

# CO-CULTURAL REFLECTIONS ON THE (UN)SUSTAINABILITY OF A DECENTRALIZED WASTEWATER TREATMENT SYSTEM FOR THE URBAN POOR IN PETOJO UTARA, JAKARTA

Tuti WIDIASTUTI<sup>1</sup>

**Abstract:** Clean water is a basic human need whose existence is getting smaller so that various water management efforts are needed, including from wastewater. DEWATS stands for is a decentralized wastewater treatment system. *Three aspects must be considered when planning health facility provisions in urban areas, specifically: physical aspects related to the quality of the physical facilities, like the maintenance of the water supply and sanitation activities; social and institutional aspects related to the ability and willingness of the community to carry out the operations and maintenance of water supply and sanitation; and health and environmental aspects.*

**Key words:** *co-cultural, decentralized wastewater treatment system, sustainable development goals, community-based management, urban poor.*

## 1. Introduction

The importance of clean water and sanitation in a sustainable development context was elaborated in the Sustainable Development Goals (SDGs), as the sixth goal: Ensure availability and sustainable management of water and sanitation for all. The Government of Indonesia has even specifically enacted Presidential Regulation No. 59 of 2017 (PERPRES) about the Implementation of the Achievement of Sustainable Development Goals No. 6, ensuring the availability and management of drinking water and sanitation for all (BPK, 2017).

The development and improvement of water and sanitation will indirectly reduce poverty. Reducing poverty means people have an allocation of income to rebuild and improve access to sanitation and drinking water (Rizki & Saleh, 2007). The improved water supplies encourage the poor in slum areas to increase their income, as they can reallocate time spent accessing water to productive economic activities (Aiga & Umenai, 2002).

---

<sup>1</sup> Bakrie University, [tuti.widiastuti@bakrie.ac.id](mailto:tuti.widiastuti@bakrie.ac.id).

A study by Travis Katz and his friends (Katz, Kihoon, & Sara, 2003) from UNDP – World Bank in 1998 clarified the meaning of needs response in theory and practice, and measured the influence of a responsive approach on the need for sustainability of built water facilities. The main findings of this study on the most influential factors are the ensuring continuity of clean water systems, including: 1) act responsively according to the needs that ensure sustainability. 2) The needs of the community at family level, who must determine development investment. 3) Training, community organisation, construction quality, and technology. 4) A responsive approach of needs requiring appropriate and credible financial policies trusted by the community.

Various poverty indicators that can be used to measure poverty. Indonesia uses poverty indicators consisting of a person's income ability meeting basic needs. The basic needs are clothing, food, housing, education, and health. Therefore, in Indonesia, when a person's income is not able to meet those needs, the person is categorised as poor. Bradshaw (2006, p. 4) saw poverty in its most general sense as the lack of necessities. Basic food, shelter, medical care, and safety are generally thought necessary based on shared values of human dignity. However, what is a necessity to one person is not uniformly a necessity to others. Individual weaknesses and cultural systems that support the sub-poverty culture are some of the causes of poverty. It becomes the key for the "sense of ownership" needed for an optimally run drinking water service system. Community management of drinking water does not require full cost recovery, but to ensure a sustainable service system, community contributions in the operation and maintenance of the drinking water infrastructure is needed (Evans & Appleton, 1993).

## **2. Co-Cultural Theory and Sustainability Indicators of Water and Sanitation Community Based Management**

Co-cultural theory, proposed by Mark Orbe, is a theoretical thought that explains the need for cultural equality. Mark Orbe and colleagues chose 'co-cultural' instead of 'subcultural', subordinate and other minority terminology because they wanted to show that no culture in any community is superior to other cultures. Co-cultural theory is based on the theoretical thought of the muted group and standpoint. The muted group theory explains that language gives its creators, and people within the same group as the creators, better conditions than to those from other groups, who must learn to use the language (West & Turner, 2007). The muted groups create their own language to compensate for their problems.

A phenomenological perspective that assumes the existence of an underrepresented group helped develop this theory. Underrepresented groups are marginalised groups. As a theory based on muted group theory and standpoint theory, co-cultural theory refers to the communication and interaction between underrepresented and dominant groups. The focus of co-cultural theory is to provide a framework in which co-cultural members negotiate efforts to voice their muted voice within the dominant community structure. There are two theoretical premises. First, members of the co-cultural group are marginalised within the dominant community structure. Second, members of the co-cultural group use certain communication styles to reach success when faced with an

oppressive dominant community structure. Generally, co-cultural members have one of three goals when interacting with members of the dominant group: assimilation (being a part of dominant culture), accommodation (attempting to allow members of the dominant group to accept co-cultural members), and separation (reject the possibility of bonding with members of the dominant group).

