

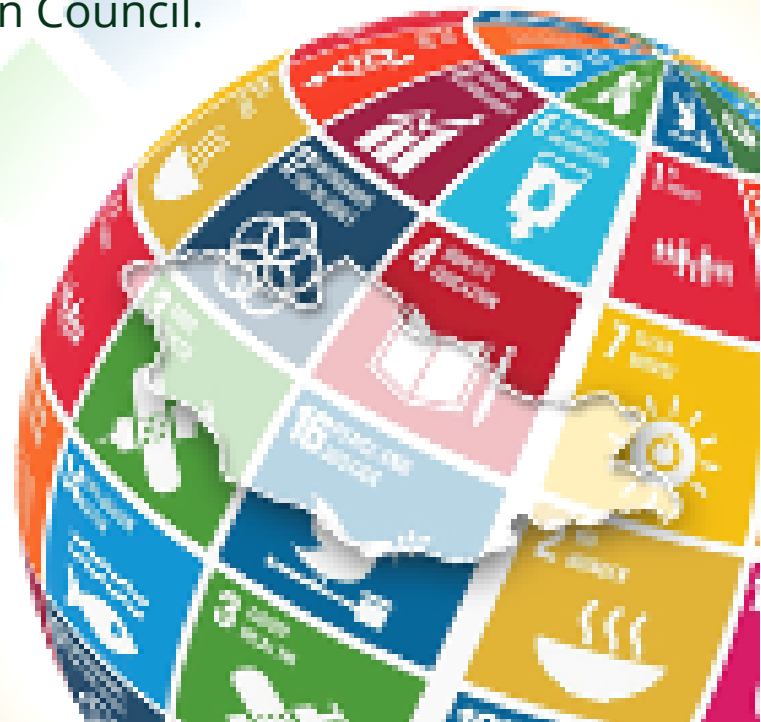


CLIMATE CHANGE EDUCATION FOR SUSTAINABLE DEVELOPMENT AMONG CENTERS OF EXCELLENCE AND DEVELOPMENT IN TEACHER EDUCATION IN THE VISAYAS REGION

June 6-7, 2021

Via F2F at USJ-R Basak Campus and via Zoom

A project of USJ-R ESD Center for Research, Training and Development and USJ-R School of Education in partnership with UNESCO Japan, Okayama University, UNESCO National Commission in the Philippines (UNACOM) and the Teacher Education Council.





ORGANIZERS AND PARTNERS



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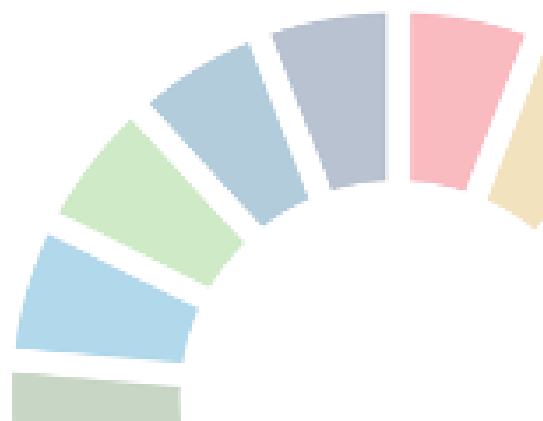
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CLIMATE CHANGE EDUCATION FOR SUSTAINABLE DEVELOPMENT AMONG CENTERS OF EXCELLENCE AND DEVELOPMENT IN TEACHER EDUCATION IN THE VISAYAS REGION



WELCOME MESSAGE

Dear Participants,

I am very glad to see and be part of the conference on Climate Change Education for Sustainable Development among Centers of Excellence and Development in Teacher Education in the Visayas, Philippines. The conference will be held at the University of San Jose – Recoletos and will be attended by faculty members from Teacher Education Institutes (TEI) via the zoom online platform. On behalf of all the participants, I would like to thank Rev. Fr. Cristopher C. Maspara, USJ-R University President, Dr. Jestoni P. Babia, USJ-R ESD Center Director, and UNACOM ESD Consultant, UNESCO National Commission of the Philippines, Teacher Education Council, and the conference meeting officers for inviting us in this academic engagement.

The purpose of this conference and meeting is to discuss the integration of teacher education with Education for Sustainable Development (ESD), especially Climate Change Education (CCE), and the development of training programs for teachers. Members of our joint research project from Asian countries have developed some guidelines and recommendations to orient teacher education in Asia to address sustainability. It is hoped that the conference and meeting will both encourage international cooperation and simulate researchers to conduct research on ESD in Asian countries.

I deeply appreciate your coming to share with us this unique, memorable experience in Cebu City, Philippines.

Sincerely,



Hiroki Fujii

UNESCO Chair in Research and Education for Sustainable Development and Director/Professor, Okayama University ESD Promotion Centre, Okayama University, Japan

Coordinator of the Japan Society for the Promotion of Science (JSPS) Joint International Research “Promoting Teacher Education for Climate Change Education through Collaboration between Asian Centres of Excellence (ATECCE)”



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WELCOME MESSAGE

Dear Colleagues and guests:

Warm Greetings!

I'd like to welcome you all to this conference on "Promoting Teacher Education for Climate Change Education among Centers of Excellence and Development in Teacher Education in the Visayas Region" on behalf of the University of San Jose-Recoletos' ESD Center for Research, Training, and Development.

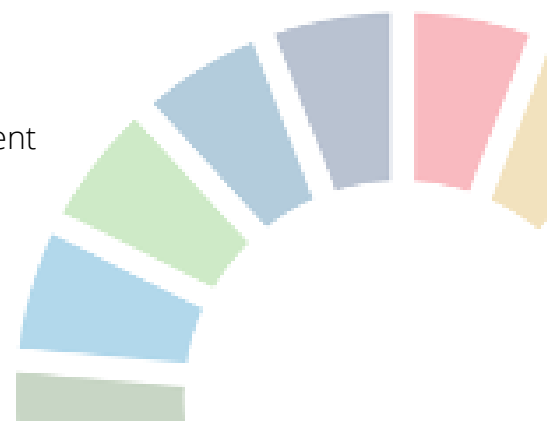
This conference is timely because it encourages long-term sustainability and life-long commitment for Teacher Education Institutions in the Visayas Region and the Philippines through the promotion of Education for Sustainable Development (ESD) and Climate Change Education. CCE Programs like these will allow us to align our curriculum to promote and ensure our democratic and social rights towards a prosperous and sustainable planet, encourage social and political participation at all levels of sustained community life, and provide opportunities for personal and social development through climate education research, community extension, and learning innovations.

The goal is to strengthen climate change education among Centers of Excellence (COE) and Centers of Development (COD) in the Visayas Region and the Philippines by developing an understanding of existing policies, guidelines, and strategies in the implementation of Climate Change Education, and ultimately creating a community of practice and collaboration, sharing, and capacity building in the promotion of Climate Change Education in the country.

May this program be a success as it promotes transformative education, which aims to reorient and reshape society by equipping today's generation with principled knowledge, attitudes, and skills that will aid in the implementation of the Global Action Plan for Education for Sustainable Development.

