PROGRAM BOOK

2nd International Conference of TREPSEA 2016

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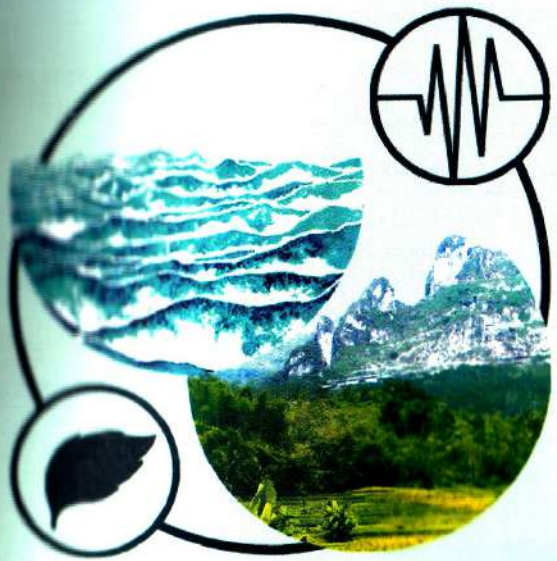
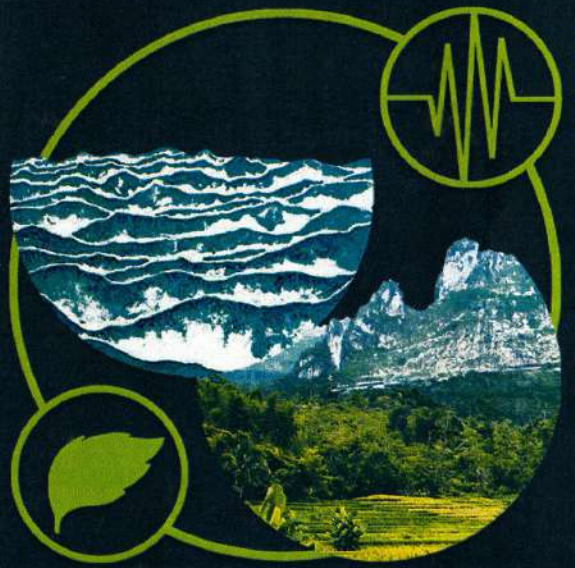


The 2nd International Conference of Transdiciplinary Research of Environmental Problems in Southeast Asia

The Papandayan Hotel, Bandung, West Java, Indonesia
20-22 September 2016

2nd International
Conference of

TREPSEA 2016



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2nd TREPSEA Program Book

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TREPSEA 2016

The 2nd International Conference of
Transdiciplinary Research of Environmental Problems
in Southeast Asia

organized by:

supported by:

GEMAH RIPAH WIBAWA MUKTI

sponsored by:

MEDCOENERGI

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ABOUT TREPSEA

The TREPSEA International Conference were started since 2011 by the 1st International Seminar of Environmental Geoscience (ISEGA) to provide a forum for its members to discuss and sharing their latest research. In 2014, the conference name was changing to 1st TREPSEA, held in Swiss Belinn Hotel, Makassar, Indonesia on 4-5 September 2014. The last but not least conference is the currently 2nd TREPSEA, which held on The Papandayan Hotel, Bandung, West Java with the great theme of "Disaster and Environmental".

Transdisciplinary Research (TDR) is defined as research efforts conducted by investigators from different disciplines and non-academic participants working jointly to create new conceptual, theoretical, methodological, and translational innovations. As it is related to environment, its scope thus includes various topics such as geoscience, environmental sicence, enginering, medicine, economy, law, culture, education, administration, etc. Related stakeholders include sponsoring institutions, governments, development organizations, bussiness and industries ,civil societies, and medias.

Our communitiy is leading the way in studies to understand how to solve the environmental problems in Southeast Asia. In TREPSEA, we believe that we should contribute to have more growth for International conference on the matter of environmental problems.

WELCOME MESSAGE

Emmy Suparka
General Chair

Dear colleague & friends,

Welcome to the TREPSEA 2016 conference, welcome to Bandung.

It is proud to host TREPSEA 2016 as the 2nd meeting since the first meeting held in Makassar in the year of 2014. The theme of the 2nd TREPSEA is Disaster and Environmental. The aim of TREPSEA 2016 is still dedicated to conduct integrative research of interactions between natural environment and human-social systems in Southeast Asia to solve the environmental problems in Southeast Asia. Environmental problem including environmental pollutants and natural disaster have become a global issue, not simply because of the movement of materials around the Earth's natural systems, but also as a result of anthropogenic-driven dispersal. The developing countries are often faced with environmental problem and have the issue of poverty as the underlying background.

The abstract collected are 63 papers handed from colleagues from university, researcher and professional, which are posted on the conference website. Our technical program is varied, consisting of 3 keynote speech, invited talks and 63 technical papers which are split between 2 or 3 parallel oral sessions each of the first two days and 1 poster session on the whole second day. Besides, there are 3 workshop sessions successively on the third day. We hope there will be a lively rich discussions during the next conference, then it will fulfill and completing the proceeding after.

Finally I would like to express my deep appreciation to the Program chair for organizing the technical program; many thanks to the Program committee for their thorough and timely reviewing of the papers, and our sponsors who have helped us to keep down the costs of the TREPSEA 2016 for all participants.

We look forward to cooperate with all of you to produce a deep, thoughtful set of works that can guide our activities in the future.

potrait © Bronto Sutopo

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		Mirza Azmi	ITB
		Fataa Naufal	ITB
		M. Hanif Sulaiman	ITB
		Safira Tyas Parasdya	ITB
Geotourism	:	Cindytami Rachmawati	ITB
		Yosefhino Frederick	ITB
		Jananda Nuralam Indriyanto	ITB
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		Dida Patera Adli	ITB
		Syahril Hidayat	ITB
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		Tyto Baskara Adimedha	ITB
		Cristinnata Lashita Harianja	ITB
		Aurora Rahmani	ITB
Documentation	:	Extivonus Kiki Fransiskus	ITB

WELCOME TO BANDUNG.

picture: deviantart/herbert

Bandung, which known for the beautiful places and natural landscapes is a right place for people who seek for natural beauty and peace in one place. Adipura Award, which is given by the Ministry of Environment and Forestry, was awarded to Bandung City for its great cleanliness and urban management in 2015 and 2016, respectively. In Bandung, we can easlily experience many adventurous and artsy journey for it has many natural tourism, cultural and art studio and also historical buildings.

To indulge you with Bandung atmosphere experience, we will bring you the performance of Saung Angklung Udjo on Culture Night and on the third day of TREPSEA, we want to invite you to join our geotourism program to Museum Asia Afrika and Museum Geologi.

