SUSTAINABLE SHARED GROWTH SEMINAR #23

Integrated Water Systems for Economically Challenged Communities

THEME: Integrated Water Systems for Economically-Challenged Communities

Hosted by: A. Mateo Engineering & Consultancy Services (AMECOS) and Sekiguchi Global Research Association (SGRA)

Date: May 7, 2017 (Sunday)

Venue: AMECOS - A. MATEO ENGINEERING & CONSULTANCY SERVICES (AMECOS) AMECOS INNOVATIONS SHOWROOM LOCATION

Background: Water scarcity affects more than 40 percent of people around the world, an alarming figure that is projected to increase with the rise of global temperatures as a result of climate change. Although 2.1 billion people have gained access to improved water sanitation since 1990, dwindling supplies of safe drinking water is a major problem impacting every continent. In 2011, 41 countries experienced water stress – 10 of which are close to depleting their supply of renewable freshwater and must now rely on alternative sources. Increasing drought and desertification is already worsening these trends. By 2050, it is projected that at least one in four people will be affected by recurring water shortages. Ensuring universal access to safe and affordable drinking water for all by 2030 requires we invest in adequate infrastructure, provide sanitation facilities, and encourage hygiene at every level. Protecting and restoring water-related ecosystems such as forests, mountains, wetlands and rivers is essential if we are to mitigate water scarcity. More international cooperation is also needed to encourage water efficiency and support treatment technologies in developing countries. (From UN Sustainable Development Goals No. 6: Clean water and sanitation). While an important goal in itself, in this seminar, we consider this goal of sustaining a renewable resource, such as water, in conjunction with shared growth, especially in terms of a program geared towards research and advocacy.

Program

0900 - 0930	*Registration*
0930 - 1000	*Opening Remarks* *AMECOS CEO Dr. Tony Mateo* *SGRA Representative Eichi Tsunoda*
1000 - 1100	"Innoventions vs Climate Change Effects" by Dr. Tony Mateo, AMECOS
1100 - 1130	"Green Innoventions in Home Septic Tanks" by EnP. Grace Sapuay and Engr. Samuel Sapuay, Solid Waste Association of the Philippines
1130 - 1200	"Managing the Commons and Debt for Development Swaps: How to Reduce Sovereign Debt to Enhance National Patrimony" by SEC Joffre Balce, Association for Good Government
1200 - 1230	"Water Resources Management by Business Organizations: Towards a Theoretical Framework for Stakeholder Analysis and Engagement" by Dr. Aliza Racelis, College of Business Administration, University of the Philippines, Diliman
1230 -1330	*Lunch Break*
1330 - 1500	*SGRA Vision and Updates followed by Round table Discussion facilitated by Dr. Max Maquito*
1500 - 1530	*Merienda*
After Seminar	*Other activities (picture taking of all participants, mini tour of AMECOS)*

Master of Ceremonies: Dr. Brenda Tenegra

Dr. Brenda welcomes participants and gives an overview of the host site while introducing each Presenter

OPENING REMARKS:

AMECOS President: Dr. Tony Mateo

Eiichi Tsunoda, Director of Atsumi International Foundation, Dr. Max Maquito, Sekiguchi Global Research Association Philippines, Chief Representative, fellow researchers and inventors, friends, ladies and gentlemen, Good Morning.

Let me start by thanking the group of SGRA and Atsumi International Foundation for the privilege of co-hosting this SGRA Seminar 23 with a very timely theme, Integrated Water Systems for Economically Challenged Communities.

While we may not cover fully the subject theme with substantial data and information due to time budget and venue limitation and the limited available of presenters, the opportunity to be informed of some creative engineering development as interventions being shared may open the door for government and private institutions to come out with programs with greater impact and significance in creating public awareness and participations that can help solve problems of communities in the country.

As an educator and an inventor, it is my belief that the resoluteness, dedication and serious involvement of all creative Filipinos and leaders of government in response to technological changes and human needs will someday open vast of opportunities and options that will benefit our country and people.

As an inventor, I have always been guided by the ever strengthening principle in life that there is nothing in this world more worthwhile and fulfilling than the vocation dedicated to the development of our youth and discovery of things for the progress and convenience of mankind.

This building, the fulfillment of a dream and the model of creative, practical engineering construction methods. Took 2 and a half years to be finished, due to limited funds and with four construction workers including myself, will someday be the Venue and Center for Development of Creative Ideas, the showroom of filipino innovative works and the training and development of our youth in science, technology and inventions.

Friends, me and my wife, Babes would like to thank you for sparing your precious Sunday Family Time. With the grace of God Almighty the purpose and objectives for which this seminar 23 had been conceived can be achieved .

Welcome and enjoy SGRA's Seminar 23 .

SGRA Representative: Eichi Tsunoda

Dear Friends,

Magandang hapon! Ako ay si Eiichi Tsunoda. (Good afternoon! I am Eiichi Tsunoda)

It is my great pleasure to attend this Seminar on behalf of Ms. Junko Imanishi the Chief Representative of SGRA.