Co-cultural theory also presents three types of communication approaches explaining individual behaviours, namely non-assertive, assertive, and aggressive. The non-assertive approach tends to be non-confrontational and places the needs of others above one's own needs. The assertive approach tends to be more expressive and considers the needs of others and one's own needs. The aggressive approach tends to express oneself and often offends other groups. The aggressive approach individuals take control of other people's choices (Littlejohn & Foss, 2009).

*Communication Typology of Co-Cultural Group (Orbe, 1997)*

Table 1

<b>Communication Orientation</b>		Separation	Accommodation	Assimilation
	Non-assertive	Non-assertive Separation	Non-assertive Accommodation	Non-assertive Assimilation
	Assertive	Assertive Separation	Assertive Accommodation	Assertive Assimilation
	Aggressive	Aggressive Separation	Aggressive Accommodation	Aggressive Assimilation

There is a functional purpose when communication adapts between cultures. The use of persuasive strategy can lead to communication adaptation. When a situation supports one communicator or one more powerful communicator, other communicators have the burden to adapt. The more adaptive the behaviour of communicators, the more cultural beliefs exist (Gudykunst, 2002). The purpose of adapting is to ultimately gain comfort in an unfamiliar environment.

Several years may not be sufficient to prove the success or achievement of the objectives of intercultural adaptation and the effectiveness of communication between the groups. However, within a shorter period, the process of intercultural adaptation has been running, because every individual will adapt when dealing with an unfamiliar environment. Kim and Gudykunts (2003) explain that every individual naturally and universally has the process of adaptation. The most important thing in adaptation is the openness, strength, and positive thinking ability of the people in the local environment.

### 3. Method

The research method is qualitative research with an interpretative approach. Creswell (2009, p. 1) stated that qualitative research is a process of inquiry to understand social problems or human problems based on the creation of a complete holistic picture formed in words, reporting the informant's views in detail, and arranged in a natural setting.

RW 08 Petojo Utara, Jakarta has been selected as a research location with the consideration that the area is included in the category of urban poor. In addition, there are four programs of water and sanitation management in core of DEWATS program managed financially by NGOs from international institutions. Data was collected by in-depth interviews with informants directly related to the DEWATS program. The informants in this study consisted of the Chief of RW 08, the Chief of RT 02, and the Chief of RT 03 in Petojo Utara, Central Jakarta, who handled the DEWATS program, the community who received the program to explore various data in the field, and former staff of the DEWATS program. The number of informants selected is 21, because informants functionally have knowledge and activities associated with the program.

#### 4. Results and Discussion

##### 4.1. Assessment of the DEWATS Program Sustainability Indicators

Table 2 shows many changes that have occurred since the program was completed until the current condition. The institution formed at the end of the program has not been able to properly perform its duties. Institutional values inculcated during the execution of the program have not been visible until now. This indicates that the overall indicators of institutional sustainability can be assessed as not achieved.

Table 2

##### *Assessment of Facility's Management of Institution Aspect*

Indicators	Assessment	Field Notes
<b>There is an institution which organises clean water and sanitation.</b>	The facility's management institution has not been active.	<ul style="list-style-type: none"> <li>- The facility's management institution is established by the initiators of the program.</li> <li>- All programs came from international institution.</li> </ul>
<b>The institution consists of the local community who comes from any community.</b>	The institution will be active again after a meeting with the citizens.	<ul style="list-style-type: none"> <li>- The institution is held by the Chief of RW, temporarily.</li> <li>- The local leader has the authority to reshape the facility management agency.</li> </ul>
<b>An institution is a community institution in which the community could share their aspiration.</b>	The institution could not capture the community's aspiration well.	<ul style="list-style-type: none"> <li>- The community felt their aspiration is not fulfilled properly.</li> <li>- Communities from the lower-class with low education have difficulty participating as members in the facility management agency.</li> </ul>

Based on the presentation of Table 3, the six indicators in this aspect of financing are considered not achieved.

