

# Education for Sustainable Development (ESD) Community-Based Practices of Teacher Education Institutions (TEIs) in Caraga Region

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**Abstract:** *Balancing the act of development which implies adapting to changes while respecting the values of conservation, sufficiency, modernization, and solidarity is the heart of Education for Sustainable Development (ESD). This study aims to explore ESD community-based practices and the level of Integration among selected Teacher Education Institutions (TEIs) in the Caraga Region. Descriptive survey methods both quantitative and qualitative analysis were employed. Document analysis, interviews, direct observation, participant observation, and focus group discussions were used during the data collection of the study. Results show that the activities and programs initiated by teacher education have an ESD composition and their integration to the teacher education was on the level of responding and limited on engaging and enabling. Most of them are non- embedding, non- sustaining, and non-transforming. The result of the observations and focus group discussion from the research participants reveals that Caraga Region teacher education higher institutions are not starting from anything. Best practices such as Agribusiness based education for Mamanwas tribes as ESD practice; Trash to cash winning scheme for economic waste management; Extension services a jump start for ESD. These localized initiated practices for ESD can be a strong entry point for ESD. Higher Institutions in Caraga Region may be ESD certificated through benchmarking to local and international schools as their model for ESD implementations.*

**Keywords:** Community-based ESD, Education for Sustainable Development (ESD), ESD Best Practices, locally initiated ESD Stories

## 1. INTRODUCTION

The idea of sustainable development is globally discussed and became the flagship program of UNESCO in 1992. Providing the needs of the present generations without compromising the urgency of the next compeers was the very heart of education sustainable development. The most essential part of sustainable development is putting into action the acquired knowledge, skills, and experiences into something valuable to learners' life considering the veracity of environment, capability in economic and the productivity in all social communities, not just today but for the future endeavors.

This pursuit is the fundamentals for excellence in education a key enabler for SDGs (Raborar, 2017) Every learner should comprehend their great contributions in education for sustainable developments learning from a global perspective and working in the local setting aiming for greater heights of success. (Adomßent et al., 2014)

Kopnina (2012) discuss that the impetus for ESD is solving the ongoing universal challenges that have been encountered such as almost decade like clean air and climate change, clean water and accessibility, environmental protection, poverty, and hunger, these concerns urgently require a shift in everyone's mindset helping one another making every practice culture and its norms a lifestyle that the future deserves together with adopting new skills sets, acquiring new knowledge and strengthening values and attitude are necessary tools for teachers as front liners and

makers of the next generations building a more sustainable community. Despite the unending campaign, ongoing awareness, and widespread education, implementation, and success regarding sustainable development SD for long years, the Commission and Higher Education CHED requires more research-based- shreds of evidence from higher education institutions that ESD contributes a lot to quality learning experiences so that the top leadership in the academe can craft policies integrating ESD purposively stimulate critical thinking minds and encourages active participation in all inter-agency in building a sustainable society. However, there was no clear presentation of the study particular on how ESD integrated with the higher education institutions despite the demand that higher education programs and activities are required to promote sustainable development (Sterling, 2009).

More research is necessary to validate and justify that ESD is a journey gearing to quality and viable kind of life. More reliable evidence is needed to support the claim that ESD is related to the practical application of knowledge as well as increasing people's abilities to support sustainable development, (Jelas & Mohd Ali, 2014) Hence, the crafting and defining of essential learning objectives, learning contents, using appropriate pedagogies resulting to an empowered learner, engaged faculty members, sustained partnered community in the entire institutional process are the top concern of educational systems. Embracing sustainability

principles in the educational management structures, planned goals, and achieved objectives more extraordinarily and creatively using effective educational programs and strategies are deemed required (Bunk, 2018) Thus, this study is designed to determine their ESD practices as to social, economic, and environment. This would be an exciting journey knowing that there was no study on ESD here in Caraga.