SGRA is short for Sekiguchi Global Research Association (we pronounce it as SEGURA) of the Atsumi International Foundation (AIF). SGRA's mission is to contribute to good global citizenship under the principle of harmony in diversity. The core of SGRA is formed from former Atsumi scholarship recipients of foreign students in their final stage of Ph.D. work in Japanese university.

The representative of SGRA Philippines, Dr. Max Maquito, is one of the original members when the organization was founded, and was the first of two Philippine recipients of the AIF scholarship. Dr. Brenda Tenegra was the second one.

This is my second time to attend this seminar. I am always impressed by your continuous discussion on “Shared Growth”, which I firmly believe has to be deeply studied and must be extended all over the world, especially, in this world where disparity is widely spreading. I know that Dr. Max Maquito, the organizer of this seminar, has discovered the notion or, if we can say, the philosophy of “Shared Growth“ as a result of his long research on the Japanese economy.

But it is my deep regret that Japan has already lost its vitality due to demographic problems such as aging and low fertility rates, and it has become very difficult I think for Japan to propose its old philosophy to create a new world. I think that a young country like the Philippines is the place to create what to her is new philosophy to build a better society. I am looking forward to exciting discussions today.

To end my speech, I would like to express sincere thanks to Dr. Tony Mateo for hosting this seminar. Thank you very much again.

Eiichi Tsunoda,
Secretary General
Atsumi International Foundation
www.aisf.or.jp

PRESENTATION 1

"Innoventions vs Climate Change Effects" by Dr. Tony Mateo, AMECOS

An Innovative Rainwater Harvesting System (IRHS) was developed by herein Filipino Inventor, to put rainwater to good use for sustainability, rather than waste this life saving resource through devastating floods or natural runoff and allows the provision of fresh water at or near the point of its use. This “Filipino Technology “ of rainwater harvesting and converting rainwater and contaminated water to potable water will pass all the 16 PNSDW parameters under the Physical and Chemical Tests with pH improved from 5.8 – 6.3 pH to 7.8 -8.5 pH, and passing the Microbiological Test Results inclusive of the Heterotrophic plate count.

The presentation will cover the results of the R&D works and the important breakthroughs and discoveries. Foremost, will be the development of the bucket and candle filters with anti pathogen as major components of the 1,000 liters IRHS Module. Another will be the utilization of an invented double flare flexible piping system, virtually making the whole water lines leak-proof and maintenance free. Another will be the development of “IRHS Life Saving Kits for evacuation centers and rescue operations. Equally important is the development and utilization of an environmentally friendly “Rainwash Water Diverter”, using discarded aluminum can, which will provide a cleaner rainwater to the IRHS Storage Tanks when house roofs will be used as catchment areas.

The presentation will also cover the practical application of the IRHS harvested rainwater in rooftop farming, drip irrigation, pulse irrigation and pressure irrigation using discarded plastic bottles.

Finally, the introduction of an “Environ House” a duplex low cost housing design , “Green Toilet” and the Training of Women Plumbers for the innovative Rainwater Harvesting System installation and maintenance will also be presented.

Dr. Antonio F. Mateo

Dean, College of Engineering, Adamson University (1983 - 1986) and (2001-2005); Graduate of B.S. Electrical Engineering (1968) Mapua Institute of Technology; Summa Cum Laude, M.S. Management Engineering (1975) Adamson University; BEN Emeritus, Ph.D. in Management (1982) University of Sto. Tomas Graduate School; Multi-awarded inventor with 81 patent certificates; author of the e-book “Innovative Rainwater Harvesting System: Practical Option to Climate Change, Water Crisis & Disasters (May 2011); 2011 PCCI Ambassador Alfred M. Yao National Intellectual Property Awardee (October 13, 2011) ***E-Mail:*** *amecos2004@yahoo.com*

PRESENTATION 2

"Green Innoventions in Home Septic Tanks" by EnP. Grace Sapuay and Engr. Samuel Sapuay, Solid Waste Association of the Philippines (presented by Camille Sapuay)