CULTURE NIGHT
21 SEPTEMBER 2016
19.00-21.00 WIB

SAUNG ANGKLUNG UDJO

Angklung is a musical instrument made from bamboo originating from West Java, and has been played by the Sundanese for many centuries. Playing angklung as an orchestra needs a group with a lot of people, and it requires great teamwork and coordination. On 2010, UNESCO recognized angklung as a Masterpiece of Oral and Intangible Heritage of Humanity.

picture: http://www.angklung-udjo.co.id/

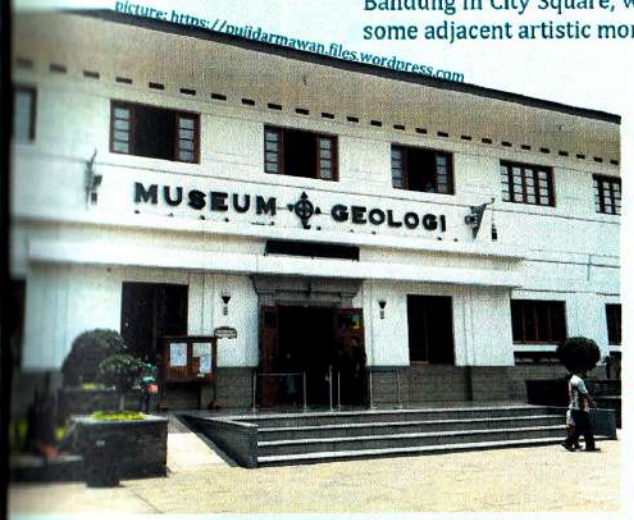
Saung Angklung Udjo is a famous angklung tourism located in Padasuka, Bandung. Saung Angklung Udjo established in 1966 by Udjo Ngalagena with special purpose to protect and maintain Sundanese traditional culture with the spirit of togetherness from the villagers. Conserving environment is also the mission. In the culture night on the second day of TREPSEA, we will bring you a chance to witness a special angklung orchestra performance from Saung Angklung Udjo that will delight you.

GEOTOURISM
22 SEPTEMBER 2016
13.30-17.00 WIB

MUSEUM ASIA AFRIKA

picture: http://static.ucontest.info/

Located on Jalan Asia-Afrika, this museum is the venue for Asia-Africa Conference, where countries from Asia and Africa gathered and became inspirations and motivations for their nations. In this museum, we are presented with historical items used from the first conference, in 1955. Visitors are also pampered with interesting information about the preparation of such a formulation of the content until the implementation of the Conference. This building is also surrounded by other historical buildings, such as Gedung Merdeka, Savoy-Homann Hotel, and The Great Mosque of Bandung in City Square, which are more beautiful with some adjacent artistic monuments.



picture: https://puiidarmawan.files.wordpress.com

MUSEUM GEOLOGI

Situated in the central of Bandung City and near the Sate Building, Museum Geologi stores the collection of fossils and rocks from all over Indonesia. Just from the outer part of the building, we can sense the earth science by just seeing the petrified wood in front of the museum.

The Museum Geologi Bandung is also the one and only geology museum in Indonesia. We can watch the earth's history from it was formed until today. The natural resources specimens such as minerals and energy can also be found in this museum. In front of the museum building, we can find the souvenir store which sells adorable memento of Museum Geologi, such as rocks and precious stone from Indonesia.

TRY TO GET AROUND IN BANDUNG?

SOME APPS RECOMMENDATION FOR YOUR SMARTPHONE

Hi Bandung

Hi Bandung is an application which provides the most complete information about point of interest in Bandung, which is famous for its unique culinary and natural resources. It will help you to find restaurants, attraction place, hotels, shopping place, and other destination. It also provides recommendations for public transportation and even has Bandung offline map.

Hotel Bandung

This is a simple yet comprehensive app to search hotels in Bandung with additional information include rooms availability, newest rate, facilities, location map, and others like car rental, taxi phone number, etc.

Angkot Bandung

Also called Angkot Day, you shall make your trip easier with this app. You can find public transportation route especially angkot and contribute on the research to identify the root of the traffic jam through socioeconomic approach.

X- Igent Panic Button

This panic button app will send emergency message to your relatives or "whitelist" fast and straight. If you're in Bandung, this app is also sending your message to Bandung Command Center (BCC), which includes your actual position due to threat or hazard. It has auto answer feature as verification from whitelist and BCC.

SAFETY TIPS

IN CASE OF FIRE

Never open a door without checking for smoke or heat
If smoke is present, don'r walk upright, crawl
Do not use elevator
If smoke is on staircases, avoid it.
Open or break the windows, if necessary, for fresh air
Seal crack and ventilation grill to keep smoke out, with tape or wet towel
Fill the tube with water as it might be needed for fire fighting
Let someone know that you are in the room, call for help
Hang a bed sheet out the windows to signal firefighters

IN CASE OF EARTHQUAKE

Cover under strong tables, near the inner wall, or the stairs
Hallway is one of the safest place, kitchen and warehouse are unsafe
Protect your head and neck with your arms
Stay away from glass, tall furniture, and hanging stuff on the ceiling
After the earthquake stopped, check around and help others

EVACUATION PROCEDURE

Evacuation is only done when the alarm sounds continuously.
It will be followed by emergency announcement through speaker
When alarm sounds, follow instructions of the hotel crews, stay calm
Walk to the nearest EXIT and go downstairs to the ground floor
Do not use elevator during evacuation
Immediately leave the building and gather at the assembly point
Do not go back into the building if it is not allowed

STREET SAFETY

Don't walk through desolated areas
Keep alert for potentially dangerous situations
Don't walk alone, find others to walk together
Don't bring too much valuables, keep it in hidden place
Don't ask random person on the street, go ask police or someone in a store
If something bad happened, i.e. get accosted, to as they demand, get a good description, call police as soon as possible, and notify conference staff

LOST AND FOUND

Either you had lost or found any goods and intend to ask for some help or return it, you may contact the hotel front office or hotel recptionist in the first place.

IMPORTANT PHONE NUMBERS

EMERGENCY NUMBER

Emergency	112
Firefighters	113
Ambulance	118
Police	110

POLICE SECTOR

Police Sector Lengkong	(022) 7300958

FIRE DEPT.