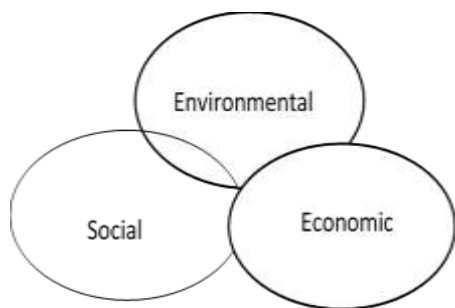
Considering the design of this study, two research questions were formulated:

1. What are ESD community-based practices?
2. What is the level of ESD integration in the Caraga Region?

## 2. RELATED WORKS

Understanding ESD and its Framework

Figure 1. ESD Framework



The heart of sustainable development is represented in the well-adjusted combination of these scaffolding pillars of society, environment, and economics with the right understanding of the concept of development. A country's development is not just viewed as an economic journey (von Frantzius, 2004) It is powerfully established between different factors such as well-defined concept, deepened research inquiry, developed skills and attitudes until a sustainable future is achieved. Progress is always attached to economic, social, and environmental portraits and public reform that are always in alignment with the principles and governing laws as standards with clear direction and understanding of the plan of actions and collaborative effort of the community people (Kopnina, 2014)

Furthermore, this social composition of education for sustainable development is designed to overcome and resolve diverse social problems such as scarcity of financial resources, joblessness, illness, social rejection, hunger, violence, injustice, and many more. This creates a major negative impact not just for the present but also for the future heirs. This scenario creates mental force and calls for a creative plan of actions with encouraging full support of different working agencies, local and international, in doing the process of implementation of sustainable social development (Anghel et al., 2014)

According to Low & Gleeson, (1998) educating for a sustainable prospect will not just focus on humans but also on the surroundings, considering the equal sharing of resources and responsibilities among the populace. On the other hand, in every human development environmental protection from human activities is given topmost priority among individuals and communities.

### Principles of Community-Based ESD

The initiatives, may it be political and economic, are facilitated by the formal education stakeholders in ESD are evident, yet the voices from non-formal or informal education were seldom heard (Noguchi & Sasaki, 2018) Dynamic citizenship is essential in engaging in community-based learning, for people will directly respond to the needs and challenges in life by acquiring some new sets of skills and knowledge for the future needs. Hence, ESD advocates were not in the business by identifying their practices only, but their concern is to know the level of their integration. It is even more important to be guided by a shared vision of ESD, following the six principles of ESD that were receptive to homegrown necessities (Bunk, 2018). UNESCO Institute for Lifelong Learning (UIL) has circulated a transitory innovative strategy known as community-based learning for sustainable development gearing the 2030 Agenda for ESD. This policy bargains applicable ways and aspire policymakers and shareholders in the community to use community-based learning principles as a powerful tool in achieving ESD for all. The six ESD action principles are responding, engaging, enabling, embedding, sustaining, and transforming.

- (1) Responding pertains to an active response to some identified emerging issues directly experienced by the local communities. For instance, issues related to the environment, economy, and society that impacted learning. Education sustainable development has a great role in making stronger connections and provides solutions in giving an appropriate and timely response. This comprehensive solution can be characterized as responsive (Noguchi & Sasaki, 2018))
- (2) Engaging refers to another level of taking actions combining the power of knowledge from different areas of disciplines and skillful planning mechanism coming from active partnered communities, local and national agencies having the same vision in providing sustainable and long term solutions to the problem, especially, to socially marginalized and economically disadvantaged group of people in the community by providing a better platform for them to enjoy happier and healthier learning community ( Too, 2015 ).
- (3) Enabling has something to do with the dynamic context of change encountered and experienced by the community and it is also a by-product of sharing societal values and a powerful mindset committed to making a difference to the local community that consistently building their capabilities through holistic community based ESD approach, gaining clearer directions and confidence in their

acquired knowledge and skills for a sustainable generation (Yuan & Zhang, 2019)

(4) Embedding pertains to the vision of inter-agency attaining a reasonable and justifiable panoramic view of the next era. This will only happen through embedding innovative and creative means in working and doing together to partner agencies and institutions that practiced ESD.