In the design and construction of houses or residential buildings, undeniably the least talked about component is the septic tank. This is the depository of unwanted solid-cum-liquid wastes generated by the inhabitants that silently serve a vital function for the health and sanitation of the home. The traditional structure being provided used to be a one-chamber system for liquid and solids. Over the years as the building practitioners (sanitary-civil engineers and architects) became aware of actual function of the septic tank, innovations were introduced giving rise to double-chamber or triple-chamber systems – thus, better separating liquid from solids and further subjecting the liquid further bio-treatment. As the solid chamber reaches its intended capacity, part of the maintenance entails the interruption of the usage of toilet and desludging the chamber either by desludger/contractor or by the house owner. This situation brings about two issues – severe inconvenience to the household with the non-usage of toilet, and potential environmental contamination if the desludged materials are improperly and directly discharged to the surroundings. The Green Innoventions in Home Septic Tank, which was recently constructed solves these two issues. To allow the residents to have continuous usage of toilet, two sets of septic tanks will alternately receive wastes. When one set-up of septic tank is in use, the other one will be biodegrading its content until it becomes dry compost. The grey water will be treated twice in two down-process chambers with tiled-filtered drains at the bottom, controlled by faucet pipes. The liquid tanks have floating biofilters to serve as habitats of microorganism colonies that will bio-treat the wastewater better. Prior to discharge, a gravel filter tank is introduced for the effluent to be further clarified and bio-treated by soil-dwelling microorganisms. The series of tanks arranged in cascades with sloped bed allows for gravity drain and efficient dewatering of sludge. In the end, the final effluent will be well treated and ready for discharge to the surrounding subsurface soil layers for vegetation/plant uptake. Embedded in concrete tank covers are inverted old drinking glasses that serve as mini passageways for sunlight's UV rays to promote disinfection of greywater of pathogenic bacteria. This green innovention achieves better waste water treatment for plant uptake, produces dry compost for organic purposes, while the household has no-interruption of sanitation service. This setup can be later scaled up for cluster of homes and multi-dwelling families achieving better service and improved environmental protection.

Marie Julienne Camille P. Sapuay

Marie Julienne Camille graduated from the University of the Philippines, Diliman, with a Bachelor of Science degree in Computer Science. She worked as a software engineer for NOKIA (Network Labs) from 2012-2015. She taught web development using JAVA at ETC, a private company based in the US, training its staff on web development. She has attended various local and international conferences such as the Children's World Summit for the Environment (Aichi Prefecture) and AFC 3 in Kitakyushu, Japan. She trained on Autocad operations and she has just finished a training course on ArcGIS2 Essential workflows, with Geodata Systems Technologies. She has enrolled at UPSURP (Diploma in Urban and Regional Planning). She is co-founder and head of the informal children and youth environmental organization called Kalipunan ng mga Kabataan para sa Kalikasan (KALIKASAN).

Grace Penaflor Sapuay, EnP

Mrs. Grace P. Sapuay holds a Bachelor of Science degree (major in Marine Science) from the University of the Philippines, Diliman (1983). She finished her Master of Science degree in Fisheries major in Fishery Biology at the University of the Philippines in the Visayas in 1987. In 1988 she was awarded a Monbusho Scholarship by the Japanese Government's Ministry of Education (Monbusho) and pursued a Master's Degree in Fisheries specializing in fishery resources from Kagoshima University, Kagoshima City, Japan. In April, 2013, she graduated with a postgraduate Diploma in Urban and Regional Planning degree, wherein she received a Dean's Medallion Award for academic excellence. She was also awarded a membership in the Pi Gamma Mu International Honor Society in the Social Sciences. She is a Professional Regulations Commission licensed Environmental Planner; President of the Solid Waste Management Association of the Philippines

Email: *gracepsapuay2014@gmail.com*

Engr. Samuel E. Sapuay*, a Philippine licensed Civil Engineer and Environmental Planner, graduated from the University of the Philippines with BS Civil Engineering degree (1985), and has double Masters Degrees in Civil Engineering (major in Coastal Engineering) from Kumamoto University, Japan (1990) and Environmental Engineering from Stevens Institute of Technology, USA (1995). Engr. Sapuay primarily works as international consultant in foreign funded projects in*

the fields of civil/environmental engineering, water and sanitation, solid waste management, infrastructure planning and construction management. Aside from his professional employment and consultancy experiences in the Philippines and United States, he has worked in countries such as Azerbaijan, Bangladesh, Cambodia, China, Georgia, India, Kyrgyzstan, Laos, Mongolia, Mozambique, Serbia, Tajikistan, Tonga, Turkey, and Vietnam, funded by ADB, IBRD-WB, EBRD, JICA, AFD, EIB, and MCC.
E-Mail: *sesapuay@gmail.com*

PRESENTATION 3
"Managing the Commons and Debt for Development Swaps: How to Reduce Sovereign Debt to Enhance National Patrimony" by Mr. Joffre Balce, Association for Good Government

Debt for development swaps evolved from debt restructuring techniques that widened its horizons from simply reducing debt with the intention of mobilising investments in privatising corporations to free up resources so that governments can finance developmental concerns that would have otherwise been compromised. The presentation focuses on how debt for development swaps can be possibly used to rebuild or enhance the commons with a focus application on water and aquatic resources.

Mr. Joffre Balce *is Secretary, Association for Good Government, a 116 Year old knowledge resource institution for a political economy based on equal rights and the self-determination of the individual. Has 35 years experience working in management, staff and advisory functions in the government, corporate, civil society and academic sectors of the Philippines and Australia. PhD (Cand.) in Law from the University of New South Wales, MSc Industrial Economics from the University of Asia and the Pacific and an AB Interdisciplinary Studies from the Ateneo De Manila University.*
E-Mail: *joffre.balce@gmail.com*

PRESENTATION 4

"Water Resources Management by Business Organizations: Towards a Theoretical Framework for Stakeholder Analysis and Engagement" by Dr. Aliza Racelis, College of Business Administration, University of the Philippines, Diliman

While most of the world focuses ever more on climate change and ways and means of controlling the buildup of greenhouse gases, a less celebrated but potentially just as important issue is evolving in the realm of water resources. When the world entered the twenty-first century there were more people without access to safe water and sound sanitation than ever before. A third of the world population were living in countries suffering moderate to severe water stress.