Fire Department	(022) 7207113/ 2518

NEARBY HOSPITALS

Muhammadiyah Hospital Jl. K.H. Ahmad Dahlan no. 53	(022) 7301062
Hasan Sadikin Hospital Jl. Pasteur no. 38	(022) 2034953/55
Santo Yusuf Hospital Jl. Cikutra no. 7	(022) 7208049
Borromeus Hospital Jl. Ir. Haji Juanda no. 100	(022) 2552000
Pindad Hospital Jl. Gatot Subroto no. 517	(022) 7231964
Puskesmas Telaga Bodas Jl. Talaga Bodas no. 35	(022) 7310550

EVENTS SCHEDULE

DAY 0 (SEPTEMBER 19th, 2016)

18.45 – 21.00	Ice Breaking and Introduction - Pool Bar

DAY 1 (SEPTEMBER 20th, 2016)

08.00 - 08.30	Registration
08.30 - 09.30	Opening Ceremony with Balinese Traditional Dance from Mahagotra Ganesha (ITB Bali Art Unit) - Cimanuk Ballroom
09.30 - 09.45	Participant Photo Session - Cimanuk Ballroom
09.45 - 10.00	Coffee break
10.00 - 10.45	Keynote Speech 1 - Cimanuk Ballroom
10.45 – 11.00	Preparation of next keynote speech
11.00 - 11.45	Keynote Speech 2 - Cimanuk Ballroom
11.45 - 13.00	Lunch Break
13.00 - 14.20	Oral Session 1 (see timetable for details)
14.20 - 14.35	Coffee breaks
14.35 - 16.15	Oral Session 2 (see timetable for details)

DAY 2 (SEPTEMBER 21st, 2016)

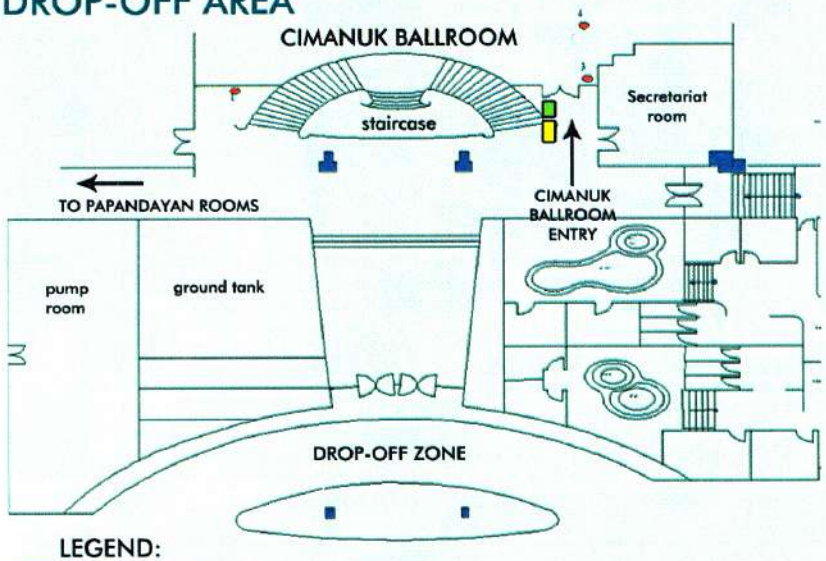
08.30 - 09.00	Registration*
09.00 - 09.45	Keynote Speech 1 - Cimanuk Ballroom
09.45 - 10.15	Coffee break
10.15 - 11.00	Invited Talk 1 - Cimanuk Ballroom
11.00 - 11.15	Preparation for next Invited Talk
11.15 - 12.00	Invited Talk 2 - Cimanuk Ballroom
12.00 - 12.40	Lunch break
12.40 - 14.00	Oral Session 3 (see timetable for details)
14.00 - 14.15	Preparation for next oral session
14.15 - 15.15	Oral Session 4 (see timetable for details)
15.15 - 15.30	Coffee break
15.30 - 15.45	Preparation for next oral session
15.45 - 16.45	Oral Session 5 (see timetable for details)
16.45 - 17.00	Briefing for Gala Dinner and Culture Night
19.00 - 21.00	Gala Dinner and Culture Night by Saung Udjo - Cimanuk Ballroom

DAY 3 (SEPTEMBER 22nd, 2016)

08.30 - 09.00	Registration*
09.00 - 09.45	Workshop I - Cimanuk Ballroom
09.45 - 10.00	Preparation for next workshop
10.00 - 10.45	Workshop II - Cimanuk Ballroom
10.45 - 11.00	Preparation for next workshop
11.00 - 12.00	Workshop III - Cimanuk Ballroom
12.00 - 12.30	Closing Ceremony - Cimanuk Ballroom
12.30 - 13.30	Break and Lunch
13.30 - 17.00	Geotourism: Museum Asia Afrika and Museum Geologi

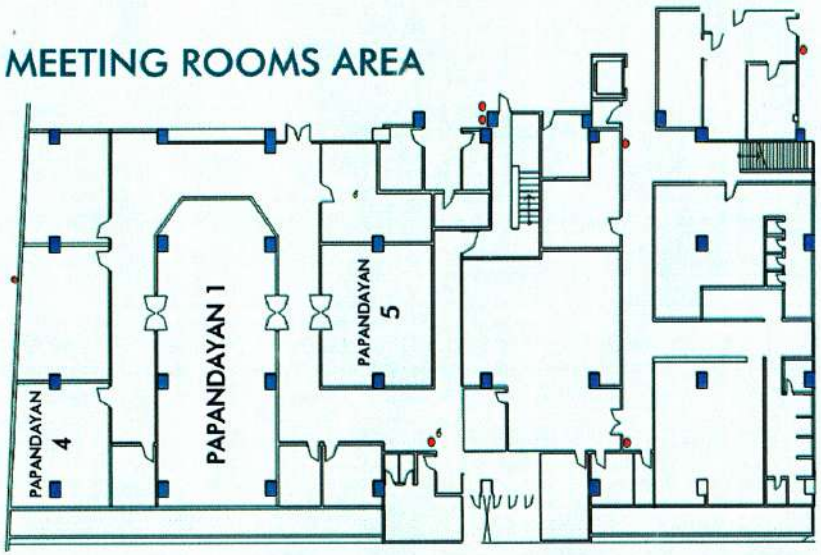
FLOOR PLANS

DROP-OFF AREA



LEGEND:
- Registration Desk
- Help Desk and Prep Desk
- Fire extinguisher

MEETING ROOMS AREA



KEYNOTE SPEAKER

ABSTRACT

TETSU SATO

TIMETABLE

ORAL AND POSTER PRESENTATION

DAY 1 - SEPTEMBER 20TH, 2016

ORAL PRESENTATION
ROOM PAPANDAYAN 1, 4, 5
Session 1: 13.00-14.20
Session 2: 14.35-16.15

DAY 2 - SEPTEMBER 21ST, 2016

ORAL PRESENTATION
ROOM PAPANDAYAN 4 & 5
Session 3: 12.40-14.00
Session 4: 14.15-15.15
Session 5: 15.45-16.45

POSTER PRESENTATION
ROOM PAPANDAYAN 1
09.00-17.00

PRESENTATION TIMETABLE

DAY 1 - SEPTEMBER 20TH, 2016

SESSION 1 & 2	THEME	MODERATOR	ROOM
	Disaster Mitigation	**S1**: Aswan **S2**: Supartoyo	PAPANDAYAN 1