Let us all work together today and in the future to ensure our joint sustainability!

Dr. Jestoni P. Babia
Director, USJ-R ESD Center for Research, Training and Development
Dean, USJ-R School of Education
Visayas Region CCE Project Lead
SEAMEO ESD Fellow



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PROGRAM SCHEDULE

The overall goal of the conference is to discuss the Climate Change Education (CCE) Framework that Teacher Education Institutions (TEI) utilize in teaching and integrating climate change education into the curriculum, instruction, and other pedagogical and andragogical practices.

Date: June 6 – 7, 2022

Venue: a.) Onsite - University of San Jose – Recoletos
b.) Online – Zoom Platform

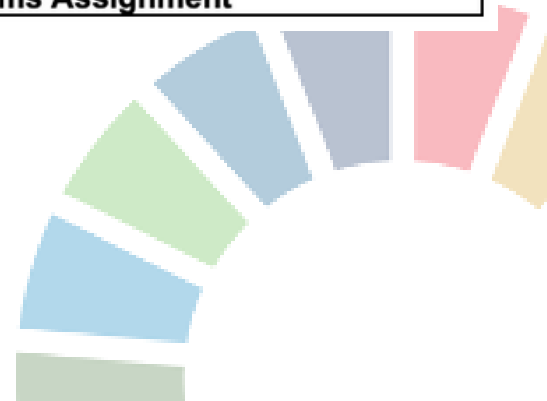
Languages: English

Day 1: Monday – June 6, 2022			
Time	Activity Objectives	Expected Outputs/ Outcomes	Facilitator
8:00 – 8:30	<ul style="list-style-type: none"> • Opening Ceremonies • Invocation • National Anthem • Welcome Remarks • Message <p><u>Conference Reminders</u></p> <ul style="list-style-type: none"> • Rationale and Objectives of the Workshop • Group Photo • Virtual Meeting Netiquette 		<p>Rev. Fr. Leo G. Alaras VP For Academics</p> <p>UNACOM</p> <p>Dr. Runvi Manguerra TEC Executive Director</p> <p>Dr. Jestoni Babia USJ-R SED Dean ESD SEAMEO Fellow ESD Consultant, UNESCO National Commission of the Philippines Philippine Representative to UNESCO's Climate Change Education TEC Visayas Representative</p> <p>Mr. Sondrew Baya Program Conference Chair</p>

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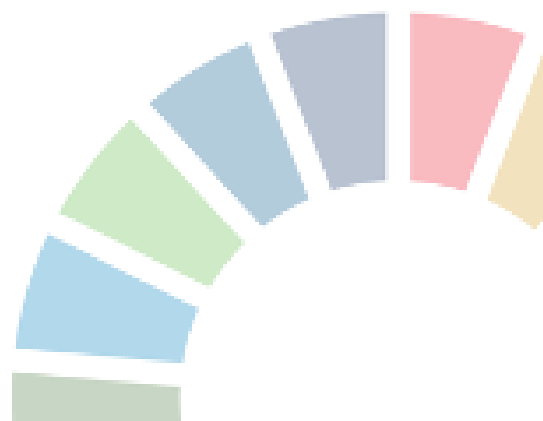
8:30 – 9:00	Key Note Speech 1: Current Status of Climate Change Education and ESD in Japan	Awareness of ESD and CCE in Japan	Dr. Hiroki Fujii Director, ESD Promotion Center, Okayama University CCE Project Lead in Asia & the Pacific
9:00 – 9:30	Key Note Speech 2: The Status of Climate Change Education in Japan	Awareness of CCE in Miyagi University of Education, Japan	Dr. Tomonori Ichinose Professor, Miyagi University of Education, Japan
9:30 – 10:00	Input 1: Overview of ESD	Awareness of Education for Sustainable Development (ESD)	Dr. Jestoni Babia
10:00 – 10:15	Health Break		
10:15 – 12:00	Input 2: Sharing of Updates on the ESD and Climate Change Education Initiatives/Practices in Teacher Education Institutions (TEI)	Reports on the implementation of different ESD initiatives and practices in each TEI's.	Dr. Helmae Tapanan Principal, Senior High School University of San Jose – Recoletos Dr. Jennifer Paño ESD Fellow, SEAMEO Cebu Normal University Dr. Lynette Camello Director, ESD Center ESD Fellow, SEAMEO Cebu Technological University Dr. Anna Liza Santillana Quality Assurance ESD Fellow, SEAMEO Philippine Normal University Dr. Felina Espique Dean, STELLA St. Louis University – Baguio President, PAFTE
12:00 – 1:00	Lunch Break		
1:00 – 1:30	Settling Down and Breakout Rooms Assignment		



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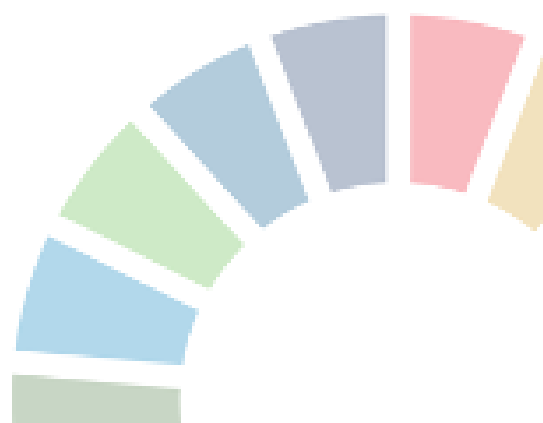
1:30 – 3:00	Workshop 1: Group Sharing and Discussion on needs for teachers practicing climate change education and education programs on climate change education	Documentation of identified needs and corresponding education programs on Climate Change Education for teacher education	<p>Breakout Room 1: Teacher Training Mr. Sondrew Baya Faculty, SED University of San Jose - Recoletos</p> <p>Breakout Room 2: Curriculum Planning Ms. Ma. Aira Chenessa Aguilar DOTE Chair, SED University of San Jose – Recoletos</p> <p>Breakout Room 3: Instruction Mr. Ryan Reyes Faculty, Junior High School University of San Jose – Recoletos</p> <p>Breakout Room 4: School and Community Extension Mr. Rex Villavelez Faculty, SED University of San Jose – Recoletos</p>
3:00 – 3:15	Health Break		
3:15 – 4:15	Presentation of Outputs (Big Group Discussion)		One Representative per breakout room
4:15 – 4:30	Situational Analysis Output	Identify the needs and educational programs in Climate Change Education across identified key areas	Mr. Sondrew Baya Faculty, SED University of San Jose - Recoletos
4:30 PM	End of Day 1		