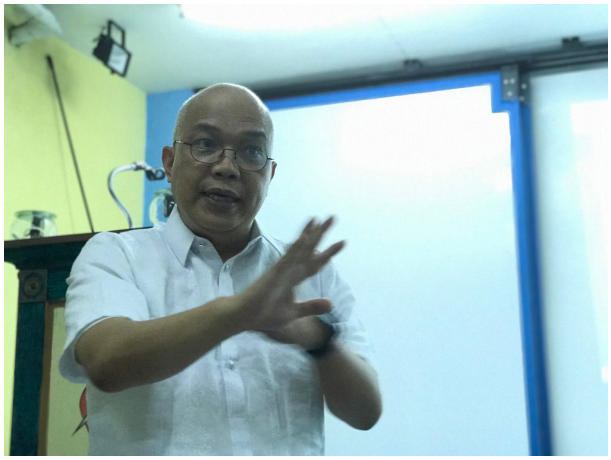
More than a decade thereafter, there continue to be more people without safe water and sound sanitation. The efficiency and impact of civil society as well as business participation in water and sanitation services continues to be a subject of study. Firms are now expected to share responsibility with governments for tackling these issues; corporate leaders increasingly accept that new strategic and operational approaches are required to manage their company's role and responsibilities in society. The identification and engagement of key stakeholders in corporate activities have become increasingly important in the resolution of such issues. The value of stakeholder engagement is amplified when businesses face broad and rapidly changing conditions especially such meta-trends as climate change and water shortages. A number of initiatives have emerged which enable business, government and civil society to jointly tackle water issues in a mutually beneficial and sustainable manner.

A cursory look at the literature would reveal that some solutions frameworks include: stepping up the role of education (educators and educational institutions), engaging sustainability consultants as well as culture change agents, NGOs empowerment, engagement with communities, utilities, better channelling of funding sources, technology advances, succession planning, among others. This paper shall review the literature on advances in water resources management in the two decades after the United Nations Conference on Environment and Development (UNCED) (Rio Earth Summit) 1992. The objective is to formulate, based on such review of literature, a theoretical framework for a comprehensive stakeholder analysis and engagement in the area of water resources management in the ASEAN region.

Dr. Aliza Racelis *obtained an Accountancy degree from the University of the Philippines, earned an MBA from the National University of Singapore (NUS) and has a PhD in Business from the University of the Philippines. Since coming back from her MBA at NUS, she's been teaching at the Department of Accounting & Finance of the University of the Philippines Business School. Apart from Management Accounting, she specializes in Corporate Governance & Business Ethics.*

E-mail: *aliza.racelis@up.edu.ph*

Roundtable Discussion Facilitated by Dr. Max Maquito



Outline of Roundtable Discussion

1. Preliminaries
    a. Objective of Roundtable
    b. Background of Problem
    c. Reference Case of KKK R&A[1]
    d. Focus Case of KKK R&A
2. Round Table Discussion Proper (4 Rounds; 20 minutes per round)
    a. Dr. Tony Mateo
    b. EnP. Grace Sapuay
    c. Sec. Joffre Balce
    d. Dr. Aliza Racelis

1.a. Objective of Roundtable

- To understand more deeply the Sustainable Shared Growth (KKK) Research & Advocacy (R&A) which is the focus of today's seminar
    - Integrated Water Systems for Economically Challenged Communities
- In so doing, we hopefully provide some support to the KKK R&A (for this seminar our focus is on Dr. Tony Antonio's KKK R&A)

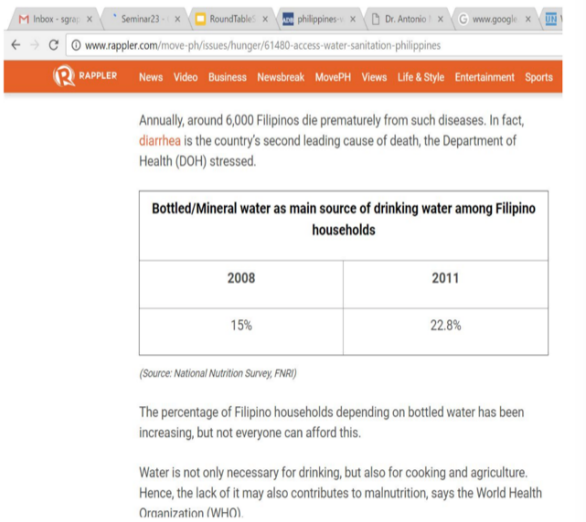
1.b. Background of the Problem (from UN Sustainable Development Goals)

