



Supplementary

Sustainability Report 2021

SDG 6:

Ensure access to water and sanitation for all

6 CLEAN WATER
AND SANITATION

The icon for Sustainable Development Goal 6, showing a white outline of a glass filled with water, a single water drop falling from the center, and a white arrow pointing downwards from the bottom of the glass.



IPB University
Bogor Indonesia



SUSTAINABLE
DEVELOPMENT
GOALS



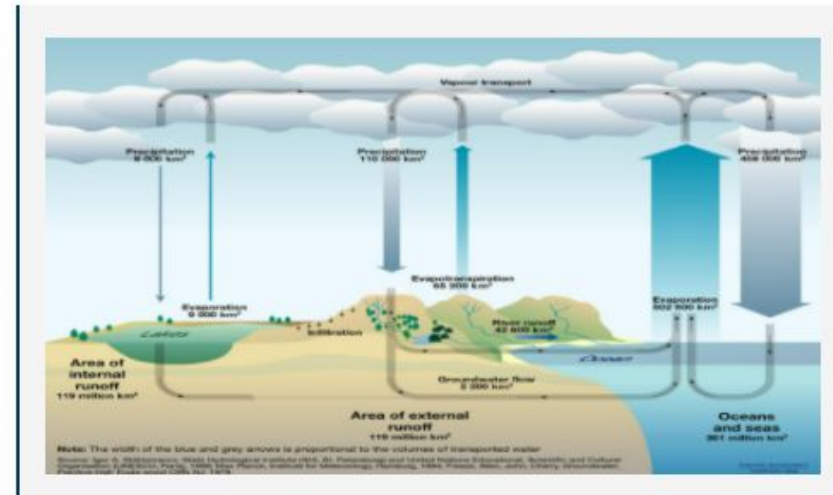
Learning Program

1

Program and Courses

We have 7 (seven) study programs that include topic on clean water and proper sanitation in their courses. A total of 47 courses (120 credits) are spread over the seven study programs. The study programs include the Bachelor of Civil and Environmental Engineering, Master of Civil and Environmental Engineering, Bachelor of Forest Management, Bachelor of Geophysics and Meteorology, Bachelor of Aquatic Resources Management (providing minor in water resources conservation and management of water pollution), Master of aquatic resource management, and Master of watershed management.

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MNH341 Hidrologi Hutan

Mata kuliah ini membahas perspektif sejarah hidrologi dan hidrologi hutan serta keterkaitannya dengan ilmu-ilmu lain; dasar-dasar hidrologi; proses siklus hidrologi, neraca energi dan neraca air; metode pengukuran dan pendugaan besaran komponen dalam siklus hidrologi dan neraca air; peran vegetasi hutan dan vegetasi sejenisnya terhadap siklus hidrologi dan ketersediaan air daerah aliran sungai dan prinsip-prinsip pengelolaan DAS; banjir dan hubungan antara vegetasi dan hasil air.

Koordinator: Dr. Hendrayanto

Dosen: Hendrayanto Hendrayanto

Enrolled students: 91

Category: K2014

Enter this course



2 Fishery Port Clean Water and Waste Management Course

This course is very closely related to SDG 6, namely Clean Water and Sanitation because this course material explains various clean water and waste treatment techniques so that fishing ports can provide clean water sources with quality and quantity according to needs. In addition, through this material, students are expected to understand that the fishing port should be an environmentally friendly area with proper sanitation and waste treatment according to the type of fishery waste. The benefit is to provide students with an understanding of the importance of clean water and waste management in fishing ports. Students' ability and understanding of various techniques for creating clean water and waste at fishing ports