Code / Time	Title	Author
TRP-11021 13.00 – 13.20	Tsunami Evidence in South Coast Java: Case Study: Tsunami Deposit Along South Coast of Cilacap Area	Y. Rizal, Aswan, Y. Zaim, Daryono, S. D. Anugrah, Wijayanto, I. Gunawan, T. Yatimantoro, Hidayanti, Resti H. Rahayu, Priyobudi, I. Fatchurochman, D.S. Yogaswara, S. Anggraini, Weniza, Arif Akhir, W.D. Santoso, and Nurrochim
TRP-11026 13.20 – 13.40	Tidal Inundation ("Rob") Investigation using Time Series of High Resolution Satellite Image Data and from Insitu Measurements along Northern Coast of Java (Pantura)	Heri Andreas, Usriyah, Hasanuddin Z. Abidin, and Dina A. Sarsito
TRP 11032 13.40 – 14.00	The Spatio-Temporal Characteristic of Rainfall in Ciliwung Watershed	**Edi Riawan**, T. W. Hadi, Dadang Kurniadi Mihardja, Hadi Kardhana, Nurjanna J. Trilaksono, R. Suwarman
TRP-12022 14.00 – 14.20	Paleotsunami Deposit Study around Bali Island, Indonesia	S.D. Anugrah, Priyobudi, Y. Zaim, Y. Rizal, Aswan, I Nyoman Sukanta, Daryono, Resti H. Rahayu, D.S. Yogaswara, and Nurrochim
14.20 – 14.35	**BREAK TIME**	

TRP-22011 14.35 – 14.55	Petrological Studies of volcanic ash from Sakurajima volcano in 2013, Southern Kyushu, Japan	**Idham Andri Kurniawan**, Masayuki Sakakibara, and Emmy Suparka
TRP-12024 14.55 – 15.15	Magma Evolution Modeling of Rinjani Volcano, Lombok Island, Indonesia	Heryadi Rachmat and A Djumarma Wirakusumah
TRP-12025 15.15 – 15.35	Learning from The Indonesia 1815 Tambora Eruption; Volcanic Eruption Effect on Global Climate Change	A.D. Wirakusumah and H. Rachmat
TRP-11025 15.35 – 15.55	Identifying Successive Eruption of Guntur Volcanic Complex using Polarimetric Synthetic Aperture Radar (POLSAR) and Magnetic Susceptibility Data	Erwin Bakker and Asep Saepuloh
TRP-22021 15.55 – 16.15	Tephra Fallout Hazard Assessment for VEI5 Plinian Eruption at Kuju Volcano, Japan, Using TEPHRA2	Tomohiro Tsuji, Michiharu Ikeda, Hiroshi Kishimoto, Koji Fujita, Naoki Nisizaka, and Kozo Onishi

SESSION 1	THEME	MODERATOR	ROOM
	Sustainable Development and Environmental Preservation	Nurcahyo Indro Basuki	PAPANDAYAN 4

Code / Time	Title	Author
TRP-12007 13.00 – 13.20	Analysis of Environmental Problems on Gold Mining Activities without Permit (PETI) in The Gorontalo Province	**Irwan**
TRP-12033 13.20 – 13.40	Epidemiological Studies of Mercury Levels on Fish Intake and Gold Miners Urine in Wububangka Sub-distric, North Rarowatu, Bombana	**Andi Faizal Fachlevy**, Farit Rezal, and Andi Nurul Hidayah

TRP-22012 13.40 – 14.00	An Artificial Channel Experiment for Purifying Drainage Water Containing Arsenic by Using *Eleocharis acicularis*	**Kenji Okazaki**, Shusaku, Yamazaki, Toshiyuki, Kurahashi, and Masayuki Sakakibara
TRP-22013 14.00 – 14.20	Social Demography of Traditional Gold Smelter in Makassar, South Sulawesi, Indonesia	**Hasriwiani Habo Abbas**, Masayuki Sakakibara, Lukmanul Hakim Arma, Iva Hardi Yanti

SESSION 2	THEME	MODERATOR	ROOM
	General	Indra Gunawan	PAPANDAYAN 4

Code / Time	Title	Author
TRP-11040 14.35 – 14.55	Paleoenvironmental Study of Miocene Sediments from JTB-1 and NRM-1 Wells, in West Ogan Komering Block, Meraksa Area, South Sumatra Basin	Aswan, Mirzam Abdurrachman, Bayu S. Fitriana, M. Fery Mustofa, Wahyu. D. Santoso, Windy D. Rahayu, and Ahmad Hamdani
TRP-11037 14.55 – 15.15	Application of Drone Technology in Conducting Advanced Geological Mapping	Benyamin Sapiie, Indra Gunawan, Adhipa Herlambang, and Derry Apriansyah
TRP-11020 15.15 – 15.35	Turbidite Facies of Halang Formation: Case Study: Facies Associatioin Study of the Halang Formation in Pangkalan River, Karang Duren Area, Banyumas, Central Java, Indonesia	Yan Rizal, Raymond Lagona, and Wahyu Dwijo Santoso
TRP-12037 15.35 – 15.55	Effectiveness of Capture Fisheries Management Policy, Taksi Mina Bahari Model for Fishermen Welfare Improvement in Gorontalo Coastal Environment	Citra Panigoro, Juliana, Miftahul Khair Kadim, and Yayu Indriati Arifin

TRP-12038 15.55 – 16.15	Transdisciplinary Study on Solving Problem of Sustainable Use of Renewable Energy in Bone Bolango Regency, Gorontalo Province: A Case Study of Isolated and Poor Community in Mongiilo Sub District	Lukman A. R. Laliyo, Citra Panigoro, Mohammad Jahja, and Masayuki Sakakibara

SESSION 1 & 2	THEME	MODERATOR	ROOM
	Measure and Improvement to Urban Environmental Problem	**S1**: Irwan Iskandar **S2**: Mirzam Abdurrachman	PAPANDAYAN 5

Code / Time	Title	Author
TRP-22009 13.00 – 13.20	The Economic Characteristic in Bombana Artisanal Small-Scale Gold Mining, Southeast Sulawesi, Indonesia	**Basri,** Masayuki Sakakibara, and Ratnawati
TRP-22016 13.20 – 13.40	Co-creation of Regional Innovation for Reducing High-Impact Environmental Pollution by Transdisciplinary Approach	Katsuya Tanaka and Tetsu Sato Presented by: **Masayuki Sakakibara**
TRP-22018 13.40 – 14.00	Investigation About Creation Possibility of Pearl Farming in North Gorontalo, Indonesia for the Solution to Economical Poverty and Environmental Problem	**Hiroki Kasamatsu** and Masayuki Sakakibara
TRP-22019 14.00 – 14.20	Geoenvironmental and Geoecological Integrated Technology for Environmental Remediation in Vietnam: Approaches and Perspectives	**Mai Trong Nhuan**, Nguyen Thi Hoang Ha, and Ta Thi Hoai
14.20 – 14.35	**BREAK TIME**	

