interpretive phenomenological qualitative research approach, the study unravels the intricate dynamics of environmental leadership by delving into the lived experiences and perceptions of participants. Data collection involves diverse methods including observations, in-depth interviews, and focus group discussions (FGD) within horticultural farmer groups, highlighting nuances of their organizational structure and practices. Findings elucidate a spectrum of indicators emblematic of effective environmental leadership within the context of agricultural development, such as possessing an ecological vision, adeptness in motivating others, exemplifying leadership through personal conduct, effective communication skills, and a steadfast commitment to goal attainment, underscoring the interconnectedness between local wisdom, ecological stewardship, and leadership efficacy.

Keywords: Ecological Vision, Motivation, Example, Effective Communication, Goal-Oriented.

INTRODUCTION
The development of horticultural agriculture in Ngada Regency is one of the poverty alleviation strategies. This is stated in Ngada Government Regulation Number 16 of 2018: "Efforts to overcome poverty are developed and implemented through the Food Security Improvement Program, Dry Land Agricultural System Development Activities through the Horticultural Agricultural Management System (Sympathic)" (Soliwoa, 2018). This program is implemented in horticultural farmer groups.

The group approach is a strategic way to increase the efficiency and effectiveness of horticultural agricultural development (Sunarti, 2019). This approach is in accordance with the nature of Ngada society, namely a collective society (Cole, 2004; 2008), thus allowing for effective leadership. According to Akiyama et al. (2013), the effectiveness of environmental leadership is highly dependent on organizational culture and environmental context.

Indicators of the effectiveness of environmental leadership based on local wisdom are things that show the effectiveness of that leadership. Effectiveness is now defined by Emerson and Handayaninggrat (Rini, 2021) as "measurement in the sense of achieving specified goals". According to Vardiman et al. (2006), effective leadership is the basis for determining the performance and growth of an organization or group, such as farmer groups. Edwin A. Locke (Soliha & Hersugondo, 2008) mentions four indicators of leadership effectiveness, namely 1) motives and characteristics; 2) Knowledge, Skills and Abilities (KSA); 3) vision; and 4) implementation of the vision. Utama’s research (Maylina & Amanah, 2019) reveals that the leadership effectiveness of a farmer group is determined by three indicators, namely the role of the group leader, leadership behavior, and leadership style. According to Christensen Jr. (2012), in environmental leadership, the most effective environmental leaders are those who have a clear vision of what they want to achieve.

According to Vaculik et al. (2014), leadership effectiveness can be measured using various criteria. Sari (2010) explains that "leadership effectiveness can be measured using benchmarks that are appropriate to the nature and nature of the group being led." According to Sethuraman & Suresh (2014), indicators of environmental leadership effectiveness are determined by their followers, or it is the community that determines who is led because they are the subjects who accept or reject the leader. The Local Wisdom-Based on Environmental Leadership Effectiveness Indicator is a measure used to assess how effective leadership is in implementing local wisdom-based environmentally friendly policies.

The above phenomenon inspired the researcher to conduct this research. The formulation of the research problem is as follows: What are the indicators of the effectiveness of environmental leadership based on local wisdom in the development of horticultural agriculture in Ngada Regency - Flores - Indonesia? The aim of this research is to describe indicators of the
Effectiveness of local wisdom based on environmental leadership in the development of horticultural agriculture.

RESEARCH METHODS

This research is qualitative research with an interpretive phenomenological approach. The phenomenological research approach aims to understand participants' experiences of the phenomena they experience (Creswell, 2015). This phenomenon is described and interpreted to find its meaning (Creswell, 2015). The phenomenon that is the object of this research is an indicator of effective environmental leadership based on local wisdom in developing horticultural agriculture.

This research was conducted in Ngada Regency - Flores - Indonesia in November 2022 - January 2023. The research sample was selected using a purposive sampling technique. Purposive sampling is the deliberate identification of participants according to the researcher's needs (Sugiyono, 2014). The farmers who participated were selected from 6 (six) farmer groups. The conditions for selecting participants from farmer group members are to participate in sustainable horticultural agricultural development activities actively and have a proven sustainable ecological vision through the use of organic fertilizers and pesticides.

Data collection was carried out through observation and in-depth interviews as well as focus group discussions (FGD). Testing the validity of the data in this research was carried out using triangulation techniques, namely data triangulation and technical triangulation (Sugiyono, 2014).