*Assessment of Financial Aspect*

Table 3

<b>Indicators</b>	<b>Assessment</b>	<b>Field Notes</b>
<b>An institution which organises finance.</b>	There is no special institution/unit that handles post-program finances.	The lower-class community is not involved in the management of financial institutions during the program and post-program.
<b>The determination of the fee contributions still lasts.</b>	There is no more monthly fee contribution for clean water and sanitation.	<ul style="list-style-type: none"> <li>- Collected fees contributions are only incidental.</li> <li>- If there is a required fund for repairing the MCK's equipment, then ask for the cash money of RW 08, RT 02, and RT 03.</li> </ul>
<b>Equity in fee contribution determination.</b>	The monthly fee contribution no longer exists for clean water and sanitation.	The lower-class community is excluded from the determination of fee contribution.
<b>Fee contribution payment by the community is going well.</b>	There are no provisions for the amount of money used for water and sanitation facilities.	<ul style="list-style-type: none"> <li>- The lower class community who uses water and sanitation facilities pay according to the habits in using public toilets, which is IDR 2,000 per one use.</li> <li>- Electricity to turn on the water machine picked up from a power pole belonging to the State Electricity Company for free—not paid.</li> </ul>
<b>Fiscal management institutions can be accountable and open to the public.</b>	There are no post-program financial records.	There is no reporting of the financial use of MCK facilities to the residents.
<b>Service from dues is used for operating and maintenance costs of clean water and sanitation facilities.</b>	An incidental fee contribution is used to pay for the cleaning service of the MCK.	<ul style="list-style-type: none"> <li>- Operational costs and maintenance of clean water and sanitation facilities requested from cash money RW 08, RT 02, RT 03.</li> <li>- They use boxes to collect fee contributions from MCK's users.</li> </ul>

Table 4 reveals community meetings held in RW 08 Petojo Utara they are usually attended by the core committee or public figures only. Therefore, it is still difficult to involve the community down to the family, and the assessment of the two indicators on the aspect of community participation is considered not met.

*Assessment of Community's Participation Aspect*

Table 4

Indicators	Assessment	Field Notes
<b>The community is present at activities involving citizens.</b>	There is no involvement of lower-class community groups in post-program activities.	Lower class communities are not involved in the program preparation, implementation, and post-program.
<b>Community involvement is carried out to the family level.</b>	The post-program does not involve all citizens.	From the beginning of the community meeting, participants' activities were dominated by the local leaders as the main figures of the program implementation.

Table 5 reveals the three things used as indicators on the technical aspects that are considered not fulfilled. Thus, the continuity of DEWATS Program activities in RW 08 Petojo Utara viewed from the technical aspects should be avowed as not good enough.

*Assessment of Technical/Technology Aspect*

Table 5

Indicators	Assessment	Field Notes
<b>The maintenance of the physical condition of building/water supply and sanitation.</b>	There is only 1 MCK cleaning officer.	Officers are only responsible for the cleanliness of MCK's facilities.
<b>A transfer of knowledge about the technical handling of clean water and sanitation facilities.</b>	Post-program knowledge transfer is inadequate.	<ul style="list-style-type: none"> <li>- There are no post-program professionals.</li> <li>- There is no person to ask for opinions and advice, particularly on the technical handling of bio gas facilities.</li> </ul>
<b>The adjustment of technology to the needs of the community.</b>	There are still no technological adjustments on the technical handling of clean water, sanitation, and bio gas facilities.	<ul style="list-style-type: none"> <li>- Bio gas technology is no longer used because of its location near the water closet, so people are reluctant to use it.</li> <li>- AirRahmat chlorine is no longer used; people switch to using refillable drinking water per gallon IDR 5,000.</li> </ul>

Environmental aspect is assessed through two indicators, namely: an effort to protect water and sanitation facilities and the change towards clean and healthy life behaviour in the community. Table 6 shows the two things used as indicators on this aspect; both are considered quite fulfilled.

*Assessment of Environmental Aspect*

Table 6

Indicators	Condition in The Field	Assessment
<b>An effort to protect the clean water and sanitation facility.</b>	There is still no effort to maintain cleanliness and maintenance of clean water and sanitation facilities.	<ul style="list-style-type: none"> <li>- Most people have excessive behaviour when using water.</li> <li>- The community is not concerned with the maintenance of equipment in the MCK facilities.</li> </ul>
<b>The change of clean and healthy life behaviour in the community.</b>	There are behaviour changes in using the sanitation facility.	<ul style="list-style-type: none"> <li>- People are used to using the water closet.</li> <li>- People still throw garbage into the river.</li> </ul>

#### **4.2. Typology of Co-Cultural Communication in an Intercultural Adaptation**

People who are the beneficiaries of water and sanitation programs tend to be accommodation-oriented, through non-assertive approaches, assertive, or aggressive. The best choice of this strategy is influenced by contextual situations, experiences, abilities, and considerations of sacrifice and obtained rewards. This typology is used when members of co-cultural groups feel no desire to attract attention in the process of adjusting, especially when facing discrimination from dominant groups. This typology is primarily applied when the informants did not want a negative impact, like losing the advantage of the benefits of water and sanitation facilities.