TRP-12001 14.35 – 14.55	The Effect of Agitation to Number of *Fecal Coliform* and *Salmonella* sp. in Compost from Sludge Drying Bed at Kalimulya Waste Water Treatment Plant, City of Depok	**Winny Laura C. Hutagalung** and Gabriel Andari Kristanto
TRP-11031 14.55 – 15.15	Groundwater and Solute Transport Modeling at Hyporheic Zone of Upper Part Citarum River	Irwan Iskandar, Hendy Farazi, Rahmat Fadhilah, Cipto Purnandi, and Sudarto Notosiswoyo
TRP-22014 15.15 – 15.35	Ability of Treated Kapok (*Ceiba pentandra*) Fiber for Removal of Clay Particle from Water Turbidity	**Nurfitri Abdul Gafur** and Masayuki Sakakibara
TRP-11023 15.35 – 15.55	The effect of distance on Decreased Hg and As concentration in Bunikasih Area, Pangalengan, Jawa Barat.	Yepi Rohiman, M. Abdurrachman, Candra, R. P. Nugroho, and U. I. M. Suparman
TRP-22015 15.55 – 16.15	Phytoremediation of arsenic and molybdenum-contaminated alkaline wastewater by *Eleocharis acicularis* in winter in Japan	**Shusaku Yamazaki**, Kenji Okazaki, Toshiyuki Kurahashi, and Masayuki Sakakibara

DAY 2 - SEPTEMBER 21ST, 2016

SESSION 3 & 4	THEME	MODERATOR	ROOM
	Sustainable Development and Environmental Preservation	**S3**: Asep Saepuloh **S4**: Purnama Sendjaja	PAPANDAYAN 4

Code / Time	Title	Author
TRP-11030 12.40 – 13.00	Identification of Altered Minerals Based on Optical and SAR Remote Sensing for Mineral Exploration in Indonesia	Panggea Ghiyats S., Asep Saepuloh, Syafrizal, and Arie Naftali Hawu H.

TRP-11035 13.00 – 13.20	Geology and Prospecting for Hidden Geothermal System of Manglayang Volcano Complex of Bandung, West Java	Subandrio, AS., Sumintadireja, P., and Saepuloh, A.
TRP-12026 13.20 – 13.40	Measured and Back Analysis on Bench Scale Failure in a Layered Stratigraphy Open-pit Coal Mining: A Case Study From Bisma Pit, Batuah Mine, East Kalimantan, Indonesia	Agus Wiramsya Oscar, Dicky Muslim, R.Febri Hirnawan, and Nana Sulaksana
TRP-12028 13.40 – 14.00	Hydrothermal Alteration and Timing of Gold Mineralisation in The Rumbia Complex, South East Arm of Sulawesi, Indonesia	Musri Mawaleda, Emmy Suparka, Chalid Idham Abdullah, Nurcahyo Indro Basuki, and Marnie Forster
14.00 – 14.15	**BREAK TIME**	
TRP-12018 14.15 – 14.35	Mercury Distribution around Settlement Due to Mine Gold Processing in Jatiroto, Wonogiri Central Java, Indonesia	DF. Yudiantoro, M. Nurcholis, DS. Sayudi, Mirzam Abdurrachman, I. P. Haty, and W. Pambudi
TRP-12027 14.35 – 14.55	Regional Geochemistry Bandung Quadrangle : for Environmental and Resources Studies	P.Sendjaja. and Baharuddin
TRP-12034 14.55 – 15.15	Heavy Metals Concentration in Scalp Hairs of ASGM Miners and Inhabitants of Gorontalo Utara Regency	Yayu Indriati Arifin, Masayuki Sakibara, and Koichiro Sera

SESSION 3	THEME	MODERATOR	ROOM
	Measure and Improvement to Urban Environmental Problem	Budi Brahmantyo	PAPANDAYAN 5

Code Time	Title	Author
TRP-11022 12.40 – 13.00	Delineation of Aquifer Potential at Surabaya City based on Interferometric Synthetic Aperture Radar (InSAR) and Electrical Resistivity Methods	**Mushoddaq Mochammad** and Asep Saepuloh
TRP-12036 13.00 – 13.20	Sediment Trapping Analysis of Flood Control Reservoir in Upstream Ciliwung River using SWAT Model	**M R Ginanjar** and S S Putra
TRP-11033 13.20 – 13.40	Majalaya Flood Early Warning System: A Community Based Approach	**I Dewa Gede A. Junnaedhi**, Edi Riawan, R. Suwarman, T. W. Hadi, Atika Lubis, N. Joko Trilaksono, R. Rahayu, P. Y. Kombara, Riki Waskito, H. E. Oktora, R. Supriatna, Aan Anugrah, A. H. Mudzakkir, and Wawar Setiawan
TRP-11036 13.40 – 14.00	The Hydrogeology of Situ Ciburuy part 1 : a Review	**Muhammad, G.**, Irawan, DE.,and Brahmantyo, B.

SESSION 4	THEME	MODERATOR	ROOM
	Disaster Mitigation	Imam Achmad Sadisun	PAPANDAYAN 5

Code / Time	Title	Author
TRP-22004 14.15 – 14.35	Assessing Landslide Susceptibility using Google Earth Image data in Bawakaraeng Lompobattang Mountain, Indonesia	**Abdul Rachman Rasyid**, Netra Prakash Bhandary, and Ryuichi Yatabe
TRP-11024 14.35 – 14.55	Comparison of Rainfall Threshold Triggering Landslide use GPM and TRMM Data in South Bandung Area	**Gian Nanda Pratama**, Rusmawan Suwarman, I Dewa Gede Agung Junnaedhi M,Si, Edi Riawan M.T, Aan Anugrah
TRP-11038 14.55 – 15.15	Time Series Sensor Development for Shallow Landslide Monitoring: A Laboratory Experiment	Imam A. Sadisun, Rendy D. Kartiko, and Prihadi Sumintadiredja

SESSION 5	THEME	MODERATOR	ROOM
	Measure and Improvement to Urban Environmental Problem	IGB Eddy Sucipta	PAPANDAYAN 5

Code / Time	Title	Author
TRP-22005 15.45 – 16.05	The Suitable Measure of Flow and Concentration in the Mixed Traffic	Fadly Arirja Gani, Toshio Yoshii and Shinya Kurauchi

TRP-22006 16.05 – 16.25	Development of Discrete Choice Model Considering Internal Reference Points and Their Effects in Travel Mode Choice Context	Sarif, Shinya Kurauchi and Toshio Yoshii
TRP-11039 16.25 – 16.45	Application of Integrated QGIS System: An Option to Increase the Visibility of Geoscience Research in ITB	Dasapta Erwin Irawan, Fadli Ahmad Naufal, and Ahmad Darul

SESSION 5	THEME	MODERATOR	ROOM
	Sustainable Development and Environmental Preservation	Arif Susanto	PAPANDAYAN 4