- 2.6 billion people have gained access to improved drinking water sources since 1990, but 663 million people are still without
- At least 1.8 billion people globally use a source of drinking water that is fecally contaminated
- Between 1990 and 2015, the proportion of the global population using an improved drinking water source has increased from 76 per cent to 91 per cent
- But water scarcity affects more than 40 per cent of the global population and is projected to rise. Over 1.7 billion people are currently living in river basins where water use exceeds recharge
- 2.4 billion people lack access to basic sanitation services, such as toilets or latrines
- More than 80 per cent of wastewater resulting from human activities is discharged into rivers or sea without any pollution removal
- Each day,nearly 1,000 children die due to preventable water and sanitation-related diarrhoeal diseases
- Hydropower is the most important and widely-used renewable source of energy and as of 2011, represented 16 per cent of total electricity production worldwide
- Approximately 70 per cent of all water abstracted from rivers, lakes and aquifers is used for irrigation

[1] KKK R&A refers to Sustainable Shared Growth (KKK in Tagalog and Nihongo) Research & Advocacy

- Floods and other water-related disasters account for 70 per cent of all deaths related to natural disasters

The figure below puts these numbers in a Philippine setting.



For over 20 seminars now, the search for mechanisms that contribute to sustainable shared growth (KKK) has yielded only a short list. The seminars have sought to understand these discovered mechanisms in the hope of enhancing their effectiveness. Like rare and endangered species, these mechanisms should be preserved and nurtured. In this seminar, we focus on the KKK mechanism of “Integrated Water Systems for Economically-Challenged Communities”. The inclusion of this mechanism in the KKK short list was inspired by presentations of Eng’r. Lyn Capistrano (Seminar #16) and Dr. Tony Mateo (Seminar #14). As a reference case for the round table discussion, the various elements of Eng’r. Lyn’s advocacy is shown in the table below.

Reference Case of KKK R&A

Efficiency Kahusayan 効率	Equity Katarungan 公平	Environment Kalikasan 環境	Research	Advocacy (seminar 16)
Reducing cost of accessing potable water	Making potable water accessible to low-income households	Management of water as a renewable resource both at source and sink interfaces	Engineers of PCWS work with communities in developing low cost water supply and sanitation technology options, thereby enhancing local initiatives leading to benefits in health and livelihood	LYN N. CAPISTRANO is the Executive Director of the Philippine Center for Water and Sanitation – ITN Foundation (PCWS-ITNF). 

As hinted in the background of the problem given above, water, although a renewable resource, is increasingly getting scarce. The solution appears to be market-led: let those who can afford it get it. This naturally deprives those without the means access to this basic resource. The solution proposed by Eng'r. Lyn is to reduce the cost of accessing potable water through her research of water-related technologies that engineers of PCWS develop with the communities they work with. Lowering the cost enables low-income household to access water, as well as sanitation. The problem this creates, however, is wasteful use of the resource, given the human tendency to abuse what is relatively inexpensive. To overcome this problem, Eng'r. Lyn's mechanism is imbued with a sense of managing water at the source (where the resource is extracted) and the sink (where the resource is discharged). Below is a diorama displayed at the office of PCWS-ITNF to illustrate the projects that they are doing in the countryside.

Source: PCWS-ITNF

A bird's eye view of diorama is given below

Source: PCWS-ITNF

To further elaborate on the KKK R&A matrix, and to introduce the main KKK R&A of this seminar, I applied the matrix to the case of Dr. Tony's advocacy, as shown below.

Focus Case of KKK R&A

Efficiency Kahusayan 効率	Equity Katarungan 公平	Environment Kalikasan 環境	Research	Advocacy (Seminar 14)
a duplex low cost housing design	❖ Accessibility to low income families ❖ Accessibility to women plumbers	❖ Sustainable management of water resources ❖ Contributes to resiliency under climate change	Inventor par excellence	"Environ House" employing the Innovative Rainwater Harvesting System (IRHS) by AMECOS CEO Dr. Antonio Mateo 

Below are the matrices summarizing the round table discussion

Focus Case of KKK R&A Round 1: Dr. Tony

Efficiency Kahusayan 効率	Equity Katarungan 公平	Environment Kalikasan 環境	Research	Advocacy
❖ Creative Engineer Design ❖ Longevity of Projects/Designs	❖ Right and access to water ❖ Low cost ❖ Protection from piracy to sustain research and development	❖ Resiliency to climate change disaster (i.e. roof design)	❖ Continuing Inventions ❖ Research and Development ❖ Buffer for community and household (i.e. firefighting) ❖ Risk management ❖ Peace of mind	❖ Intellectual Property Rights protection to sustain *innovention* efforts ❖ *innovention* - due rewards for one's labor

Protection of intellectual property rights appear to be a serious obstacle to Dr. Tony's advocacy. He has prepared an essay on this and is given after the round table discussion matrices.