(5) Sustaining is about the survival and the flourishing of the community. These communities displayed physical set up showcasing beautiful structure of economic and fiscal stability with less concern of concrete needs regarding cultural, and environmental views of progress, hence the strong support from other inter agencies is evident and contagious.

(6) Transforming pertains to social, economic, political, and cultural changes in all working systems in society with the help of innovative and technological approaches that help improve their way of living. After all, the one that provides a backdrop for all political and economic, social, and environmental aspects of life lies always in a good heart of higher education for sustainable development (Valente, 2012)

#### Localized perspective on ESD

The status of the Philippines in learning ESD especially in universities has developed over the earlier years. It touches down the bottom-up approach, where at the grassroots level, there is established strong partnership enhancing environmental knowledge being mindful regarding its challenges met by adopting a protective plan of actions and disaster preparedness in different programs such as NSTP and off-campus community emersion, extensions, and education programs (Balanay & Halog, 2016) This approach speaks of extending extra mile to the extension partners managing stress brought by adversities that most of the Filipinos encountered over those years and helping them to regain back their livelihood more with the development of the economic and entrepreneurial skills through the various projects initiated by the government. Launching the ESD program to the public and educational community is essential for raising awareness. If the top leadership in the government has zero knowledge if the highest management in the academe is unaware of the critical connections between the two powerful words, education, and sustainable development, then, reorienting education to address sustainable development is indeed necessary. It is when education is abetted to increase its chances of implementing national and regional policies, programs, and activities. It is by understanding the principles of development that helps achieve sustainability. Thus, awareness is essential and is the first step in the reorienting process (Latchem, 2018)

It is significant to gain deeper insight into what these experienced faculty members and leaders are doing in contextualizing ESD and how they pursue sustainability despite many challenges because higher institutions are expected to lead the role in helping the community in

addressing issues and concerns through giving out strategies for development (Moore, 2004)

Raborar, (2017) also observed in his study that sustainable development has been Always connected with the evaluation of the existing practices of the government agencies and offices. Integration of concepts to different disciplines and their initial results have become their basis in making policy improvements and future decisions in government institutions (Schneider, 2013). One good practice that was noticeable was the advocacy of using paperless reports and documentation which can also be applied to all non-governmental organizations and all participating agencies in the country. The downloading of reports through using e-files, e-platforms like google drive, dropbox, and clouds, especially in the new normal setting that includes a soft copy of accomplishment reports online rather than submitting hard copies except mostly for auditing purposes.

Inspiring Stories in the Philippines during UNESCO, (2018) held in Bangkok, Thailand a lot of reported ESD practices in the country. Most of them are curriculum and institutional mainstreaming it was found out that there were embedded ESD in their existing subjects across curriculum yet the creation of standalone ESD specific subjects is evident. Climate change, air pollution, and deforestation, etc. are identified issues in the localities where the institutions took the initiative to address using thematic, inquiry-based, and problem-based approaches. The learner-centered and participatory approaches such as field trips and community immersion are some of the mentioned teachings and learning methodologies in alignment with ESD principles. The use of student clubs and school associations and activities were also actively involved and engaged with the local community, often through project-based learning opportunities". Furthermore, there are examples identified as successful ESD integration called institutional mainstreaming, in which the whole of the institution across all colleges are participating, these are programs that include Eco-Schools and Green Schools, back up with local policies related to ESD and the engagement of the local community was the result. However, these are just entry points or somehow introduce you to a journey towards education sustainable development (UNESCO, 2018)