TRP 22003 15.45 – 16.05	Corporate Social Responsibility (CSR) for Regional Sustainability after Mine Closure: A Case Study of Mining Company in Indonesia	Andi Erwin Syarif, and Tsuyoshi Hatori
TRP 11017 16.05 – 16.25	A Study on Inhibitory Action of Garlic Crude Extracts as an Environmentally Friendly Corrosion Inhibitor of Mild Steel in NaCl Medium	**Rani Yudi,** Dimas Frananta Simatupang, Bunbun Bundjali, and Ciptati
TRP 11008 16.25 – 16.45	Studies on Influence of Tropical Marine Macroalgae Extract *Gracilaria verrucosa* as an Eco-Friendly Green Biocorrosion Inhibitor for Mild Steel	**Dimas Frananta Simatupang**, Fida Madayanti Warganegara, and Bunbun Bundjali

*Author name with **bold** letters means he/she is the confirmed paper presenter

POSTER PRESENTATION

DAY 2 - SEPTEMBER 21ST, 2016

ROOM AND TIME	ROOM	TIME
	PAPANDAYAN 1	09.00-17.00

DISASTER MITIGATION		
Code	**Title**	**Authors**
TRP-11027	Morphotectonic of Baturagung Mountain and The Estimation of Dengkeng Active Fault (Based on Morphometry analysis)	Rahmi Mulyasari, Budi Brahmantyo, and Supartoyo
TRP-11028	Geomorphological Analyses on The Silting Processes Based on Atmospheric Corrected Using ASTER and LANDSAT 8 Data at Limboto Lake, Gorontalo, Indonesia	Normawaty Laya, Budi Brahmantyo, and Asep Saepuloh
TRP-12029	Landslides Potential of Jatinunggal District, Sumedang, West Java Based on Geomorphological Aspect	Mochammad Fahmi Ghifarry, Salman Farisy, Zhafran M.A. Bustomi, Eri Diah Safitri, Kevin Muster Regulus Victor
TRP-11034	ICHAS (Integrated Carbon dioxide Hazard Alert System): CO_2 Detector Integration and Evacuation System Based Wireless Technology as Efforts towards Indonesia Zero Victim Volcano	**Bintang Alfian Nur Rachman**, Fatih Akbarul Irsan, **Dzulkhi Yudha Pratama**, Ardinda Kartikaningtyas, and Syauqi A. Abrori

SUSTAINABLE DEVELOPMENT AND ENVIRONMETAL PRESERVATION		
Code	**Title**	**Authors**
TRP-22010	Heavy Metals Accumulation by *Athyrium yokoscence* in a Mine Area, Southwest Japan	**Hendra Prasetia**, Masayuki Sakakibara and Akinari Takehara
TRP-22020	The Removal of Heavy Metals by Iron Mine Drainage Sludge and *Phragmites australis*	**Nguyen Thi Hoang Ha** and Bui Thi Kim Anh
TRP-12035	Determination of Heavy Metals Concentration in Sediment of Wubudu River of Sumalata, Gorontalo Utara Regency, Indonesia	Mohamad Jahja and Halid Karim

MEASURE AND IMPROVEMENT TO URBAN ENVIRONMENTAL PROBLEM		
Code	**Title**	**Authors**
TRP-11029	Geomorphology of Tower Karst in Rammang-Rammang, Maros, for Geoturism Development	Elisha Lazaria, Budi Brahmantyo, and Andri S. S. Mubandi
TRP-12030	The Correlation between Noise Level of Diesel Engine with Workers Complaints in Housing Complex	Zainul Ikhwan
TRP-12031	The Difference Between Cow Manure and Wastewater Of Tofu	Zainul Ikhwan
TRP-11040	Identification of Potential Bacteria Producing Amylase Enzymes and Cellulase Enzyme from Cow Manure Waste during the Composting Process	Fatmawati F, Madayanti F, and Puspasari M

GENERAL		
Code	Title	Authors
TRP-12032	Petrology Studies of Dacite and Peridotite in the Collision Zone of Barru Ophiolite Complex, South Sulawesi	Kaharuddin, Musri Ma'waleda, Emmy Suparka, Adi Maulana, and Asri Jaya
TRP-12023	Geochemical Study of Pyroclastic Rocks in Maninjau Lake, West Sumatra	Endang Wiwik Dyah Hastuti
TRP-22022	An Overview of Marine Clastic Sediments in SIBU – SELANGAU Area, Malaysian Borneo	Azim Asri, Shafiqa Zulkifli and Siti Amira Zolkepli
TRP-11019	Middle-Late Miocene Molluscan Stage of Jawa Insight from New Field Studies	Aswan and Elina Sufiati
TRP-12039	Professional Competence Development of Elementary School Teachers in Improving Students Mathematical Processing Skills	Evi Hulukati and Novianita Achmad

*Author name with **bold** letters means he/she is the confirmed poster presenter

ORAL PRESENTATION

ABSTRACTS

DISASTER MITIGATION
SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL PRESERVATION
MEASURE AND IMPROVEMENT TO URBAN ENVIRONMENTAL PROBLEM
GENERAL THEME

TRP-22020

THE REMOVAL OF HEAVY METALS BY IRON MINE DRAINAGE SLUDGE AND *Phragmites australis*

Nguyen Thi Hoang Ha[1], Bui Thi Kim Anh[2]
[1] VNU University of Science, Vietnam National University, Hanoi
[2] Institute of Environmental Technology, Vietnam Academy of Science and Technology

ABSTRACT

This study was conducted to assess the removal of heavy metals from solutions by the combination of iron mine drainage sludge and surface and subsurface flow constructed wetland using the common reed (*Phragmites australis*) during 30 days of experiment. The results of this study demonstrated that the average removal rate of Zn, Pb, Mn, and As by iron mine drainage sludge was 59.0, 55.1, 38.7, and 42.4%, respectively. The decreasing trend of removal efficiency of metals by the sludge was obtained during the experiment. The removal rate of Zn, Pb, Mn, and As by sludge - surface constructed wetland system was 78.9, 73.5, 91.2, and 80.5%, respectively; that by sludge – subsurface flow constructed wetland system was 81.7, 81.1, 94.1, and 83.1% which reflected that subsurface flow constructed wetland showed higher removal efficiency than the surface system. The concentrations of heavy metals in the outlet water were lower than the Vietnamese standard limits regulated for wastewater. The results indicate the potential of metal removal from water by the combination of iron mine drainage sludge and constructed wetland.

TRP – 12035

DETERMINATION OF HEAVY METALS CONCENTRATION IN SEDIMENT OF WUBUDU RIVER IN SUMALATA, GORONTALO UTARA REGENCY, INDONESIA

Mohamad Jahja and Halid Karim
Department of Physics, Gorontalo State University

ABSTRACT

Wubudu River of Sumalata receives tailing discharges from Artisanal and Small-scale Gold Mining (ASGM). Mercury concentration in the river water and sediments were higher than limit by WHO were reported (Khoirul and Jahja, 2014 and Arifin, 2015). Concentrations of other heavy metals are also need to be investigated. In this study we used X-Ray Fluorescence spectroscopy to determine the concentrations of heavy metals in the river sediments. The results shows that concentrations of Copper (Cu), Lead (Pb), Iron (Fe), Zinc (Zn) and Arsenic (As) are higher elevated above threshold limit.