Focus Case of KKK R&A Round 2: EnP Grace

Efficiency Kahusayan 効率	Equity Katarungan 公平	Environment Kalikasan 環境	Research	Advocacy
❖ Zero operations ❖ Zero inconvenience ❖ Maximum use of waste ❖ Savings on de-sludge costs	❖ Accessibility to clean and hygienic conditions ❖ Healthy living on both household and community levels	❖ Utilization of waste	❖ Rehab of lahar struck areas using sludge disposal ❖ Engineer Sam's design cost ❖ Continuing R&D improvement ❖ Networking	❖ Scale up to community/ communal facilities ❖ LGU Projects

Certification of the water discharged from the septic tank was recommended by the Benguet team. It might also be worthwhile for EnP Grace (or Eng'r Sam Sapuay) and Dr. Tony to sit down and talk shop, since their initiatives complement each other: Dr. Tony from the source point and EnP. Grace from the sink point.

Focus Case of KKK R&A Round 3: Sec. Joffre

Efficiency Kahusayan 効率	Equity Katarungan 公平	Environment Kalikasan 環境	Research	Advocacy
❖ Development that is free from debt servitude ❖ What was deprived or destroyed can be restored	❖ Fairness ❖ Inclusiveness ❖ Justice Internalization	❖ Ownership of the environment and the benefits ❖ Environmental health is not compromised	❖ Continuing historical and prospective research ❖ Debt for development swaps with carbon credits ❖ Economic rents are greater than debts	❖ Equality and rights to the commons (i.e. H20) ❖ self -determination and freedom from debt ❖ Economic rights ❖ Poverty elimination

Debt forgiveness here is recommended for the case of unjust debt. Sec. Joffre is aware that we should be careful as not to encourage misuse of debt that may arise if borrowers anticipate debt forgiveness.

Focus Case of KKK R&A Round 4: Dr. Aliza

Efficiency Kahusayan 効率	Equity Katarungan 公平	Environment Kalikasan 環境	Research	Advocacy
❖ Stakeholder engagement leads to greater efficiency in the water management system ❖ Involve community in visioning and objective settings ❖ Part of project management	❖ Fairness ❖ Inclusiveness ❖ Justice Internalization	❖ Ownership of the environment and the benefits ❖ Environmental health is not compromised	❖ Deeper conscientization of stakeholders ❖ Genuine dialogue (hear out and value civil society opinions) ❖ Active and proactive response	❖ Dissemination (of SGRA vision) via Conferences and Social Media ❖ Education and awareness transparency

Dr. Aliza is developing a theoretical framework which essentially is an extension of the UN's Integrated Water Resource Management (IWRM) which is a process that promotes "the coordinated development and management of water, land, and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems" (from Dr. Aliza's slides). Hence, her framework is automatically KKK.

Submitted Essay by Dr. Tony Mateo[2]

SCIENTIFIC TRUTH

Ceramic-based water filters, reportedly developed by DOST, were in fact and in truth, developed and patented by Dr. Antonio F. Mateo , Filipino Inventor in 2007, as components of the Innovative Rainwater Harvesting System.

THE INNOVATIVE RAINWATER HARVESTING SYSTEM (IRHS) & COMPONENTS

THE INVENTOR'S FACTUAL EXPERIENCE

The ceramic clay filter with anti-pathogen together with other components were granted a total of 14 Philippine Invention Patents and UM Registrations inclusive of the Innovative Rainwater Harvesting System (IRHS).

In January , 2013, after the issuance of the Patents and Registration Certificates of all 14 developments, Dr. Mateo submitted a Project Proposal (PP), in accordance with R.A. 7459, otherwise known as the Inventor's Incentive Act , for the commercialization of the Ceramic Clay Filters with anti-pathogen in plastic container assembly as the initial feasibility study revealed its viability. The Office of the Department of Science and Technology (DOST) received a copy of the PP and all subsequent communications.

[2] The mission of the KKK seminars is to help in some way to push forward the KKK R&A of the lead OC member. Identifying major problems is part of this mission

Immediately after the submission of the PP, the TAPI/DOST, returned all documents and denied the proposal for the reason, that there are no funds for such an activity, only for this Inventor to learn later that similar researches were funded with Two Million Pesos (P 2, 000,000.00) being given as Grant to three (3) “Technology Adopters, all private parties and business institutions.

In May 2012, a letter was sent by this Inventor to the DOST Secretary after hearing that DOST is implementing a similar Rainwater Harvesting System Technology in the radio program “*Sagot Ko Yan*” (I pay the bill)

In August 2014, a letter of warning was sent to ITDI/DOST when an ITDI Senior Researcher presented the Ceramic Clay Filters in an ABS-CBN T.V. interview claiming this as a DOST development.

In October 2014, ITDI Officers came to AMECOS Office to prevent the legal option being pursued by Dr. Mateo based on Patent laws. They promised not to pursue similar R&D /presentation activities to avoid duplication of efforts and waste of public funds.