In phenomenological research, data analysis after research is a continuation of data analysis activities carried out in the field (Moleong, 2017). Data analysis aims to determine the meaning or understanding of participants regarding the phenomena they experience (Creswell, 2015). This research uses interpretative phenomenological analysis (Bungin, 2015; Alase, 2017), namely examining and interpreting participants' experiences. The phenomenological analysis carried out in this research, as stated by Moustakas, (Creswell, 2015) is to identify important statements, then construct units of meaning. Statements that have a unit of meaning are grouped into the same theme; then a description and textual structure are created. In the final stage of analysis, researchers look at the relationships between concepts using the theories that are the basis of this research, to answer the objectives of this research.

RESULTS AND DISCUSSION

Indicators of environmental leadership effectiveness

Indicators are a description of the basic competencies (Hikmaturrasyidah, et al., 2022), namely knowledge, skills and behavior (Dessler, 2017; Sae-Lim, 2019). According to expert
sources and participants in this research explained that the effectiveness of a group leader's environmental leadership is measured by the following indicators: 1) having an ecological vision, 2) the ability to motivate others, 3) the ability to set an example, 4) the ability to communicate effectively and 5) goal-oriented. Those five indicators are described as follows:

**Have an ecological vision**

Vision is an important aspect that influences leadership effectiveness. Vision is understood as a picture or dream, ideals, values, future and road map that must be followed to achieve the goal. According to expert sources, an environmental leader must have a vision which he calls the *dua tey nuka ne'e* principle (*dua* means going to the fields to work; *tey* means finding; *nuka* means going to the village, returning home; *ne'e* means being). This principle basically means hard work (HM, interview, March 3rd, 2023). This principle states that farmers must earn a living as farmers from the results of their work in the fields. Farmers go to the fields and work hard to find food or earn a living, thus when they return to their village or home, they take the results of their hard work with them to support their families. A farmer must support his family from agricultural products.

In the Papa Wiu Farmer Group FGD (February 28th, 2023) it was stated that an effective leadership process in a farmer group occurs if there is a common vision between the leader and group members, namely the members understand the leader's vision and have the same vision, so that they can collaborate and be motivated to further develop horticulture. Participants realized that the farmer group they were part of was not a farmer group founded with a vision and mission that had been formulated regularly, but rather a farmer group vision that was formed through a modeling process. MR, chairman of the Pado Sama farmer group (Interview, February 27th, 2023), explained from his experience that the effectiveness of environmental leadership based on local wisdom is determined by the leader's own vision, which is then communicated and explained to members to become a shared vision.

These results confirm Christensen Jr.'s (2012) opinion, who said that the most effective environmental leaders are those who have a clear vision of what they want to achieve. Vision is the key (Soliha & Hersugondo, 2008) that determines the effectiveness of environmental leadership. Vision is not an end goal, but a path to a goal (Christensen Jr., 2012). In environmental leadership based on local wisdom, a farmer's vision must be built on the basis of personal awareness of his work calling as a farmer who remains connected to nature (Egri & Herman, 2000). In this case, an environmental leader must have self-management skills (Aznuriyandi, et al., 2014).

For the Ngada people, the choice to live as farmers is a cosmic attitude and ecological responsibility (Baghi, 2023) to protect the environment for the sustainability of agriculture and human life. In Ngada philosophy, "land is a symbol of fertility, and fertility begins from the womb
of Mother Earth” (Rato, 2015, p. 343). This means that caring for the land is the same as maintaining fertility in Mother Earth's womb so that the land continues to produce abundant fruit. This action shows the uniqueness of an environmental leader who is based on local wisdom and has a vision of environmental sustainability (Boiral, et al., 2014; Egri & Herman, 2000; Gallagher, 2012), by thinking forward (Nicolaides & Duho, 2019) and combining ecocentric values with the mission of environmental sustainability as the main element of their actions (Egri & Herman, 2000). The ecological vision of agricultural environmental leaders is an invitation to their followers to develop themselves and their abilities and responsibilities towards the sustainability of the food chain (Blok, 2018).

An ecological vision is understood, embraced, and becomes the strength of a collective movement (D'souza, 2009) when leaders are able to communicate it well and clearly to their members (ChristensenJr, 2012). This means that an environmental leader must have good and effective communication competence (Aznuriyandi, et al., 2014). The findings of this research show that leaders communicate their ecological vision through the personal attitude of leaders who truly respect nature (Egri & Herman, 2000), thereby becoming an example for their members in achieving this vision.