Galang, (2010) posits that despite this curriculum and Institutional mainstream in the Philippines still needs to work hard to reach the process of actualizing the standards and procedures as outlined in the policy statements concerning ESD in higher education. ESD is less emphasized the sustainable development? The individual institutions took the initiatives resulting in very few documented evaluation reports of their contribution to ESD. On the other hand, the lack of monitoring of the implementation of policies regarding environmental education the less and weak participation and support of teachers and students in the environmental management practices, the lack of capacity to

build curriculum integration due to insufficient number of competent faculty, inadequate facilities, equipment, and research funding for faculty development are identified challenges in ESD journey (Ryan et al., 2010)

But despite these challenges, there are still higher institutions who gave them commitment for ESD to take part in the solution to the problem, willingness to undergo the process and outline their outcomes through their active participation as individual and as institutions by taking responsibility for ESD integration, specifically, in the teacher education (UNESCO, 2018). In the limelight are the Cebu Normal University, University of San Jose-Recoletos, Cebu Technological University – Argao Campus, and Philippine Normal University - Visayas. The Cebu Normal University receives financial support from the Commission on Higher Education as the center which must work towards making the school Sustainable through research and development and extension services under Memorandum Order 37s. .2005 entitled 'Strengthening the SUC's/HEI's in technology commercialization for these goals' poverty mitigation, employment generation, food sustainable consumptions which are aligned with their university-based policies actively engaging to instruction, research, and community extension as their priorities.

The University of San Jose-Recoletos is recognized by CHed as one of the country's Centers of Excellence in Teacher education in their support to education for sustainable development through their "Win on Waste" program which impacted the community not just their campus but their city as well by empowering community people in preserving, conserving, and managing waste. This is in support of Republic Act No. 9003 'Ecological Solid Waste Management Act and the outcome of this program was officially integrated into their curriculum that consists of initiatives that help the students to gain more knowledge on the concept of sustainability and the privilege to put it into practice (UNESCO, 2018).

The compelling community outreach of Cebu Technological University (CTU Argao Campus College of Education was also recognized as an ESD proponent through their designed extension program called PAGLAUM. It has resulted in the integration of ESD concepts in their subjects like technology and livelihood education, art in daily living, retail and merchandising, business, and entrepreneurship. This is a true picture and clear model of how extension projects potentially became an entry point in ESD integration in both curriculum and institutions. After a series of participation in ESD workshops, the Philippine Normal University (PNU - Visayas) was chosen as a national center for championing ESD through their environmental sustainability advocacy not just for including environmental education concepts in the curriculum and instruction, research, extension, and production but also in transforming the university direction into an institution-wide program

adhering to the principle of sustainable development. Integrating ESD concepts, principles, and values into their curriculum made PNU-Visayas a green teacher education community (UNESCO, 2018).

This assertion was also supported by the study of (G. Dawe et al., 2005) emphasizing that ESD integration in curriculum and institutions must offer essential prospects for students participating in the practicalities of environmental management so institutional ESD culture will help the students to live a life following ESD principles (G. F. m. Dawe et al., 2004)

### **3. METHODOLOGY**

This study utilized a descriptive survey method where both quantitative and qualitative analysis was employed. Content analysis, narrative and reflective inquiry case study analysis were also used in gaining concrete, contextual, in-depth knowledge about the study. The design incorporated the fact-finding process of classifying, analyzing the interpreting the data based on the perceptions and practices of the 60 faculty members 10 academic heads, and 5 deans from teacher education higher institutions in the Caraga Region which was selected in a complete enumeration process. Illustrative case studies were used in the presentation of cases describing certain events, investigating outcomes, and the lesson learned. The participants of this study answered the questions administered through interviews. After the participants answered the questions, researchers describe their responses given. For the survey to be both reliable and valid, questions were constructed properly and were written clearly and comprehensively. The Researcher used Microsoft word in coding and thematic analysis since is a stage that required creative and analytical thinking. The researcher identified the most important themes, recurring ideas, and patterns of belief, which assisted with the integration of the results; There were 3 steps that the data were navigated (1) Coding the data, the main text from the transcribed interviews, and presented to the narrative. (2) Organizing and cleaning the codes- making the names all consistent from one transcript to another transcript as categories of meaning emerged; the researcher searched for those that were internally consistent but distinct from each other. After the cleaning, the codes then (3) Develop a thematic framework that answers the research questions, the researcher gets the major themes, so with the sub-themes. Evidence presented in the case study analysis was taken from documents, interviews, direct observation, participant observation, and focus group discussion (Yin, 2014) The researcher used principles for community- based ESD in the assessment of their level of integration.