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Day 2: Tuesday – June 7, 2022			
8:00 – 8:30	Preliminaries		Emcee
8:30 – 9:00	Recap of Day 1		Mr. Hope Yamyamin Faculty, SED University of San Jose – Recoletos
9:00 – 10:00	Input 3: ESD Research Projects and Initiatives (Results and Updates)		Dr. Jestoni Babia Dean, SED University of San Jose – Recoletos ESD Fellow Southeast Asian Ministers of Education Organization (SEMEO) ESD Consultant, UNESCO National Commission of the Philippines Philippine Representative to UNESCO's Climate Change Education
10:00 – 10:15	Health Break		
10:15 – 12:00	Input 4: Validation Techniques – Verifying Results of Climate Change Education Programs	Increase technical know-how on Validating climate change education programs	Dr. Richard Jugar Dean, SED Director, DOST-SEI CBPSME SPP Chair, Curriculum and Instruction Committee Institutional/Independent Consultant for Basic Education University of San Carlos SAGC, Teacher Education CALOHE Asia
12:00 – 1:00	Lunch Break		
1:00 – 1:15	Settling Down and Assigning to Breakout Rooms		



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1:15 – 2:45	<p>Workshop 2: Group Sharing and Discussion on how to verify results of teacher education programs for climate change education</p>	<p>Documentation of identified methods or techniques to verify results of education programs</p>	<p>Breakout Room 1: Teacher Training</p> <p>Mr. Sondrew Baya Faculty, SED University of San Jose - Recoletos</p> <p>Breakout Room 2: Curriculum Planning</p> <p>Ms. Ma. Aira Chenessa Aguilar DOTE Chair, SED University of San Jose – Recoletos</p> <p>Breakout Room 3: Instruction</p> <p>Mr. Ryan Reyes Faculty, Junior High School University of San Jose – Recoletos</p> <p>Breakout Room 4: School and Community Extension</p> <p>Mr. Rex Villavelez Faculty, SED University of San Jose – Recoletos</p>
2:45 – 3:00	Health Break		
3:00 – 3:45	<p>Presentation of Outputs (Big Group Discussion)</p>		<p>One Representative per breakout room</p>
3:45 – 4:00	<p>Synthesis and Evaluation</p>	<p>Synthesize ways and means to verify results of educational programs in Climate Change Education across identified key areas</p>	<p>Mr. Rex Villavelez Faculty, SED University of San Jose – Recoletos</p>
4:00 – 4:30	<p>Closing Message</p> <p>Closing Remarks</p>		<p>Dr. Christine Ferrer International Relations Director Tarlac Agricultural University</p> <p>Rev. Fr. Cristopher C. Maspara University President</p>

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ACADEMIC BACKGROUND

Education for Sustainable Development (ESD) which is stipulated in SDG 4.7, is a new area of education that pursues the sustainability of life and society on earth, with themes such as climate change, renewable energy, biodiversity, disaster risk reduction and sustainable consumption and production. The Action for Climate Empowerment: Guideline for Accelerating Solutions through Education, Training and Public Awareness (2016), a guide jointly edited by UNESCO and United Nations Framework Convention on Climate Change (UNFCCC), emphasizes that an appropriate educational process of planning, implementation and monitoring/evaluation/reporting is essential to encourage people to take concrete actions against climate change.

This conference will focus on the Climate Change Education (CCE) Framework based from the “Asia-Pacific ESD Teacher Competency Framework” (Figure 1) that Teacher Education Institutions (TEI) utilize in teaching and integrating climate change education into the curriculum, instruction, and other pedagogical and andragogical practices.

The rationale of this conference is, first, our current situation in which climate change education in teacher education is limited to the development of teaching materials and classes, and the development of systematic educational programmes has made little progress, in response to global calls for climate change education (for example, Merrill, M. Y. et al. (Ed.) (2018). Education and Sustainability; Paradigms, Policies and Practices in Asia. Oxon: Routledge). Accordingly, the competencies required for teachers practicing climate change education and the educational directions to develop them have been not yet adequate to meet this global challenge.

Second, in order to develop a framework for teacher education programmes for climate change education that can be adapted and applied by many teacher education institutions, further collaboration of centers of excellence and development on ESD is absolutely required. In particular, such a system for the collaboration needs to be strengthened in the Visayas Region.

Furthermore, this conference will identify the needs of teachers practicing climate change education with particular focus on their competencies; identify systematic climate change education programmes for teacher education institutions in the Visayas in order to develop teacher competencies; and identify ways and means to verify results of these climate change education programmes.





Keynote Speech

Towards the expansion of teacher education for climate change education in Asia-Pacific

Dr. Hiroki Fujii

Director, ESD Promotion Center, Okayama University

CCE Project Lead in Asia & the Pacific

E-mail: fujii-hi@okayama-u.ac.jp

Incorporating climate change education (CCE) into school education and teacher training is an urgent and challenging task. This presentation explores the trends and perspectives of school education and teacher education with regard to CCE, especially in countries of East Asia, Southeast Asia, and the Pacific islands. The basis for this attempt are discussions under the followings: 1) global calls to accelerate CCE; 2) development of CCE in schools – leading projects and educational policies, curricula, and pedagogy; and 3) implementation of CCE in teacher education – educational programs and courses and an innovative project through collaboration in the Asia-Pacific.

In conclusion, in order to mainstream CCE in schools and teacher education institutions, the first requirement is to develop a school education policy and guidelines on CCE and to promote the incorporation of CCE into the curricula not only in science and social science subjects but also in the humanities. Additionally, new curricula should be flexible enough to be adaptable to local contexts.

Second, pedagogical approaches that encourage behavioral changes in learners, such as learner-centered, inquiry-based, experiential, participative and collaborative, and inter- and transdisciplinary approaches, should be further disseminated. They must take into account the characteristics of climate change including its inevitable unknowns and uncertainties, scientific complexity, and the difficulty in being recognizing it from personal experience.

Finally, despite various obstacles to integrate CCE into existing teacher training, teacher education institutions should implement CCE strategies and develop educational programs and courses that would allow teachers to gain competencies as sustainability citizens as well as professional competencies for CCE. Of course, newly developed programs and courses may be modifications of existing ones. The key to achieving this is for teacher education institutions to engage in CCE with the whole-institution approach, referring to productive ESD initiatives within a faculty framework. A collaborative CCE project between teacher education institutions currently underway in Asia, in which the presenter and other teacher educators are involved, will be an exemplar for this effort.

Keywords: Climate Change Education; Education for Sustainable Development; School Education; Teacher Education



Keynote Speech

Awareness of CCE in Miyagi University of Education, Japan

Dr. Tomonori Ichinose
Professor, Miyagi University of Education, Japan

The purpose of this conference is to enhance Climate change education for sustainable development among centers of excellence and development in teacher education. Therefore, I would like to introduce the development ESD network and awareness of Climate Change in Japan Tohoku district.

Miyagi prefecture is located in the sea coastal area in the northeast Tohoku district in Japan. This district has ever been attacked by the big Tsunami and Earthquake in March 11, 2011. River flood and landslide by Typhoon attack has been frequently happen. The Climate Change Education in school has become an urgent issue.

In 2007, the Interuniversity Network Supporting the UNESCO Associated Schools Project Network (ASPUnivNet) was organized by the proposal of Miyagi University of Education. UNESCO Associated Schools (ASPnet) is identified as the leading experimental school for promoting ESD in Japan. Teacher training universities are able to keep direct connection with ASPnet schools though this network. ASPUnivNet is the started with eight member universities at its inception and has expanded to 23 member universities today.