Three orientations of communication in the co-cultural theory explain how members of co-cultural groups tend to assimilate, accommodate, or separate when interacting with the dominant group. Assimilation orientation tries to get rid of all cultural differences, and thus enter the dominant culture. The orientation of accommodation insists that the rules of society really can be changed to accommodate the life experiences of each cultural group. The separation orientation rejects the idea of forming the same bond with the dominant group and the group maintaining a separate group identity outside the dominant structure (Orbe, 1997; Littlejohn & Foss, 2009). Communication orientation also influenced local culture, and, therefore became a material consideration before choosing an approach. Not all cultures accept the assertive or aggressive approaches (Orbe, 1997).

Non-assertive accommodation emphasises melting into the dominant culture while demanding that dominant cultural groups admit the existence of a co-cultural group. Assertive accommodation seeks to balance between the interests of the co-cultural group members and the dominant culture. Aggressive accommodation involves the inclusion of members of the co-cultural group in the structure of the dominant cultural group, and works in the dominant culture, achieving notable changes like equal rights for all members' cultural groups.

The word 'culture' in the subculture refers to an entire way of life understood by its members. The word 'sub' has a special connotative meaning, different from dominant or mainstream culture. Symbolically expressed is the form of style creation and not just opposition to hegemony or a way out of a social tension. The subculture further

becomes part of the space for its adherents to form an identity giving autonomy in a social order of an industrial community. Group feel aggrieved, because the structural condition of the creation is very instrumental in causing this condition, as the limitations on enjoying life require cultural redefinition or becoming a subculture to feel more comfortable.

Co-culture or micro culture refers to groups identified by people who have the values, beliefs, and behaviours of the dominant culture (macro culture), history, verbal, and non-verbal use. In Indonesia, one of them is the community from the low social level. Like other sub-cultures, these poor have behaviours or cultures that go against the dominant culture. Dissatisfaction and disagreement with the prevailing social and economic conditions means they are present, and have different conditions for interacting with the dominant culture. Another example will be taken from Hoe's research (2011, p. 31), that the contention that aesthetic judgments lack the seriousness of moral prescriptions implies that aesthetic reasons for environmental protection can never be as important as practical reasons directed at environmental preservation, provided that such practical reasons are presented in the form of moral reasons or involve moral considerations.

Within the field context, most keywords appear, and the recognised influential interaction is the discrimination of the urban poor (neighbourhood and dominant culture). In her paper, Sharmeen (2013) talked about the identity formation of an ethnic group – the Munda of Bangladesh. However, the co-cultural theory discusses the typology of communication and ignores heterogeneity within the culture, meaning this study requires further development. The context of the micro situation is closely related to experience factors (field of experiences) that are very personal and therefore differ from one informant to another.

Accommodation is an intercultural adaptation process undertaken by minority groups through their specific communication strategies. Social interaction is done through cultural approaches like identity and ideology negotiation, verbal language, and non-verbal (appearance, facial expressions, paralanguage, proxemics, etc.). The co-cultural provides an explanation for the strategies that the community uses to negotiate cultures so that their "voices" can be heard by the dominant culture. This way the community can continue to survive, and can provide an example for other co-culture groups to survive in a dominant community.

## **5. Conclusion**

One other important finding of this study is that the program rules play a key role; the design and implementation have direct impact on the sustainability of the program. Regulations like the determination of the prerequisites of the target community criteria, the role of community in making decisions, financial policies, types of services, and the choice of technology are the basic framework and values that determine the success of a program. This study also shows that facilities management should ensure the ability of the target group to accept and interpret the program according to the group's culture.



The DEWATS program is one of the expected outputs for the improvement of institutions capacity and communities' and the sustainability of the system facilities built. A few things affect the sustainability of the water supply and sanitation activities in the urban poor. Yet, there are still many problems causing the difficulty of attaining the sustainability of DEWATS program. Informants predominantly choose the communication orientation and the same accommodation. They tend to hope to establish the harmonious interaction with dominant groups, but do not want to eliminate their identity as a subculture in the big city. In addition, almost all informants in this study have never implemented the non-assertive assimilation typology of communication, which are the inner efforts of the informant adapted and accepted by the group dominant culture. It is not easy to draw the communication typology alongside the personal experiences and very heterogeneous backgrounds of the informants, although there are similar macro-context situations, including under pressed frames, particularly in urban poverty.