**Ability to motivate others**

The ability to influence other people is achieved through providing verbal motivation and especially through real examples of horticultural agricultural development activities. According to farmer group leaders; FDh (Interview, January 14th 2023), YM (Interview, January 20th 2023), AN (Interview, January 27th 2023), MR and FD (Interview, February 27th 2023), this ability is based on strong personal motivation, to understand clearly clear current problems and their sustainability. By having strong personal motivation, a leader is able to motivate his followers or members and even other people. Leaders must start from themselves. Environmental leaders like this are generally visionary leaders (Flannery & May, 1994). They are able to motivate their members to achieve an ecological vision and are able to solve problems spatially and temporally according to the environment and culture depending on the context (Akiyama, et al., 2013).

Aznuriyandi et al. (2014) explained that the ability to influence other people is reflected in the ability to motivate followers. Environmental leaders who have strong personal motivation will be able to motivate their followers to behave ethically towards the environment (Akiyama, et al., 2013). As motivators, leaders contribute to developing the skills of their members (Maxwell, 2016a), increasing their self-esteem (Castelli, 2008) and changing their mindset so they can achieve the expected goals.

The ability of a leader to influence other people (Aznuriyandi, et al., 2014) is really needed by members of farmer groups in rural areas who are used to developing agriculture according to traditions passed down from generation to generation (Rosyida, et al., 2021). They need to
continue to be supported and motivated to apply modern agricultural techniques in the development of horticultural agriculture.

**Ability to give examples**

Leading by example is the most effective way to lead farmers. According to the heads of farmer groups involved in this research, the ability to lead by example is the most practical and effective thing that can be achieved through the leadership of group members. According to MR, head of the Pado Sama farmer group (interview, February 27th, 2023), who accompanies farmers with various levels of education, a leader must be able to transmit his knowledge through practical examples such as growing vegetables. This is closely related to the learning philosophy of the Ngada people, namely *tey zia ghe* (first look at what the leader does). In connection with this philosophy, a leader is selected based on his ability to set an example in the development of horticultural agriculture. This was confirmed by the heads of farmer groups; YM, Chair of the Sinar Kasih Farmers Group (Interview, January 19th, 2023), AN, Chair of the Sinar Akhir Farmers Group (Interview, January 27th, 2023), FD, Chair of the Tawu Pupuk Group (Interview, February 27th 2023) and RDh, head of the Papa farmers group Wiu (interview, March 2nd, 2023). This was confirmed by the FGD participants. This fact confirms the research results of Marchand et al. (2010) that farmers naturally carry out modeling processes in their agricultural activities.

According to expert sources, a leader's ability to set an example is the role of leadership culture which is reflected in local wisdom such as: *dia ngaia ja’i pera wai* (dancing in front to set an example) (Interview, March 3rd, 2023). EM, a member of the Sinar Late farmer group (interviewed, January 27th, 2023), expressed his experience with the leader's ability to set an example, saying that giving an example is a very effective way of teaching because it is easy to remember and has an immediate effect.

Kouzes & Posner’s (2003) research shows that leadership, including effective environmental leadership, is exemplary leadership that leads by example. Exemplary behavior of a leader means that the leader "displays traits, actions and behavior that are worthy of emulation" (Wibawa, et al., 2022). A leader who can lead by example is a leader whose personality matches his words and actions and is a positive person. In this way, followers or members definitely act like leaders and fulfill their duties. The ability to be a role model is a skill in influencing members and is a leadership competency (Aznuriyandi, et al., 2014).

**Effective communication skills**

Effective leadership is also measured by a leader’s ability to communicate with group members and the ability to share knowledge with members or other people. Effective leaders know how to build good relationships and communication with their members. Effective leaders will treat their members like friends and even family. Good relationships and communication
enable effective environmental leadership. The participants said that their relationship with their leaders was always good, not only in the agricultural sector but also in other fields” (VG, YB, interview, January 14th, 2023). Other participants (BS, AR and EK, interview, February 27th, 2023) said that their relationship with the group leader was very good, they trusted each other and fought together. If there are deficiencies or misunderstandings in the group, they complement and improve each other. This happens due to good communication.

The experiences of the participants above show the importance of effective communication and interpersonal skills (Aznuriyandi, et al., 2014) that an environmental leader has. These two competencies really help a leader understand his members so they can fight together to achieve the desired goals (Sinha, 2016). Good and effective communication encourages relationships that are mutually understanding, full of warmth (Sinha, 2016) and mutual trust. Communication skills and interpersonal skills are skills that are really needed by a leader (Sae-Lim, 2019).