Tohoku Consortium is the regional network for promoting ESD and SDGs, which was supported by the Ministry of Education (MEXT) from 2014. 10 of ESD promotion hub districts were established in collaboration with the Regional ESD Activities Support Center.

In fiscal year 2019, school curricula for SDGs and ESD based on the use of local resources. Because Tohoku district is surrounded by sea, representative practices of CCE created by the schools are mainly for protecting the environment of the sea. One example is Mr. Kentaro ONO, his practice, he is the famous promoter of Climate Change in this district. He was born in Sendai, Tohoku, he went to Kiribati for high school in 1993 and continued to remain there after the graduation. He was naturalized in Kiribati in 2000, being the first naturalized Japanese -Kiribati. After the big Earthquake and Tsunami in 2011, He went back and has been living Sendai. He has been actively engaging in advocacy on the impact of climate change and global warming to Kiribati in human dimension. Many CCE practices in school were developed by the effect of his advocacy.

Another good practice is for reducing marine plastic waste. ① Students in Tadami town has adopted "Climate Emergency Declaration" and "Pet Free Monday" after the

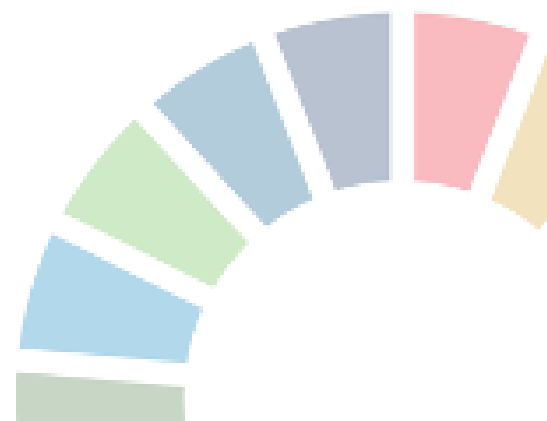
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experimental study in the seacoast. “Climate Emergency Declaration” is an action to acknowledge humanity is in a climate emergency. “Pet Free Monday” is the students’ action for free from Pet bottles in their daily life. ②Hachinohe Kodai 2nd High school is tackling for the issue of the Marine plastic waste. Students promote scientific reach to understand the character of Micro plastic by experimental study. As a result, they devised a method to detect microplastics taken into the body of plankton.

Concerning about the awareness of CCE, schoolteachers of these representative school mentioned that students’ ability to solve problems, ability to take action to create a sustainable society have been increasing. Hopefully, through this conference, Awareness of CCE will be enhanced both in Philippine and Japan.

Keywords: Awareness of CCE, UNESCO Associated Schools, Climate Emergency Declaration Marine plastic waste





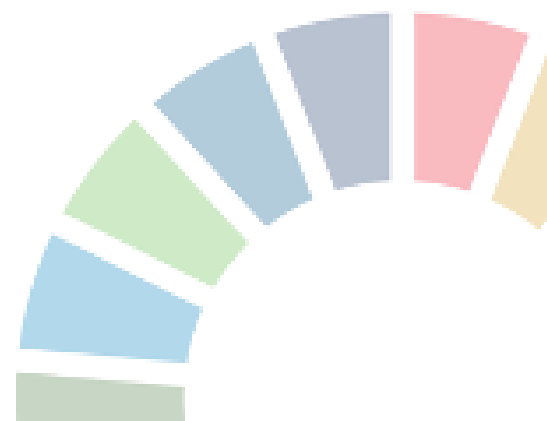
Input 1

Compendium of Climate Change Education Lesson Plans Using the Climate Framework

Dr. Jestoni P. Babia, Ms. Ma. Aira Chenessa Aguilar,
Mr. Sondrew Baya, Mr. Rex Villavelez, Mr. Montano Tapanan Jr.
University of San Jose – Recoletos School of Education
E-mail: jestoni.babia@usjr.edu.ph

There is a great need to integrate Climate Change Education to the curriculum to achieve prosperity and sustainability for present and future generation. This presentation's context aims to integrate the Climate Change Education (CCE) framework: Competencies, Learning Objectives, Instructional Tools and Methods, Motivational Activity, Activity analysis, Teaching Abstraction, and Evaluation Measures in the lesson plans of teacher education students (CLIMATE). This grounded theory approach aims to develop a new theoretical and conceptual framework for CCE integration in the curriculum and instruction. 25 teacher-education students from the University of San Jose – Recoletos (USJ-R) Cebu, Philippines. Teacher-education students were able to produce lesson plans in different subject areas including mathematics, science, English, Music, Arts, Physical Education and Health (MAPEH), and Information and Communication Technology (ICT). Lesson plans were successfully validated by the experts and were aligned to the CCE, Education for Sustainable Development Goals (ESD), sustainable development goals (SDGs), and Global Citizenship Education (GCED). The result shows that teacher-education students successfully integrate the most essential learning competencies (MELC) in the different topics. Through the CLIMATE framework, the teacher-education students were able to understand the importance of CCE and its contribution to different subject areas. Furthermore, this study recommends strengthening the utilization of the CLIMATE learning model in K-12 and integration of CCE principles in the curriculum and instruction.

Keywords: Climate Change Education, CLIMATE learning model, SDGs, ESDs, and GCED.





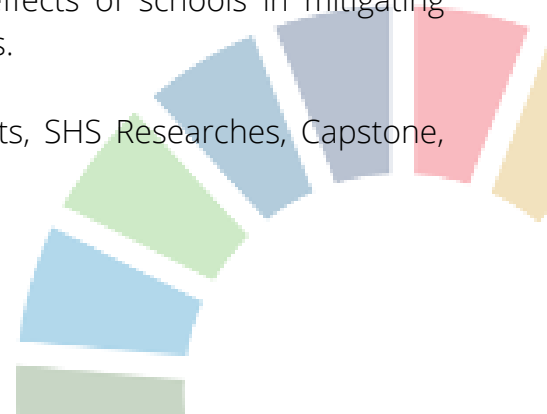
Input 2

Education for Sustainable Development and Climate Change Education: The Introspection of Initiatives and Practices in USJ-R SHS Department

Helmae E. Tapanan, John Nicko M. Coyoca, Raquel Perez
University of San Jose – Recoletos Senior High School Department
E-mail: helmaetapanan@usjr.edu.ph