### **4. RESULTS AND DISCUSSIONS**

Research Question 1: What are ESD community-based practices?

Case 1: Agribusiness based education for Mamanwas tribes as ESD practice

Surigao del Norte is one of the places in Mindanao inhabited by *Mamanwa* tribe. They are one of the ancient and extinct tribes in the country, bearing a striking physical resemblance to the Negritos. Their physical appearance being black-skinned, small of frame, kinky-haired, snub-nosed, and with black eyes made them a marginalized and disadvantaged group. This scenario stirred the heart of the faculty members from School A to conduct a community extension program, aims to respond to the need of these “*lumad*” in their area and to help the *mamanwas* community people improved their way of living through agribusiness-based education.

This is localized management of their rich natural resources especially their agriculture properly handled by their natural skills and abilities; this program was displaying elements of sustainable development. As to the dimension of culture, the *lumad* were taught literacy, which is basic reading and writing, and their hygiene these will help community partners enrich and develop their way of living. Their learnings during the implementation of the program will ultimately further their survival. Their exploration of livelihood training such as backyard gardening, hydroponic planting, waiving of mats, and the making of basket trays and fruit trays contributed a lot to augment their economic needs as they have begun to sell their product to faculty members and their local markets. Thus, resources found in their locality matched livelihood programs, projects, and activities conducted by School A, in Surigao City.

Training on handicraft and modern farming such as hydroponics planting or backyard gardening will not just lead them to generate some additional income but also developed an awareness that agribusiness is possible in their community without threatening and compromising the abundance of resources from the environment, and also the production of their local products are evident and it is harmoniously aligned with the government mantra strongly advocating the conserving and protecting the environment. Efficient and proper utilization of resources was also introduced to them so that they will be equipped with the necessary skills for social and economic independence. This experience gave them honor and helped them take pride as productive indigenous people's IPs group and somehow unlabeled them as a marginalized group not just in Caraga but also in Mindanao.

In terms of political dimensions, there are specific needs or support that the Local Government Unit (LGU) Surigao City can extend their support. They can conduct poverty alleviation programs through the provision of important farming tools, facilities, equipment, fruits and vegetable seedlings, and fertilizers to be used in daily livelihood activities. Therefore, Mamanwa will no longer soon be dependent on the government subsidy, hence, these sustainable activities continually fighting against the poverty, hunger, malnutrition, and unemployment situations in the economy. This community extension program contained

some of the *Action guiding principles of Community Learning-Based ESD*, teacher education community extension workers responded to the emerging need of their partnered community upon identifying the issues. The academic community provides comprehensive solutions through their program and activities as a localized ESD initiative. Sharing their little accomplishments to nearby Barangays, Municipalities, and Cities through selling their locally made products will inspire their local government to support by engaging the local government unit to make policy for instance "Buy Local Support Local" showing great support to local entrepreneurs and locally produced products. Working together with other agencies towards working the vision for a sustainable future. The school can still establish linkages with other local, national, and international industries that will help to enable the SSCT to partner with the different disciplines learn new knowledge and skills to have comprehensive and long-term solutions attaining countryside industrialization.