However, this Sept. 1, 2015, Dr. Mateo was a speaker in the 2015 North Luzon Cluster Science & Technology Fair on "Climate Change Adaptation Technologies" and visited Exhibit Booths of DOST and their "Technology Adopters" with leaflets being distributed which showed the same ceramic filters being produced by the thousands with no indication of the name of the Inventor nor history of development, only the logo of ITDI and DOST as technology developers. .

Dr. Mateo decided to file the legal complaints with the Office of the Ombudsman on January 30 2017, (OMB-C-C-17-0091 & OMB-C-A-17-0078) against certain Department of Science and Technology (DOST) Officers and Researchers
for violation of R.A 8293 , the Intellectual Property Code , specifically Section 71.1 and Section 76.6 , and R.A 3019 , Anti-graft and Corrupt Practices Act more specifically Sec. 3 (e) & (f).

Another Civil case will be filed against Three (3) Private Institutions who were induced by DOST with Two Million Pesos Grants each as “Technology Adopters “ to infringe on the Patented Inventions.

These legal actions were filed not only for personal protection of intellectual property rights but also for the interests and protection of legitimate Inventors and Researchers from Government malfeasance /misfeasance.

INVENTORS, INNOVATORS AND RESEARCHERS . . .

UNITE AND ALWAYS PROTECT YOUR RIGHTS!

Submitted Essay: Rainwater Harvesting (Personal Insights) by Dr. Brenda Tenegra
E-mail: **brendash157@googlemail.com**

It was raining when I arrived Cebu after a 45-minute flight from sweltering Manila. This reminds me of how the climate has changed. The roads were soaking wet; water accumulated in some corners and appeared like water basins from the car where I was. Fresh from a seminar on Integrated Water Systems for Economically-challenged communities, I couldn't help think for a potential solution to mitigate road-side water accumulation and flooding. The idea of rainwater harvesting came to mind, thanks to the KKK seminar # 23. I posed this question to myself - what if each household has a system of collecting rainwater? Arguably, this system could minimize the volume of rainwater gushing to the streets, and consequently could minimize, if not prevent water accumulation and flooding.

The government has invested millions of pesos for the drainage system that remains problematic up to this day. I believe there are innovative and integrated approaches in place to address this issue but somehow there's a disconnection and wasted effort within these approaches, particularly in the household level target. Apparently, the focus and effort are so big in scope that the true participation in the household level is undermined; from the initial phases of project conceptualization to the implementation.

It may sound simplistic but a corrective and preventive action plan can be applied here, and this involves varied measures to identify the main issue; the corrective action to immediately address issues that have already been occurring and identified; and the preventive action for a long term solution to mitigate issues that have been identified. To make this plan more effective is the incorporation of the E-Cube (Efficiency, Equity, and Environment-friendly approaches) in the process.

Identifying the main issue – the initiatives must come from the beneficiaries themselves, in this case, those households frequently plagued by floodwater even with the smallest amount of rain. True participation here is tested when household members take part in the planning and decision-making programs that can subsequently affect their lives.

Immediate corrective action - household members can make use of improvised tools, pipes and containers (e.g. use of bamboos for pipes) to control the flow of rainwater from accumulating in the ground and at the same time collect it for different purposes.

Preventive action – for a long-term plan, household members are introduced to a more advanced but cost-effective rainwater harvesting techniques; introduced to water

conservation programs and clean up drives in communal areas and riverbanks; taught with the proper technique of disposing contaminated water and water treatment. Consequently, such drives could promote social awareness, household to household interactions and foster friendship. In the community level, it encourages active involvement in community consultations.

The extent by which household members participate can be considered an empowerment they themselves identify, plan for, and implement. Rainwater harvesting geared programs are able generate the following benefits: ensures a program's social acceptability, ensures resource mobilization through the use of improvised and sustainable tools, promotes efficiency through the varied use of collected rainwater, and accessibility for and from the economically challenged.

- **An invitation to SGRA's 4th Asia Future Conference in 2018 at Seoul**

- **An invitation to the SGRA Sustainable Shared Growth Seminar #24 in Sydney, Australia**
  - **Theme: Progress Without Poverty of People and Nature (The Role of Land Value Taxation)**
  - **Date (Tentative): September 17, 2017**
  - **KKK R&A in Shortlist: Land Value Tax (a.k.a. Henry George or Single Tax)**
  - **Lead Organizing Committee Member: Mr. Joffre Balce, Secretary of the Association for Good Government**

"Men like Henry George are rare, unfortunately. One cannot imagine a more beautiful combination of intellectual keenness, artistic form, and fervent love of justice."
—Albert Einstein