As education is the primary path for the attainment of sustainable learning programs for a sustainable environment, economy, and society for the youth, the citizens, the world, and the next generation in general, UNESCO called for renewed goals to deliver the seventeen (17) Sustainable Development Goals (SDGs) through an Education for Sustainable Development (ESD) paradigm. Since 2019, the University of San Jose-Recoletos Senior High School (SHS) Department has been true and steadfast in promoting interdisciplinary, collaborative, and transformative efforts for unending commitment and innovation of learning to concrete evidence of sustainable development among its learners. These are evident in the refinement and restructuring of the SHS curriculum through a Curriculum Quality Audit (CQA). The curriculum quality audit is the most suitable method to assess its level of quality, addressing all the academic issues, problems, and identified gaps. Community Engagement courses of HUMSS students are explicitly anchored on the SDGs from the planning of proposal, project implementation, and evaluation. The Department's Community Outreach Programs revealed to have exemplar achievement of the sustainability standards of our adapted barangays in different aspects and perspectives of beneficiaries. Furthermore, all SHS students' ESD advocacies follow the Five (5) Ps, namely: Partnership, People, Peace, Prosperity, and Planet. For its third year now and beyond, the research, capstone projects, and montage presentation of the students in all strands (ABM, HUMSS, and STEM) highlight the Environmental Sustainability for our HOPE Learning Mantra, the health and sciences, opportunities for growth, people and profit and addressing the environmental concerns for sustainability. The SHS students demonstrated their significant roles in engaging the people and the society at the grassroots and served as active drivers of change to transform society for global development. These initiatives and practices are the living legacies in this "Decade of Actions." Our students have big dreams, start in small acts, and escalate it for a sustainable world with a more significant impact. These ESD best practices will be continued and sustained thoroughly despite the challenging times for ripple effects of schools in mitigating societal problems grounded on research results and creative ideas.

Keywords: ESD, Environmental Sustainability, 5Ps, HOPE Projects, SHS Researches, Capstone, and Community Outreach Programs





Input 2

Updates on the ESD and Climate Change Education Initiatives/Practices in Cebu Normal University

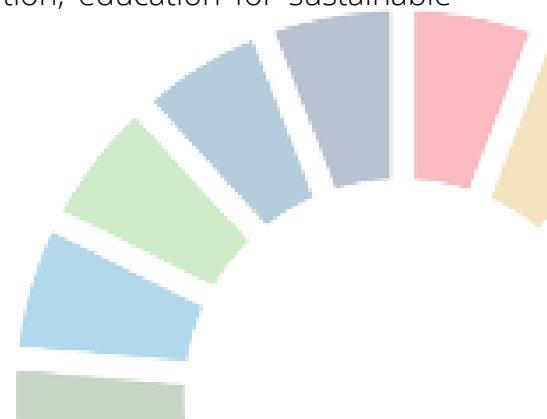
Dr. Jennifer Paño
ESD Fellow, SEAMEO
Professor, Cebu Normal University
E-mail: panoj@cnu.edu.ph

Cebu Normal University implements the Whole-institution approaches for integrating ESD and climate change into education holistically. The whole-institution approach to ESD and climate change implies mainstreaming sustainability into all activities of the school, including the curriculum, content, method, policy and the school governance, as well as cooperation with partners and the broader community. This transformative approach mobilizes all school stakeholders as well as partners and communities, and empowers the academic community to play an active role in their schools, families and communities.

School activities included, strategies to monitor and measure energy consumption, institutionalize research following the priority needs cited in National Higher Education Research Agenda (NHERA), developing initiatives for natural lighting and ventilation, active engagement of student organizations to monitor energy conservation, use of energy stickers, constructing school gardens and eco-walls, rainwater harvesting facility, vermicomposting, usage of natural fertilizers and a lot more.

The climate change initiative through the #iGreenCNU Program showed that the whole-institution approach to ESD had a strong positive impact on students' attitudes, behaviours and actions towards sustainable development and lifestyles, as well as on how they perceive their schools and the role they play in their community. Building upon the positive experience of the teachers and students in the #iGreenCNU Program, the implementation of a whole-school approach to climate change will be fortified in the various levels of the academia.

Keywords: Whole-institution approach, climate change education, education for sustainable development (ESD)





Input 2

Updates on Education for Sustainable Development and Climate Change Education in Cebu Technological University

Dr. Lynette Camello
ESD Fellow, SEAMEO
Director, ESD Center
Professor, Cebu Technological University
E-mail: lynnettematea.camello@ctu.edu.ph

This paper presents the ESD journey of Cebu Technological University which began with a mapping of its ESD practices in 2017 which pointed to the identification varied programs and projects under the PAGLAUM community extension framework as the university's entry point in education for sustainable development. This resulted in the crafting of an action plan for sustainability which then aspired to integrate the framework for community extension to research, curriculum and instruction with full support from the administration. Thus, from community-based ESD practices as the first identified entry point to embed sustainability concepts, the university leadership crafted policies to ensure that education for sustainable development is fully visible in its mandated functions.

While it was realized that ESD work has already been embedded in the activities of the university, especially along the community extension function, the need to expand the understanding, commitment to action and further ESD aligned activities was found pressing and urgent. In addition, ESD had to permeate in the other functions, so that curriculum, which is at the heart of university offerings will produce outcomes of graduates whose graduate attributes will include that same commitment to sustainable development.

To implement ESD in the university curricular offerings, a series of curricular reviews were conducted to ensure that sustainability concepts were embedded in course designs and instructional materials produced by faculty. This was done to emphasize knowledge, skills and values that are necessary to create changes amongst individuals, peoples, communities and the world.

CTU has since then addressed the challenges of formalizing the integration of ESD principles and practices in the teacher education curriculum. This is to address the need for the adoption of the whole-institution approach to reorient curricular content and methodology while creating an awareness of ESD in the university communities so that these goals will be the overarching theme of all endeavors from classroom to community.

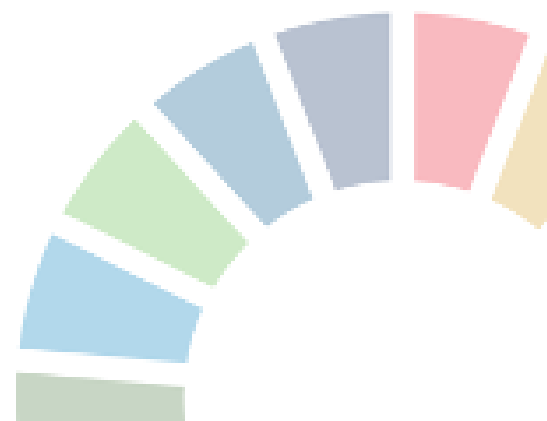
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The integration of ESD principles as bases for major plans and directions of the university from curriculum to the creation of sustainable communities and capability building activities for the university community to integrate ESD in curriculum implementation have likewise been conducted. More involvement of students particularly as an integral part of curricular programs and the development of knowledge, skills, values and attitudes in their pre-service and in-service education.

Addressing sustainability as a university led CTU to craft a Climate Change and Resilience Action Plan (CCRAP) which included among others policies on vulnerability assessments, climate mitigation and adoption initiative plans, funding, implementation, review, evaluation and monitoring and embedding in all areas of the CCRAP is education for sustainable development. As a result of these initiatives, CTU has been included in the Times Higher Education and QS ranking of universities with the Sustainable Development Goals (SDGs) as metrics.