This project will gain exponential support from the communities, Fb page will be utilized in the promotion of products, online marketing affiliations were existing for the marketing strategy, extension community partners will be motivated to further sharpen their skills and to better in their craft and even enrich their knowledge on different designs and great qualities in their waiving of mats and making of baskets and fruit trays. These gestures are results of collaborative efforts having a shared vision embedded in the hearts and minds of all the local community leaders, academic leaders, regarding ESD principles and this will lead to a university panoramic leadership. Interesting to see if the program sustaining and multiplying same with the institutions their passion continued until their extension community partner attained financial freedom and become economically stable as this inspiring work contagiously affect the life of *mamanwas* as they transform not just their way of living but also their social, political, economic, and culturally impacted by the new ways of teaching and learning using technology as always connected to ESD directions.

Upon sharing this inspiring direction, they come to realize that their extensions programs are just an entry point to ESD. This was captured during the focus group discussion of the research participants using reflective inquiry. They have reflected that they are in the process of responding and engaging using the guiding principle of community-based ESD as a tool for assessment, however, the ESD elements are evident in their practice, they hope to act to transform their chosen extension community partners and bring significant impact to the community where they belong.

Case 2 “Trash to cash” winning scheme for economic waste management

Greener campus is the mark of School B. The number one agro-industrial Higher Education Institution in Caraga Region. Consequences of this brand name the students, faculty, and staff of the school will regard green as part of

their everyday life by considering the environment in everything they do from energy efficiency, recycling, ground clearing, and tree planting. This institutional program was actively participated by the teacher education. Making their campus eco-friendly and sustainable. Thus, this practice addresses the different elements of sustainable development. The students were encouraged to use their 100 steps stairs shortcuts way to their classroom building, climbing stairs is one of the best exercises to acquire a sound mind and sound body ready for schoolwork. The office staff and the faculty members are encouraged to cut down on the use of paper instead of using hard copies in their reports e files or electronic copies are encouraged to use. Using fresh plants as their air freshener inside the classroom and offices was also given priority. These shows of their culture, they are socially apt to ESD. Common routines such as turning off lights switching off the computer monitor when not in use and shutting down computers and air conditioners during noon and after 5:00 p.m. are their regular habits that contribute a lot to institutional economic saving mechanism add on the environmental school-wide practice.

Noticeable practices spearheaded by the teacher education was the "*pera sa busura*" in Tagalog dialect. The teacher education economic scheme in producing money out from the trash. This agrees with the "Government of the Philippines Republic Act No. 9003" Ecological Solid Waste Management Act. The primary aim of this project is to protect conserve and manage waste by working together as a strong community and eco-friendly environment. The institutions also have a good practice on the 5Rs process on waste management, such as reducing, reusing, recycling, recovering, and restoring. Using this simple flow of process help the school established its culture as a green school. When applying the process, the school was able to strongly implement the use of Three (2) labels of trash cans "*Malata, di malata*" in Cebuano language which means biodegradable and non-biodegradable were identified and separated. Collected used items were sold in the junk o shops like plastics, plastics bottles, and empty cans, scrap materials, used papers, empty cartons, etc., can also be used for new products such as flower stands and flowerpots, flower base, file storage, and more.

This practice was a result of the integration of environmental protection and conservation in the teacher education curriculum. Some of the science faculty members initiated and organized a college event in support of this program. This fashion show of barong, gown, handbag, and accessories that are made in recycled materials. This was to showcase exceptional local made and fashion in doing this will also address clients or buyer's potential environmental awareness ideals. Engaging in this kind of initiated project impacted the academic community not just too actively involved in protecting and conserving the environment but also becoming socially responsible through partnering with other colleges and collaborating with the Local Government Unit and other national agencies. This strategy allows them to

become more explicit about fulfilling that purpose benefits society. The process on how they can have a better understanding of their institutional programs and activities substantiate the

core principle of education for sustainable development are through reflective inquiry. Their accomplishments lead them to share their practices. Their views of ESD after the reflective process moved them to do more on ESD showcasing local practices.

In consonance with the principles of community-based ESD, the faculty members responded to the shared needs of a healthy community. Upon sharing this need to the community in general through their slogans, school event, and Fb posting, blogging. The sharing of this praiseworthy activity resulted in gaining support from the community through their appreciation and they supported having it duplicating the concept differently. Furthermore, this project was not able to proceed with the next steps of six principles toward the policy of community based ESD such as enabling, embedding, sustaining, and transforming.