PARTICIPANTS OF Seminar 23

Full Name	Title	Affiliation
Aliza Racelis	Dr.	Virata School of Business, University of the Philippines, Diliman
Alma L. Tangcuangco	Ms.	Holy Angel University
Angelo Miro	Mr.	Accenture
Anne Marie M. Lagmay	Ms.	Holy Angel University
ANTONIO F. MATEO	DR.	AMECOS INTELLECTUAL PROPERTIES INC.
Arturo Mariano Isip Figueroa	Professor	Holy Angel University
Benito C. Shea	Dr.	Adamson University, College of Engineering, Chemical Engineering Department
Brenda Resurecion Tenegra	Dr	SGRA member
ENGR. JAKE BADONGEN	Agricultural Engineer, OMAg, La Trinidad, Benguet	Local Government of La Trinidad, Benguet
Gabriel L. Toribio	Barangay Chairman	Local Government of Tuel, Tublay
GIRLIE GAYLE D. TORIBIO	Registered Nurse	Private Practice
Grace P. Sapuay	EnP	Solid Waste Management Association of the Philippines
JANE D. TORIBIO	Chief, Field Operations Division	DAR-CAR
Leilanie Maquito	Ms	SGRA PH
Mar Stephen Sembrano	Mr.	Holy Angel University

Maria Mynn Porciuncula-Alfonso	Architect/Eco-landscape Designer	Faculty member, UST College of Architecture
Marie Julienne Camille P. Sapuay	Miss	Freelance
Renato S. David	Mr.	Holy Angel University
Felicitas D. Ticbaen	MUNICIPAL AGRICULTURIST	LOCAL GOVERNMENT UNIT OF LA TRINIDAD
Engr. Vicente C. Perez, Jr.	Municipal Planning and Dev't Officer	Local Government of La Trinidad
Abner Mabiasan	Mr.	Local Government of La Trinidad
Joffre Balce	Secretary	Association for Good Government
Allan Christian M. Chua	Mr.	SGRA PH

ENVIRON TREE HOUSE and PLAYGROUND

(Incorporating the Innovative Rainwater Harvesting and Solar DC Led Lighting System)

A Labor of Love for Children, Relatives, Friends and those who appreciate Environmental Innovations . The Environ Tree House was built by herein Inventor and a helper , mostly using dead woods and discarded materials and the application of practical Engineering Design and Process. It took 6 months with interruptions due to production, research and lecture commitments.

The Playground Equipment were all fabricated, using parts of old vehicle and pipes from deep well that were replaced due to clogged line.

DEAN ANTONIO F. MATEO Ph.D.

Inventor

" The best way to make children good is to make them happy "

Arch. Mynn (University of Sto. Tomas) sharing a point during the Q&A after Dr. Tony's presentation

Ms. Felicitas Ticbaen, Municipal Agriculturist of La Trinidad, Benguet (member of the team of Dr. Jane, who is shown enjoying a cup of rainwater coffee), makes a proposal for improving the septic tank design

A sumptuous Filipino lunch after the presentations, and before the round table discussion, held at the third floor of AMECOS main building (including freshly picked vegetables from the home garden)

Dr. Tony all dressed up for the tour of his inventor's laboratory + home (during a lull before the round table discussion)

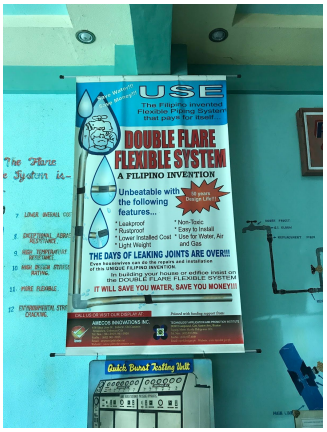
Eiichi-san enjoying the merienda (Philippine afternoon snack) of spicy noodles (pansit Malabon), during a break in the roundtable discussion

Eiichi-san working hard: signing the certificates to be given to the participants

Certificates were given to all participants present. Picture shows it being given to Eng'r. Gelo Miro (rightmost), who kindly shared with us his photos of the seminar. Gelo has been helping out in the KKK seminars since I think he was about as high as my waist.

The main venue (AMECOS main building) with some of Dr. Tony's inventions on exhibit

Dr. Tony showing off some of his inventions to seminar participants. The first floor of the AMECOS building is a veritable exhibit hall of his inventions



Just some of Dr. Tony's inventions. There are now more than his age. "I was already inventing in my mother's womb", he jokes.

Thanks to Lenie for helping out in the registration, DTP, and other Secretariat work of SGRA Philippines

Published by: Sekiguchi Global Research Advisory Philippines Ltd. Co.
Address: 28 Taurus St. , Cinco Hermanos, Marikina City 1 800, Metro Manila, Philippines
Telephone No:02-3581 557
Website: www.aisf.or. jp/sgra-in-english
Email: sgraphil@gmail.com
DTP by: Lenie M. Miro
Edited by: Columbus E. Maquito

In Collaboration with Sekiguchi Global Research Association
Chief Representative: Junko Imanishi
Address: c/o Atsumi International Foundation 3-5-8 Sekiguchi, Bunkyo-ku, Tokyo 1 1 2-001 4, Japan
Telephone No: +81 -3-3943-761 2
Fax No: +81 -3-3943-1 51 2
Website: www.aisf.or. jp/sgra
Email: sgra-office@aisf.or. jp