Keywords: Community-based ESD, sustainability concepts, ESD principles, Climate Change and Resilience Action Plan





Input 2

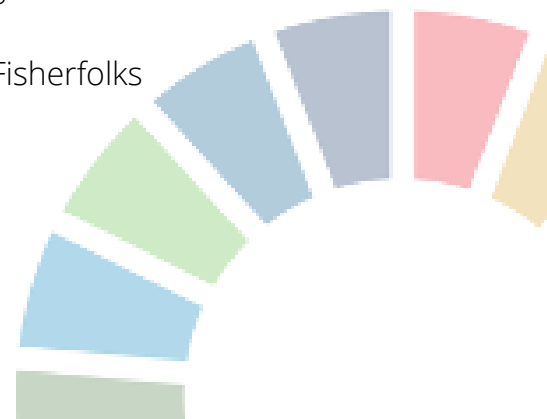
PNU Visayas the Environment and Green Technology Education Hub

Dr. Anna Liza Santillana
ESD Fellow, SEAMEO
Quality Assurance
Professor, Philippine Normal University
E-mail: santillana.alg@pnu.edu.ph

Cadiz City is a gateway and a premier center of agro-fishery resources of Negros Island in the Visayas region because of the strategic location of the city with a wide and rich island and marine resources. PNU Visayas lies at the heart of this city with 75% of the total student population are residents of this place. This practices the whole school approach to ESD that intertwined into its 4 core functions as a teacher training institution. These core functions are the following: Curriculum, Instruction, Community Engagement and Production. In the curriculum PNU Visayas embed in all the syllabi the Sustainable Development Goals as needed in the content and developed an elective subject entitled Education and Sustainability with the module developed and content aligned to the syllabi. The university believed of the ripple effect to widen the sustainability practices among individuals two diploma programs were implemented, these are the DEGTE (Diploma for Environment and Green Technology Education) that will cater education graduates and the DTEGTE (Diploma in Teaching Environment and Green Technology Education) for the graduates of non-edu programs. All student activities in the campus are aligned to sustainability practices because of the guided policies like "No Plastic" "Water Conservation", "Energy Conservation" "Proper Waste Disposal, air and Water Pollution. Most of these practices are geared towards climate change mitigation that students give great importance that they bring with them in the conduct of community engagement.

Mangrove Conservation and Protection is the 8-year program of PNU Visayas and the Small Fishermen. Association. From the shared indigenous knowledge of these fisherfolks, materials for reading written in dialect as capstone activity of the students were implemented among young readers, these instructional materials serve as pathway for children to appreciate the importance of mangrove conservation and its positive impact to climate change.

Keywords: Ripple effect, Whole school approach, Core function, Fisherfolks





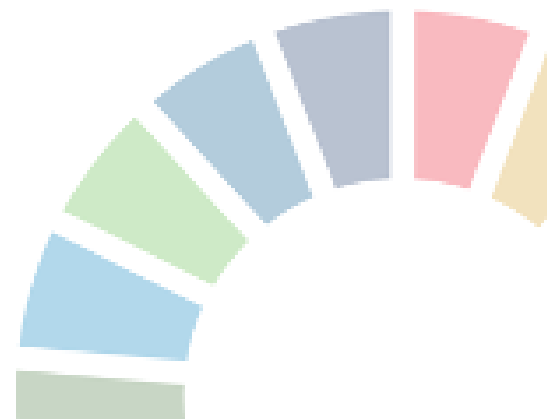
Input 2

Teaching Education for Sustainable Development in the Cordillera Administrative Region, Philippine

Dr. Felina Panas Espique
Dean, STELLA
St. Louis University – Baguio
E-mail: fpespique@slu.edu.ph

Promoting education for Sustainable Development (ESD) particularly climate change education in Teacher Education Institutions results to awareness and application of sustainable development actions among teachers and students both in the tertiary level and basic education level. This paper aims to present the progress of Saint Louis University's (SLU) efforts regarding Promoting Teacher Education for Climate Change Education in Asia (ATECCE). Saint Louis University is one of the Centers of Excellence in Teacher Education in the Cordillera Administrative Region, Philippines. From the documentary analysis and curriculum audit that was conducted, it was found out that education for sustainable development is clearly captured by the vision-mission of the university and is clearly translated in its strategic directions. This is cascaded in the strategic plans of the schools and one of these is the School of Teacher Education and Liberal Arts that ensures that ESD particularly climate change education is translated as one of the course contents of the teacher education curriculum. From the curriculum audit that was conducted, some climate change education contents and activities are covered in the general education courses, professional education courses, and the University's vision-mission and goals down to the course learning outcomes, it denotes that the pre-service teachers of the teacher education programs together with the students in the laboratory schools are empowered with the essential knowledge, skills, values, and attitudes needed to address climate change problems. To sustain and enhance the pre-service teachers' engagements in climate change education, climate change education workshop is highly recommended to be implemented.

Keywords: Curriculum Quality Audit, Climate Change Education, Pre-service and In-service teachers, Laudato Si





Input 3

Education for Sustainable Development Community-Based Projects of the Philippines

Dr. Jestoni P. Babia
ESD Fellow, SEAMEO
UNESCO ESD Consultant
USJ-R School of Education Dean and ESD Center Director
E-mail: jestoni.babia@usjr.edu.ph

Education for Sustainable development permits each individual to get information, abilities, perspectives and qualities important to shape a practical future. This study determined the level of training implementation based on the six ESD action principles and as to which of these principles have contributed to the improvement of the level of implementation of ESD programs in the Philippines. ESD – best practices of the university community extensionists and the challenges that they have met in the implementation of ESD. It centered on Cell's Resilience by Szanton & Gill (2020), Transformational Learning by Mezirow (1994) and UNESCO's three pillars of ESD and Six ESD Action principles and policy support for sustainable development through community learning centers. This study utilized a quasi-experimental type of research in which it involved quantitative and qualitative data. The random sampling technique was used in order to select the 25 beneficiaries from private and public basic education and higher education institutions. The results showed that the level of implementation was to at least SOME EXTENT with a 3.25 mean, and that only the transformation component is the only significant predictor, the best practices of USJ-R – Blooms, PNU-Mangrove, and CTU-Hablon tapped the decoding of books through Bloom's Software for reading literary, reviving mangrove forest through DAGANG Fisherfolks to target environmental conservation and MTB literacy, and reviving the Handloom Weaving of Hablon in Argao with socio-economic impact, and the challenges of the other extension projects in the Philippines enumerated on the attendance of the beneficiaries and the project team, the change of leaders, organizations, time availability their limited resources and linkages, financial resource mobilization, sustainability of interest, miscommunication, hectic schedules and negative attitudes towards the extension process. It is concluded that the ESD of the Philippines' implementation is so far, in the average level and that the projects have to focus on the transformation of the beneficiaries. This study is recommended to be replicated prioritizing the sustainability and transformation researches, monitoring and evaluation of ESD-Based community project researches, proposed plans for wide array of external funding.