Case 3. Extension services a jump start for ESD

Personhood Development Program (PDP) is an extension program of School C. This aims to empower women from a disadvantaged and midget community of Butuan City, Agusan del Norte Caraga by providing equal opportunity in acquiring new knowledge and skills to bring significant and measurable change in their way of living and to enjoy a better life. These objectives were realized by the initiated contextualized programs and activities designed by the college of education to their extension partner. The following are:

(a) Training and seminar-workshop on "*Maka-kalikasan*" (*environment*) an activity emphasizing proper waste disposal for biodegradable and non-biodegradable materials. From the waste and recyclable materials, the making of composing and backyard gardening was their training output. Community partners were being grateful for experiencing eating fresh and free from chemical vegetables in the backyard and their environment became clean and healthy. (b) Training and seminar workshop on "*Pangkabuhayan*" (*livelihood*). This livelihood and entrepreneurial skills learning experience was designed to help manage their finances, reduce their dependence on lending and help them improve their income. The community people were taught how to cook native *kakanins*, *the Puto Cheese*, and *Kuchinta*. The school provides them the complete ingredients for their hands-on making of their *kakanins*. Their locally made goodies tasted good and were ready for selling, a week after the activity interested women cooked their products and have sold them in their school canteen, terminals, and waiting for sheds. This economic impact brought joy to their hearts.

( b) Seminar on "*Pagkamatao*". This refereeing to Gender Sensitivity and Parenting Styles. Equal rights and opportunity among men and women were given emphasis. Individual preferences about religion, and their beliefs, and how they

interact problems were also highlighted in the workshop. Giving value to one another giving love, peace, hope to family and members of the community. Socially promoting a healthy and productive environment making a community happy. On the contrary, using the six principles on community based on ESD this initiated extension program from the College of Education has reached the responding and engaging level and failed to reach the enabling embedding, sustaining, and transforming.

There are some ESD practices that on the level of responding these are.

- \* Making wine out from the water hyacinth.
- \* Making Higakit Rhum using appropriate technology
- \* Making a dishwashing product out from plants

Research Question 2. What is the level of ESD integration in the Caraga Region?

Further analysis was made using the principles of community-based ESD as a tool for assessment. As revealed, most of the school-initiated programs and practices are in the process of responding.



<http://bitly.ws/gmYn>

60%      30%      10%      0%      0%      0%

Responding Engaging Enabling Embedding Sustaining Transforming

Figure 2. ESD Practices level of integration in Caraga Region

The foregoing results suggest that the initiated practices of teacher education need strong reinforcement utilizing making regulations, outsourcing of funds and strong partnerships, and collaborating with other agencies. These interventions seem of practical importance because the creation of community-based ESD contributes a lot to the making of sustainable societies. Noguchi (2017) claimed that community-based ESD is a provider of comprehensive and flexible community-based learning to socially marginalized people and a place for advancing sustainable development.

The data for non-embedding, non-sustaining, and non-transforming elicit decisions that the local communities must involve in planning and management in promoting a sustainable lifestyle. There is no ESD not unless the balancing of economic, environmental, and social as sustainable elements were not given priority.

## 5. CONCLUSION AND RECOMMENDATIONS

In the light of the findings of the study, the following conclusions are drawn.

Teacher Education Higher Institutions in Caraga have their own contextualize ESD initiatives. Most of their school programs and activities are related to the ESD components like social, environmental, and economic and can be a good entry point for ESD. However, the level of implementation or the level integration of ESD-related practices based on the six principles of the community-based ESD failed to meet the standard and cannot be called ESD. The non-embedding, non-sustaining and non-transforming ESD practices will recommend strengthening the local and international engagement and collaboration through research and extensions collaborative works. Experiencing more meaningful global partnerships, and

networks in building a global empire for ESD. Higher Institutions in Caraga Region must do benchmarking to local and international schools as their model for ESD implementation.