According to Muda (2023), communication and interpersonal competence in local traditions are known as four (4) M's of interpersonal relations, namely: first M mesè which means "greeting"; The second M is mai which means come closer to me. This invitation creates familiarity and friendliness so that other people become brothers. The third M is modhe which means good, rich, healthy and healed. Modhe was born from the experience of a gathering where everyone, invited and uninvited, felt welcome. The fourth M is moku which means to sit. Once both parties feel they accept each other, they will sit together in a brotherly atmosphere and exchange stories.

Environmental leaders who are rooted in this cultural base certainly understand the importance of communication and interpersonal skills when dealing with members and the surrounding community. Because leadership is a communication relationship between leaders and followers, leaders and members. Without harmonious communication, the environmental leadership process will not be effective and, of course, will encounter obstacles.

Goal oriented

The experience of group leaders and participants shows that the effectiveness of environmental leadership can be measured by the leader’s choice of attitude to fight for the goals they want to achieve together. According to YM, Chairman of the Sinar Kasih Farmers Group (Interview, January 20th, 2023) a leader must: 1) have strong personal motivation to be able to influence and motivate members or other farmers, 2) provide practical examples (Kouzes & Posner, 2011, 2016) and 3) invite members or other farmers who want to learn to focus on one type of work and focus on the goals they want to achieve (Aznuriyandi et al., 2014).

According to FGD participants (Nuamuzi, January 15th, 2023; Naidewa, January 20th, 2023; Late, January 27th, 2023; Watujaji, February 27th, 2023; Malanuza, February 28th, 2023), many
members of farmer groups find that it is difficult to focus on one job and one goal. In regional language, this is expressed with the expression *ramo gao, which means all the work is done at almost the same time, so* the results are not optimal. Therefore, the role of the leader is to invite members through clear examples (Kouzes & Posner, 2003, 2011, 2016), to focus on the goals to be achieved. AN, head of the Sinar Late group, and EM, member of the Sinar Late group (interview, January 27th, 2023), emphasized that the attitude of leaders who continue to encourage their members to remain goal-oriented, generally brings good results.

In this context, a leader's planning skills (Aznuriyandi, et al., 2014) are very important in order to be able to lead a group in such a way that the goals to be achieved are achieved. Leaders must have appropriate knowledge, skills and leadership qualities (Soliha & Hersugondo, 2008). Expertise is needed to combine resource capabilities with management knowledge (Akiyama, et al., 2013) to achieve goals. In order to carry out leadership duties well, leaders must have sufficient knowledge and a willingness to continue learning. Leaders who stop learning mean they stop leading (Maxwell, 2016b).

According to Akiyama et al. (2013), comprehensive insight or knowledge is an important element in environmental leadership. In the environmental leadership process, an open-minded and knowledgeable leader knows the existing goals and potential and takes appropriate action (Maxwell, 2016b) to achieve the expected goals.

**CONCLUSION**

The research findings delineate five key indicators crucial for assessing the efficacy of Ngada local wisdom-based environmental leadership in advancing horticultural agriculture development, encompassing: 1) possessing an ecological vision, 2) adeptness in motivating others, 3) exemplifying leadership, 4) effective communication, and 5) goal orientation. These indicators, predominantly utilized by horticultural farmers and their respective groups, serve as benchmarks to evaluate the environmental leadership prowess of their leaders. Furthermore, these indicators underscore the foundational competencies requisite for leaders or group chairpersons engaging in the environmental leadership process rooted in local wisdom for horticultural agriculture development. This implies that the effectiveness of environmental leadership hinges on leaders' aptitude to enact the necessary competencies intrinsic to local wisdom-based environmental leadership. Moreover, the research underscores the multifaceted competencies imperative for leaders or group chairpersons to efficaciously execute environmental leadership rooted in local wisdom, including functional competencies such as leadership, communication, self-management, technical proficiency, planning, influence, interpersonal skills, critical thinking, organizational acumen, and human resource management. Moving forward, it is imperative to integrate these findings into policies and programs aimed at fostering the development of horticultural agriculture by nurturing leaders with a robust skill set in local wisdom-based environmental leadership, thereby ensuring sustainable agricultural practices and community resilience.
BIBLIOGRAPHY


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