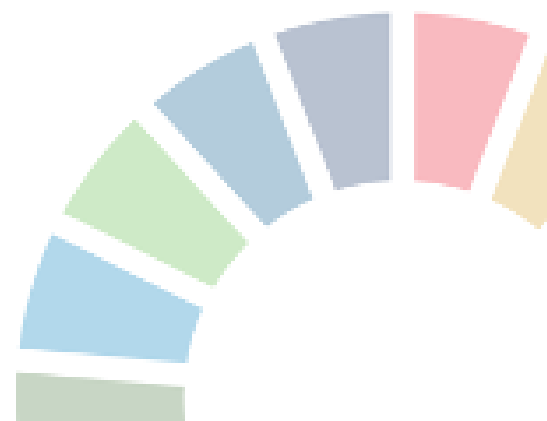


Integrating Climate Change Education in Curriculum, Co-Curricular, And Curricular Activities

Jestoni P. Babia, Ma. Aira Chenessa Aguilar, Sondrew Baya,
Rex Villavelez, Montano Tapanan Jr., Leo G. Alaras
University of San Jose – Recoletos School of Education
E-mail: jestoni.babia@usjr.edu.ph

This study aims to measure the integration of Climate Change Education (CCE) in the curriculum, co-curricular, and curricular activities among DepEd schools in Cebu, Philippines. There are 83 random teacher-respondents from different DepEd schools. This study utilizes a descriptive quantitative research design using a four-point scale survey questionnaire. The results show no significant relationship between the age - years of teaching practice and the three components. It means that the CCE integration depends on the school administration's support, initiatives and operations, not on the teachers' professional and career experience. Additionally, results show an adequate integration of CCE since (1) The Co-curricular activities are at a prominent level of CCE integration with a mean of 3.02, (2) The second is the curriculum with a mean of 2.97, and (3) The third is the curricular activities with a mean of 2.87. Hence, the identified components (curriculum, co-curricular, and curricular activities) showed a significant difference with a p-value of 0.009. To achieve a remarkably prominent level of integration of the CCE principles, the schools should further enhance and support the implementation of CCE principles. Hence, the identified challenges of DepEd teachers are the lack of awareness of the CCE principles, limited time to engage in CCE due to classroom-related activities, low administrators' initiatives and support on CCE, and lack of financial support and resources. The identified enablers are the willingness of teachers to attend capability buildings, symposiums, and training that will advance their knowledge of CCE principles. Furthermore, this study limits the awareness and perception of teachers toward the over-all DepEd schools' operation in CCE. It further suggests examining the CCE integration in teachers' research productivity, community extensions, and leadership programs.

Keywords: Climate Change Education, Research, Extension, Leadership, and Education for Sustainable Development for Sustainable Development; School Education; Teacher Education



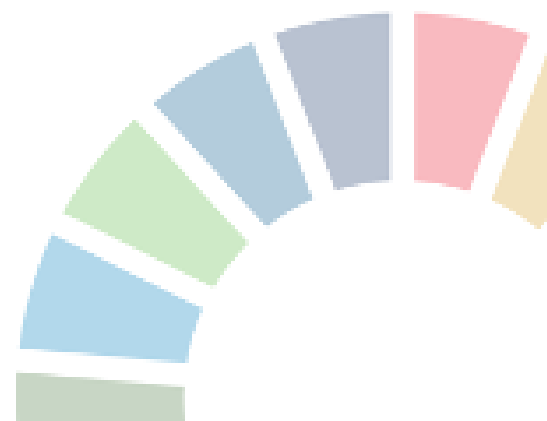


Measuring the Teachers' Capability to Integrate Climate Change Education in Research, Extension, and Leadership

Jestoni P. Babia, Benedict Al Candia, Rex Villavelez, Leo G. Alaras
University of San Jose – Recoletos School of Education
E-mail: jestoni.babia@usjr.edu.ph

This study aims to examine the teachers' contribution to integrating climate change education (CCE) in Research Productivity, Community extensions, and Leadership training. There are 83 random teacher-respondents from different DepEd schools in Cebu, Philippines. This study utilizes a descriptive quantitative research design using a four-point scale survey questionnaire. Teachers' academic preparations and experiences significantly correlate with the contribution of the identified components. It means that the higher the academic qualifications, the higher the contribution of teachers to research, extension, and leadership for CCE. The results show that teachers' engagement in community extension programs has a weighted mean of 2.05, which is a low score. The research productivity has a mean of 1.82, which is a low score. The leadership training has a weighted mean of 2.11, which is also a low score. The data implies that teachers' capability to integrate CCE in the identified components has a poor performance level. There is a significant difference in teachers' capability in the identified components with a p-value of 0.000. Moreover, there are no significant relationships between research, extensions, and leadership since all fall short in scoring. This study concludes that CCE principles have been poorly integrated into teachers' research, extension, and leadership training. It further suggests that DepEd schools should support the CCE initiatives in capability building, training, exposure, and symposiums to contribute in research, extensions, and leadership training.

Keywords: Climate Change Education, Research, Extensions, Leadership training, and Education for Sustainable Development





HONORARY PARTICIPANTS



Hiroki Fujii

UNESCO Chair in Research and Education for Sustainable Development
Director, Okayama University ESD Promotion Centre,
Okayama University, Japan



Tomonori Ichinose

Professor, Miyagi University of Education, Japan



Jestoni P. Babia

USJ-R SED Dean
ESD Fellow, SEAMEO
ESD Consultant, UNACOM
Philippine Representative to UNESCO's Climate Change Education



Helmae E. Tapanan

Principal, Senior High School
University of San Jose – Recoletos



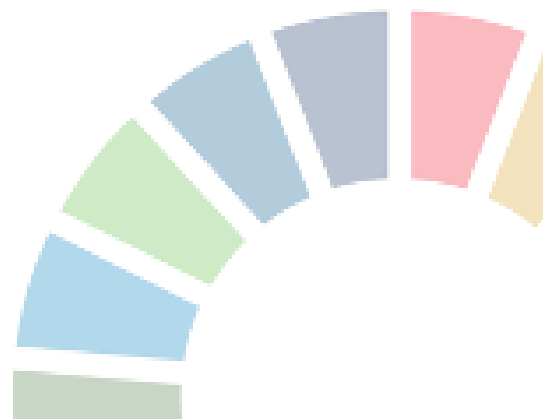
Jennifer Paño

ESD Fellow, SEAMEO
Cebu Normal University



Lynette Camello

Director, ESD Center
ESD Fellow, SEAMEO
Cebu Technological University





HONORARY PARTICIPANTS



Anna Liza Santillana

Quality Assurance
ESD Fellow, SEAMEO
Philippine Normal University



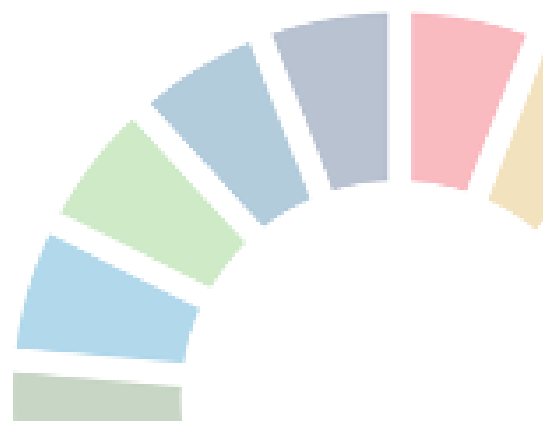
Felina Espique

Dean, STELLA
St. Louis University – Baguio
President, PAFTE



Dr. Richard Jugar

USC SED Dean and Curriculum and Instruction Committee Chair
Institutional/Independent Consultant for Basic Education
SAGC, Teacher Education
CALOHE Asia