The results of the present research may be used by practitioners, as baseline data for improving school programs and activities related to ESD. Future studies may explore the root cause analysis on the level of integration following the six principles of the community based ESD.

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## REFERENCES

- [1]Balanay, R. M., & Halog, A. (2016). Teaching Education for Sustainable Development at University Level: A Case Study from the Philippines. In World Sustainability Serie [https://doi.org/10.1007/978-3-31932928-4\\_11](https://doi.org/10.1007/978-3-31932928-4_11)
- [2]Bunk, D. J. (2018). Book Review: The Role of Higher Education in Promoting Lifelong Learning, by J. Yang, C. Schneller, and S. Roche (Eds.). *Adult Education Quarter* <https://doi.org/10.1177%2F0741713617729674>
- [3]Dawe, G. F. m., Vetter, A., & Martin, S. (2004). An overview of ecological footprinting and other tools and their application to the development of sustainability process: Audit methodology at Holme Lacy College, UK. *International Journal of Sustainability in Higher Education*,5(4). <https://doi.org/10.1108/14676370410561063>
- [4]Galang, A. P. (2010). Environmental education for sustainability in higher education institutions in The Philippines. *International Journal of Sustainability in Higher Education*, 11(2). <https://doi.org/10.1108/14676371011031892>

[5]Jelas, Z. M., & Mohd Ali, M. (2014). Inclusive education in Malaysia: Policy and practice. *International Journal of Inclusive Education*, 18(10). <https://doi.org/10.1080/13603116.2012.693398>

[6]Latchem, C. (2018). Achievements, challenges, and actions needed. In *Springer Briefs in Open and Distance Education*. [https://doi.org/10.1007/978-981-10-6741-9\\_16](https://doi.org/10.1007/978-981-10-6741-9_16)

[7]Moore, J.L. (2004). Recreating the university from within Sustainability and transformation in higher education. In Proquest Dissertation and Theses. <https://doi.org/10.14288/1.0055214>

[8]Raborar, K. J. F. (2017). Sustainable Development, Education for Sustainable Development and Philippine Community. *Management of Sustainable Development*, 8(2) <https://doi.org/10.1515/msd-2017-0005>

[9]Ryan, A., Tilbury, D., Blaze Corcoran, P., Abe, O., & Nomura, ko. (2010). Sustainability in higher education in the Asia-Pacific: developments, challenges, and prospects. *International Journal of Sustainability in Higher Education* 11(2)<https://doi.org/10.1108/14676371011031838>

[10]Schneider, S. L. (2013). The international standard classification of education 2011. *Comparative Social Research*, 30 [https://doi.org/10.1108/S0195-6310\(2013\)0000030017](https://doi.org/10.1108/S0195-6310(2013)0000030017)

[11]Sterling, S. (2009). Sustainable Education: Re-Visioning Learning and Change. In *eric.ed.gov* <https://eric.ed.gov/?id=ED464791>

[12]Yin, R. K. (2014). Case study research: Design and methods (5th ed.). In *Thousand Oaks, CA: SAGE Publications* <https://evaluationcanada.ca/system/files/cjpe-entries/30-1-108.pdf> <https://doi:10.3138/cjpe.30.1.108>

[13]Valente, M. (2012). Indigenous Resource and Institutional Capital: The Role of Local Context in Embedding Sustainable Community Development. *Business and Society*, 51(3). <https://doi.org/10.1177/0007650312446680>

[14]UNESCO (2018) Integrating Education for Sustainable Development (ESD) in Teacher Education in South-East Asia <https://bangkok.unesco.org/sites/default/files/2018-10/265760E.pdf>

[15] UNESCO. (2014). Aichi-Nagoya Declaration on Education for Sustainable Development. *UNESCO World Conference on Education for Sustainable Development, November*.