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Student Activities



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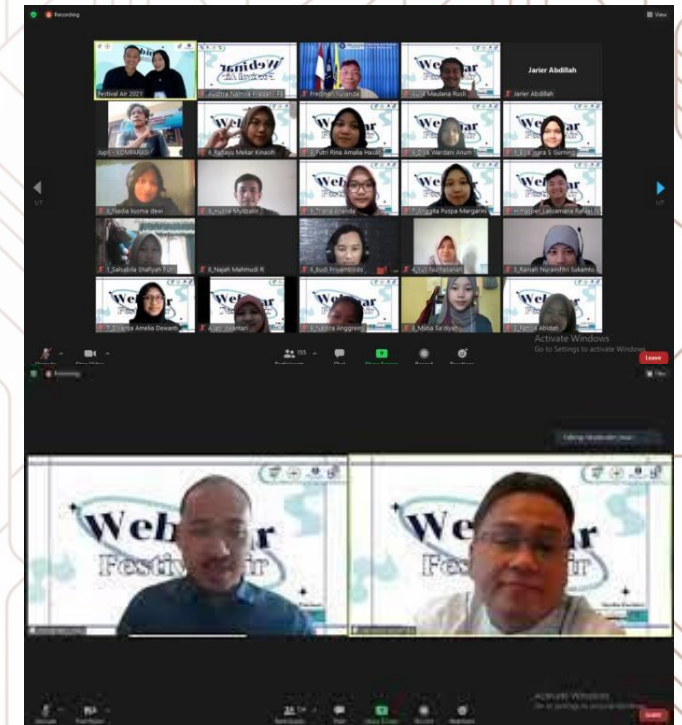
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3

WATER FESTIVAL 2021

The Water Resources Management Student Association (Himasper), IPB University, held a Webinar "Water Festival 2021" with the theme "Management of Indonesian Water Conservation Areas in Supporting SDGs 2030". The speaker of this Webinar is Dr. Ir. Handoko Adi Susanto, M.Sc. as Lecturer of FPIK IPB and Regional Project Manager of ATSEA-2, Isai Yusidarta, S.T., M.Sc. as Head of SPTN Region I Kelapa Island, Thousand Islands National Park Office, and Dedy Eka Syaputra, S.Si., M.Sc. as Sub-Coordinator of National Conservation Area Management, Directorate General of PRL KKP. Aquatic Resources. This event is an effort to support ecological, social, and economic balance and is also a form of MSP student commitment to conserving water resources.

This webinar activity received a good response from the participants, most of whom were students from several universities in Indonesia. Participants seemed enthusiastic during the 2021 Water Festival Webinar. Participants could add insight into the importance of managing conservation areas, particularly aquatic ecosystems, to realize sustainable aquatic resources.



4 The Guardian of the Springs

Our students initiated the Student Creativity Program in Community Service (PKM-PM) SMAJA: Water springs security guard Campaka, Bandung (watering 3000 peoples) using the Kaizen Method. The SMAJA program is motivated by our concern that the number of springs in Indonesia continues to decline every year. In fact, according to the Ministry of Environment and Forestry (KLHK), the decline could reach 40 percent in the last 10 years. Kaizen is usually applied to industry. 5R (diligent, caring, neat, tidy, concise) or is a method of structuring and maintaining an intensive work area. This method is used by management in an effort to maintain order, efficiency, and discipline in the workplace.



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Research, Innovation, and Bussiness

5

Observation of Plastic Litter in the Citarum River

This research was carried out in collaboration with PPLH IPB, The Norwegian Institute for Water Research (NIVA), and The Center for Southeast Asian Studies (CSEAS). This ASEANO program involves several institutions in carrying out research in the field of plastic waste such as IPB University, University of Indonesia, Padjajaran University, and LIPI Limnology. This study provides data on the volume and classification of plastic waste flowing in the Citarum River based on seasonal variability. The results of this study are expected to build capacity to tackle plastic pollution from major sources in the ASEAN region through increasing knowledge about the sources, releases, transportation, and pollution of plastics. This activity takes place during March - November 2021.



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CLEAN WATER AND SANITATION

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The Effect of Increasing Detergent Use on Changes in Water Quality and Biota

This LC50 study was conducted on a laboratory scale to examine the effect of pollutants in the form of detergent on Tilapia (*Oreochromis niloticus*) and Sunda Shrimp (*Mocrobrochium sintongense*). In addition, in this study, an analysis of the water quality of Situ Gede was carried out and the formulation of a management strategy for Situ Gede. Based on the results of the analysis of water quality and routine monitoring data at Situ Gede, several parameters were found to have increased (BOD, TDS, TSS, and total phosphate). This condition is related to the increasing use of detergents during the Covid-19 pandemic. The results of interviews and field observations concluded that Situ Gede has an important role in the lives of the surrounding community, both economically, socially, and culturally. Communities around Situ Gede generally do not understand the impact of domestic liquid waste disposal on water quality. The community around Situ Gede supports government programs related to water management, such as the construction of a Communal House, Wastewater Treatment Plant, monitoring and supervision of Situ Gede.