Determination of Heavy metals concentration in sediment of Wubudu River of Sumalata, Gorontalo Utara Regency, Indonesia

Mohamad Jahja and Halid Karim

Jurusan Fisika, FMIPA Universitas Negeri Gorontalo,

Jl. Jend. Sudirman no 6. Kota Gorontalo 96128

Abstract

Wubudu river of Sumalata receives tailing discharges from Artisanal and Small-scale Gold Mining (ASGM). Mercury concentration in the river water and sedimets were higher than limit by WHO were reported (Khoirul and Jahja 2014, Arifin 2015[1]). Concentrations of other heavy metals are needed also to be investigated. In this study we used X-ray Flourescence spectroscopy to dermine the concentrations of geavy metals in the riverine sediments. The results shows that concentations of Copper (Cu), Lead (Pb), Iron (Fe), Zinc and Aresenic are higher elevated above threshold limit.

Keyords: Sediments, heavy metals, XRF

A. Introduction

As part of environmental preventing and pollution monitoring program. Every year, Government of Gorontalo Utara Regency have to provide report, including heavy metals concentration in river sediments.

Rapid and accurate measurement are urgently needed. Improved understanding of measurement of concentrations using x-ray fluoresecence. XRF technique is known for its rapid measurement on heavy metals concentration [2],

B. Method

The sediments samples were taken from wubudu river downstream about 100 m from the river mouth. The samples were brought to the laboratory directly then dried and removing the organic parts (plants and animal parts). The dried samples were powdered using agate mortar and filtered with 200 mesh. Powder samples were weighed about 2 grams each for XRD and XRF rescpectively. From XRD measurement we obtained the spectra of Intensity vs 2theta, which need to be analyzed using TOPAS softwere to obtained the minerals in the sample. While from XRF measurement we obtained the spectra of intensity vs energy, where by using Spektra EDX software we obtained the elements inside the sample.

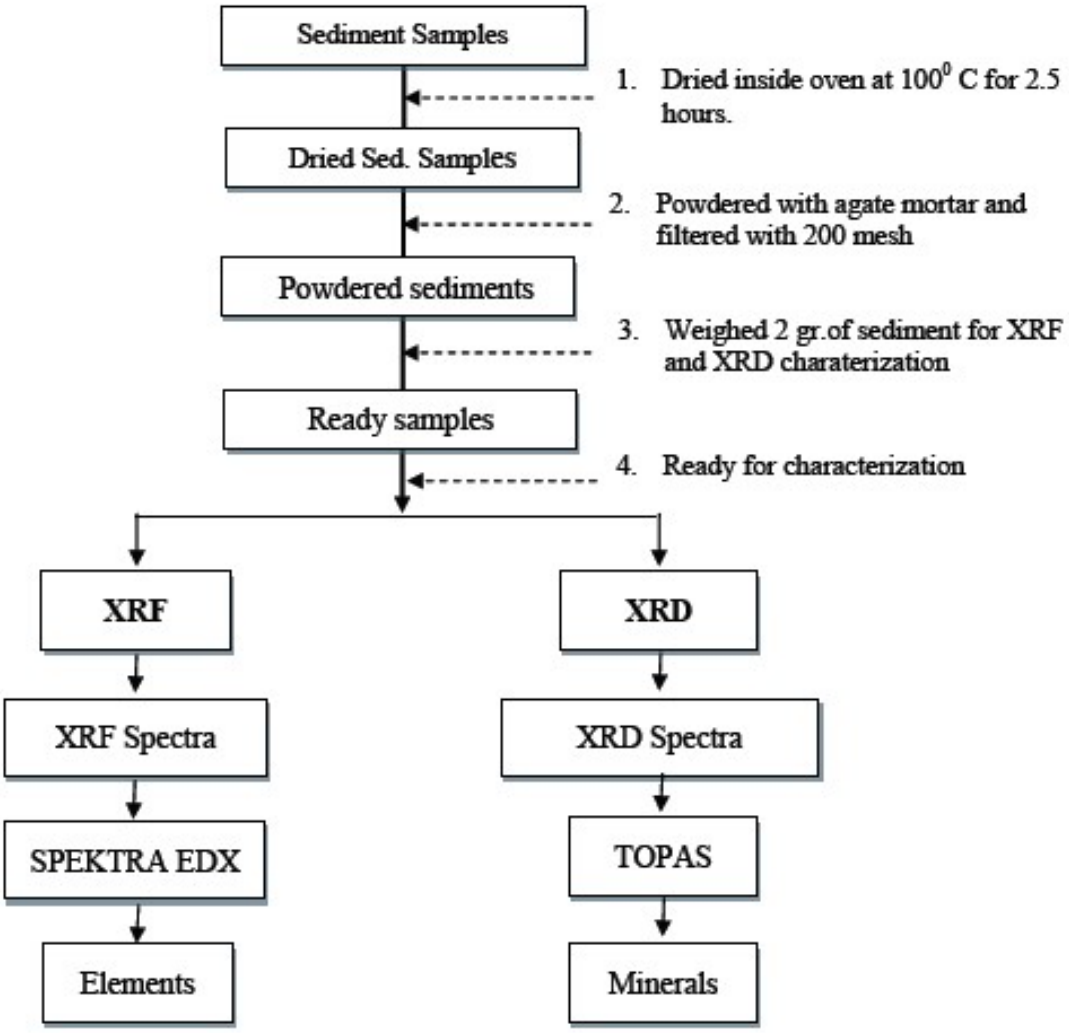


Figure 1. Flow chart of experiment

C. Results

Figure 2 showing the typical XRF spectra of riverine sediments samples, horizontal axis is energy (in keV) of fluorescent beams from the samples. While XRD spectra of the same sample is depicted in Figure 3, Intensity of diffracted X-ray beams of CuKaplha is plotted against 2theta. XRF specra is dominated by iron, sulphur, silicon and Aluminum elements.