The existing conditions in the field indicate the values that the program has implanted at implementation time are not entirely continuous once the program has ended. To actualize the sustainability of a program, it is necessary to provide understanding through adequate interaction, training, and counselling, both when the program is on-going and to prepare the institution and the community post-program. Involving the community in every stage of the activity encourages people's awareness of the conditions and issues related to clean water and sanitation in their neighbourhood. They can then jointly develop action plans for improvement, according to their needs as an independent co-cultural group.

## References

- Aiga, H., & Umenai, T. (2002). Impact of Improvement of Water Supply on Household Economy in a Squatter Area of Manila. *Social Science and Medicine*, 55(4), 627-641, [https://doi.org/10.1016/S0277-9536\(01\)00192-7](https://doi.org/10.1016/S0277-9536(01)00192-7).
- Bradshaw, T. K. (February 2006). Theories of Poverty and Anti-Poverty Programs in Community Development. *RPRC Working Paper* No. 06-05. Retrieved from <http://www.rupri.org/Forms/WP06-05.pdf>.
- Badan Pemeriksa Keuangan [BPK or Audit Board of the Republic of Indonesia]. (2017). *Peraturan Presiden (PERPRES) No. 59 tentang Pelaksanaan Pencapaian Tujuan Pembangunan Berkelanjutan* [Presidential Regulation No. 59 of 2017 (PERPRES) about the Implementation of the Achievement of Sustainable Development Goals]. Retrieved from <https://peraturan.bpk.go.id/Home/Details/72974/perpres-no-59-tahun-2017>.
- Creswell, J. W. (2007). *Research design, Qualitative and Quantitative Approaches*. Teller Road: Sage Publications, Inc.
- Evans, P., & Appleton, B. (1993). *Community Management Today the Role of Communities in the Management of Improved Water Supply Systems*. Delft: IRC International Water and Sanitation Centre.
- Gudykunst, W. B. (2002). *Cross-Cultural and Intercultural Communication*. Thousand Oaks: Sage Publications.

- Hoe, L. C. (2011). Moral Versus Aesthetic Approaches: The Relevance of Environmental Aesthetics. *Kemanusiaan the Asian Journal of Humanities*, 18(1), 15-33. Retrieved from <http://web.usm.my/kajh/vol%2018.1.2011/KAJH%2018.1.2011%202.pdf>.
- Katz, T., Lee, K., & Sara, J. (2003). *Membangun Sarana Air Bersih yang Berkesinambungan: Rekomendasi dari Sebuah Penelitian Global* [Building Sustainable Clean Water Facilities: Recommendations from a Global Research]. UNDP - World Bank Water and Sanitation Program.
- Kim, Y. Y., & Gudykunts, W. B. (2003). *Communicating with Stranger. An Approach to Intercultural Communication*, 4<sup>th</sup> Edition. USA: Mc-Graw Hill Companies, Inc.
- Littlejohn, S.W., & Foss, K.A. (2009). *Encyclopedia of Communication Theory*. Thousand Oaks, California: Sage Publications.
- Orbe, M. (1997). *Constructing Co-Cultural Theory: An Explication of Culture, Power, and Communication*. Thousand Oaks, California: Sage Publications.
- Rizki, B., & Saleh, S. (2007). Keterkaitan Akses Sanitasi dan Tingkat Kemiskinan: Studi Kasus di Propinsi Jawa Tengah [Linkages to Sanitation Access and Poverty Levels: A Case Study in Central Java Province]. *Jurnal Ekonomi Pembangunan* [Journal of Development Economics], 12(3), 223-233. Retrieved from <https://media.neliti.com/media/publications/26442-EN-keterkaitan-akses-sanitasi-dan-tingkat-kemiskinan-studi-kasus-di-propinsi-jawa-t.pdf>.
- Sharmeen, S. (2013). Politics of Development and Articulation of Indigenous Identity: The Formation of Munda Identity in Barind, Bangladesh. *International Journal of Asia Pacific Studies*, 9(1), 141-160. Retrieved from <http://ijaps.usm.my/wp-content/uploads/2013/01/Art6-Sharmeen.pdf>.
- West, R., & Turner, L. H. (2007). *Introducing Communication Theory, Analysis, and Application*. New York: McGraw-Hill.