7

Training on Water and Sanitation

Desain dan Optimasi Instalasi Pengolahan Air Limbah
Kursus reguler (offline)
Desain dan Optimasi Instalasi Pengolahan Air Limbah
24 - 25 AGUSTUS 2022

Pemodelan Hidrologi dalam Pengelolaan Daerah Aliran Sungai
Kursus reguler (online)
Online Course Pemodelan Hidrologi dalam Pengelolaan Daerah Aliran Sungai (DAS) Batch 2
13 - 14 SEPTEMBER 2022

Pengelolaan Hidrologi pada Areal Pertambangan
Kursus reguler (offline)
Pengelolaan Hidrologi pada Areal Pertambangan
18 - 20 OKTOBER 2022

We have a training business institute that focuses on training related to water and waste management which is filled by lecturers with expertise in these fields. The topics given in the training included the principles and characteristics of liquid waste, car waste treatment, advanced wastewater treatment, optimization of sedimentation and filtration units, phytoremediation and constructed wet land, sludge treatment, Monitoring and Evaluation on Wastewater Treatment Plant. In 2021 (15/09), we are hosting a webinar in collaboration with the World Mining Organization on Acid Mine Water Management with Hydrological Modeling. Acid Mining Water (AAT) is an environmental issue that can lead to a decrease in water quality. hydrological studies are important research activities to determine the movement, distribution, quantity, and quality of surface water in mining activities.

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Award on Infiltration Well's Innovation

We received an award from the West Java Provincial government as a form of academic support in the Hansip Cai (Water Security Guard) Program by creating the Biber Infiltration Well Innovation design using low value plastics. In addition to IPB University, the award was also given to PT Danone Indonesia, as a business actor who participated in the infiltration well development program. The award, which was given in conjunction with the inauguration of the West Java Provincial Government's Hansip Cai Program, was held at the Ex Office of the Government and Development Coordinating Board (BKPP) Bogor City (02/12).



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Campus Operation

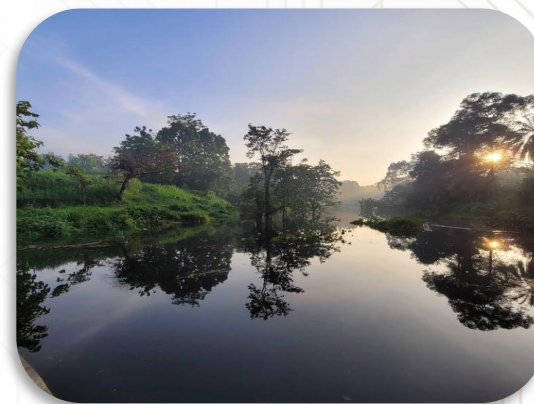


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9 Water Conversation Improvement



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1) Telaga Inspirasi, 2) LSI Lake, 3) FKH Lake, 4) FPIK DAM



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10 Water Conservation Improvement



Water conservation is one of our programs in order to preserve the availability of water in the campus environment. This water conservation also aims to meet the large number of water needs in the IPB environment, both academic and non-academic activities. IPB has a clean water treatment unit with raw water source taken from a river with a very high level of turbidity. In 2021, several DAMs have been built within the Dramaga IPB campus. It is hoped that with the construction of the DAM, it can become a source of clean water to meet water needs, such as in field laboratories that require untreated water. In addition, it is hoped that the DAM will become one of IPB's programs in the development of Micro-Hydro renewable energy sources.



FKH Lake

FKH Lake is a new lake that built in 2021 in conjunction with the revitalization of LSI Lake. The area of the FKH fund is approximately 1000 M2 with an optimal 3 meter discharge, the water has the potential to be used as a raw water source, and the water discharge can be used as a micro hydro generator.

FPIK DAM

The FPIK DAM built in 2021 is located at the end of the lake water discharge from LSI, the resulting water discharge is more than 2 meters, so it has the potential as an alternative raw material for clean water and micro hydro power plants apart from the aesthetic aspect, because it is next to the main road around the campus.