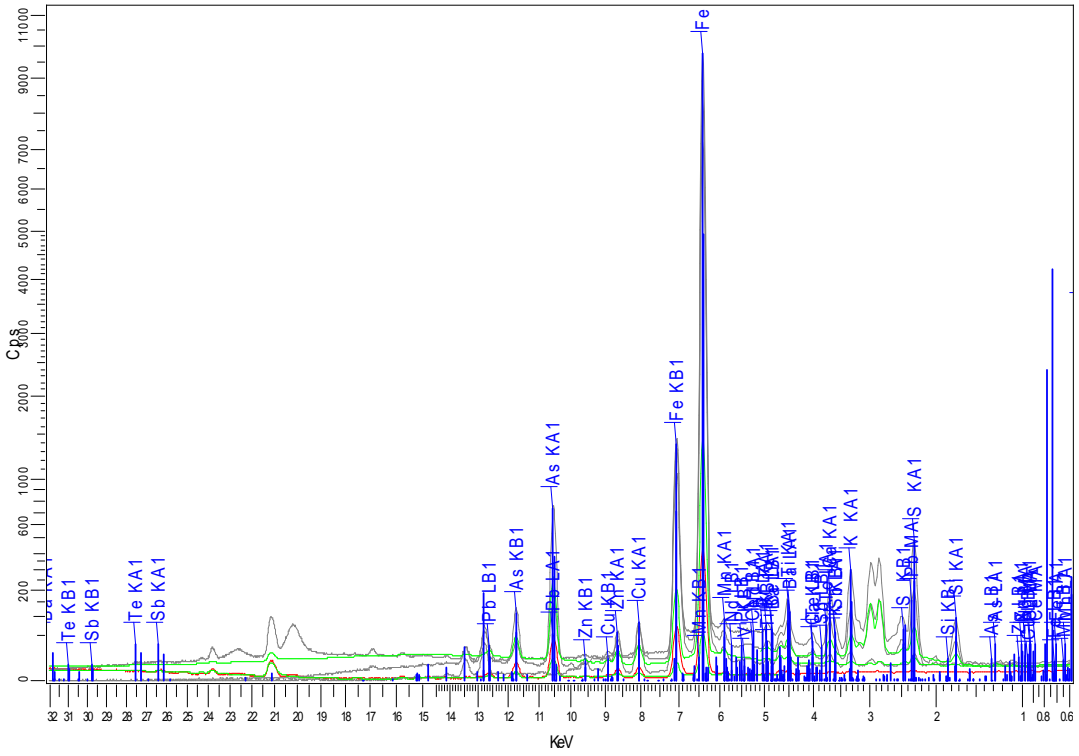


Figure 2. Spectrum of elements using Bruker S2 XRF.

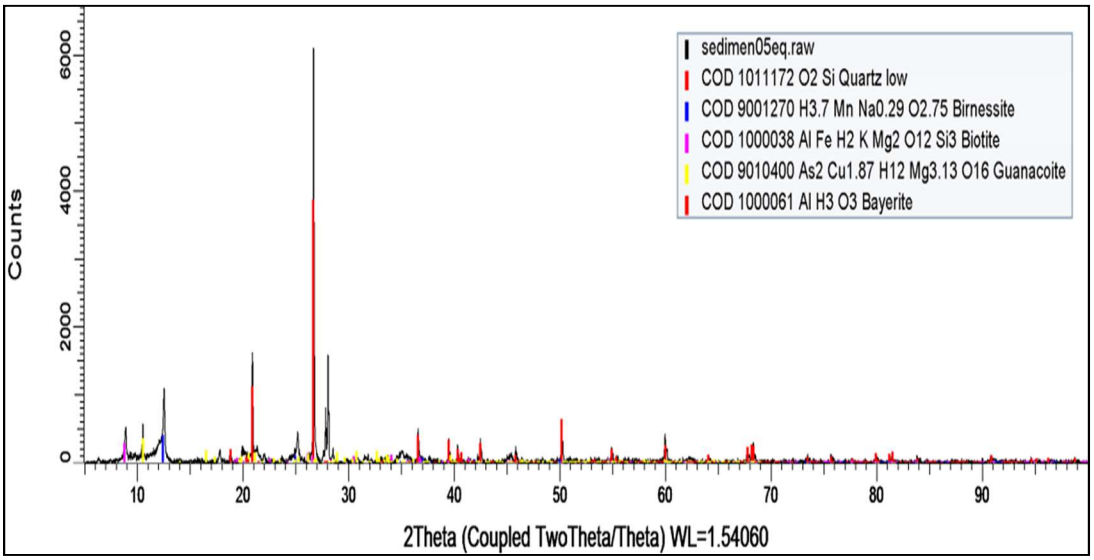


Figure 3. Minerals spectrum in river sediment using Bruker X2 XRD.

Table 1. Elemnents in Wubudu River

Elements		Percentage %		Comparison
Name	Symbol	Singapore	UNG	
Sulphur	S	36.77	17.022	2.16
Iron (Ferrum)	Fe	27.93	71.775	0.39
Silicon	Si	18.8	2.458	7.65
Aluminum	Al	8.649	0	0
Kalium (Potassium)	K	1.228	0.475	2.59
Arsenic	As	1.062	3.337	0.3
Magnesium	Mg	0.833	0	0
Cuprum (Copper)	Cu	0.739	0.586	1.26
Zinc	Zn	0.361	0.335	1.08
Calcium	Ca	0.254	0.586	0.43
Titanium	Ti	0.188	0.405	0.46
Erbium	Er	0.166	0	0
Phosphor	P	0.047	0	0
Barium	Ba	0.036	0.349	0.10
Gadolinium	Gd	0.022	0	0
Manganese	Mn	0.021	0.52	0.04
Hydrargyrum (Mercury)	Hg	0.021	0	0
Holmium	Ho	0,017	0	0
Vanadium	V	0.013	0	0
Tellurium	Te	0	0.419	0
Praseodymium	Pr	0	0.223	0
Lead (Plumbum)	Pb	98 PPM	9070 PPM	0.01
Antimony (Stibium)	Sb	96 PPM	4750 PPM	0.02

Table 2. Minerals in Wubudu river sediment

Minerals	Percentage %
Quartz (SiO_2)	56.622
Phlogopite ($Fe_{1.1}$ $H_{0.24}$ K $Mg_{1.9}$ O_{12} Si_4)	5.956
Volborthite (Cu_3 H_6 O_{11} V_2)	0.410
Berlinite (Al O_4 P)	1.710
Euclase (Al Be H O_5 Si)	1.376
Birnessite ($H_{3.7}$ Mn $Na_{0.29}$ $O_{2.75}$)	16.927

D. Conclusion

- Heavy metals concentrations in Wubudu river sediments were succesfully determined using combination of XRF and XRD data
- Iron, Silicon and Sulphur were found as major elements in the sediments.
- Calcium, Arsenic, Manganese and Postassium were found about 1 percent
- While Copper, Lead, Zinc, Vanadium, Antominy and Mercury were found in ppm levels

E. Reference

1. Arifin Y, Sakakibara M, Sera K. Impacts of Artisanal and Small-Scale Gold Mining (ASGM) on Environment and Human Health of Gorontalo Utara Regency, Gorontalo Province, Indonesia. Geosciences [Internet]. 2015;5(2):160–76. Available from: http://www.mdpi.com/2076-3263/5/2/160/
2. Ene A, Dunarea U, Galati DJ, Sion AB, Dunarea U, Galati DJ, et al. Determination of heavy metals in soils using XRF technique. 2010;(May 2014).