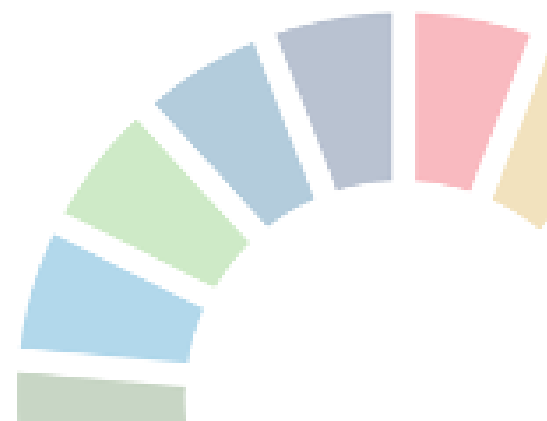


CLIMATE CHANGE EDUCATION FOR SUSTAINABLE DEVELOPMENT AMONG CENTERS OF EXCELLENCE AND DEVELOPMENT IN TEACHER EDUCATION IN THE VISAYAS REGION



TEACHER EDUCATION INSTITUTION (TEI) PARTICIPANTS

#	Names	School	Designation	E-mail Address
1	Desiree A. Barroso	Bukidnon State University- Secondary School Laboratory	Principal	Desireebarroso@Buksu.E du.Ph
2	Gina Fontejon Bonior	Silliman University	Dean, College Of Education	Ginafbonior@Su.Edu.Ph
3	Ma. Rocini E. Tenasas	Leyte Normal University	VPAS	Ma.Rocini.Tenasas@Lnu. Edu.Ph
4	Jasper Eric C. Catan	Silliman University	Instructor 5	Jasperccatan@Su.Edu.Ph
5	Ritchelee B. Alugar	Bukidnon State University	Program Chairperson	Ritcheleealugar@Buksu.E du.Ph
6	Runelo L. Piñero	Negros Oriental State University	Program Chair, Bped	Runelopinero@Gmail.Co m
7	Elve O. Nasvik	Silliman University	Chairperson, Teacher Education Department	Elveonasvik@Su.Edu.Ph
8	Rona May R. Barranco	West Visayas State University	Instructor	Ronamayramosbarranco @Gmail.Com
9	Emelyn P. Lira	WVSU - LAMBUNAO CAMPUS	Asso. Prof. 1	Epliratau62@Gmail.Com
10	Zarmie Lis R. Briones	Cebu Technological University- Tuburan	Dean, College Of Education	Zarmielis.Briones@Ctu.Ed u.Ph
11	Jake Joshua C. Garces	Cebu Normal University	Chairman, Biology Department	Garcesjj@Cnu.Edu.Ph
12	Jerry D. Ducay	Philippine Normal University Visayas	Faculty Member	Ducay.Jd@Pnu.Edu.Ph
13	Fe N. Conui	Holy Name University	Faculty	Fconui@Hnu.Edu.Ph
14	Bebelou Irene A. Daanoy	Bukidnon State University	Student Council Adviser	Bebeloudaanoy@Bukau.E du.Ph

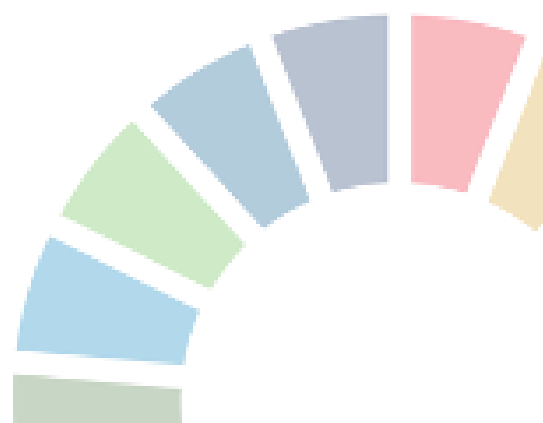


CLIMATE CHANGE EDUCATION FOR SUSTAINABLE DEVELOPMENT AMONG CENTERS OF EXCELLENCE AND DEVELOPMENT IN TEACHER EDUCATION IN THE VISAYAS REGION



TEACHER EDUCATION INSTITUTION (TEI) PARTICIPANTS

#	Names	School	Designation	E-mail Address
15	Ethel S. Doria	Holy Name University	Faculty	Edoria@Hnu.Edu.Ph
16	Charlene C. Guiral	University Of San Jose Recoletos	Faculty	Charlene.Guiral@Usjr.Edu.Ph
17	Dindo R. De La Peña	Negros Oriental State University	Extension Coordinator, College Of Teacher Education	Dinzrah@Gmail.Com
18	Lynn Michelle L. Gorospe	Tarlac Agricultural University	Chair - Science, Math, And Technology Education Dept.	Gorospelynnmichelle1865@Gmail.Com
19	Joshua S. Soldivillo	Silliman University	Assistant Professor	Joshuassoldivillo@Su.Edu.Ph
20	Edsel M. Llave	West Visayas State University-Lambunao Campus	Associate Professor	E_Llave@Wvsu.Edu.Ph
21	Mydah F. Kablingue	Cebu Technological University	NA	Mydah.Kablingue@Ctu.Edu.Ph
22	Rafunzel Y. Bulilawa	Holy Name University	Teacher	Rbulilawa@Hnu.Edu.Ph
23	Nixon S. Balandra	Philippine Normal University Visayas	Faculty	balandra.ns@pnu.edu.ph

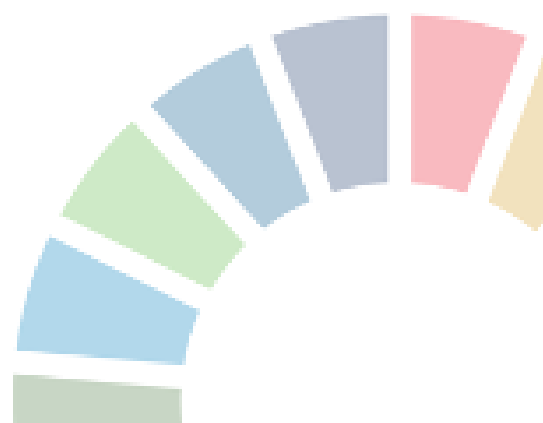


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WORKING COMMITTEES

Consultant	Dr. Jestoni Babia
Program Conference Chairman	Mr. Sondrew Baya
Media	Mr. Montano Tapanan Jr.
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Attendance and Evaluation	Mr. Rex Villavelez





Organized by

University of San of Jose-Recoletos
School of Education
ESD Center for Research, Training and Development

Contact

 USJ-R School of Education

 tec@usjr.edu.ph

 417-9512 loc 143