Telaga Inspirasi

The Telaga Inspiration/Inspiration Lake is right next to the Andi Hakim Nasution building. This lake is not only a place for water conservation, but also some of the runoff water is channeled as raw water for clean water. This lake was built in 2020, and has become the object of visits and recreation for both IPB residents and the general public



CLEAN WATER CAPACITY IMPROVEMENT PROGRAM FOR 2021

Drainage of GWT and Ciapus and Cihideung WTP intake tanks



Revitalization of Steel Pipe to HDPE PAU-Fateta 175 m



Clean Water Hygiene Quality Test
18 sample points / year



Clean Water Installation Repair = 30 points



Water Meter Replacement = 10 units



12 Wastewater Treatment Plant



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Community Engagement

13 Biological Fertilizer for Processing Vegetable Waste into Organic Fertilizer

A team of lecturers from the Department of Biology, FMIPA IPB, chaired by Prof. Dr. Hamim, has provided counseling and demonstration plots on the use of waste for organic fertilizer in Belitung Regency on November 7, 2021. The research results were applied at the place of manufacture of organic fertilizers at the Belitung Regency Environmental Service and observed the manufacture of organic fertilizer from vegetable and domestic waste will last until early December 2021. The development of demonstration plots for the use of organic liquid fertilizer using microorganisms from biological fertilizers as a result of research by Dr. Nisa Rachmania, MSi from the Division of Microbiology, Department of Biology, FMIPA, IPB.

This event give benefit such as 1) Cooperation between Biology Lecturers, Department of Biology, FMIPA, IPB and the Belitung Regency Environmental Service in the utilization of research products, and 2) Utilization of vegetable waste to be processed into organic fertilizer, then organic fertilizer can be used as an environmentally friendly plant

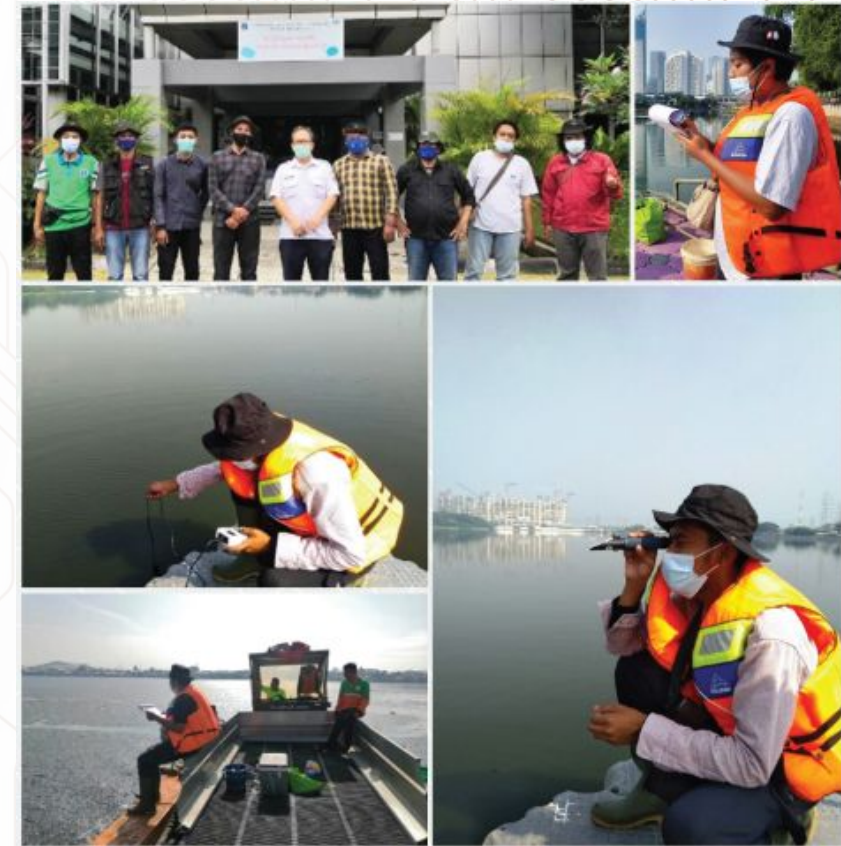
These activities were related to Sustainable Development Goals (SDG) no 6 (Clean water and sanitation) dan SDG no 13 (Climate action). The output of this event are 1) Community understanding to use waste into useful materials, 2) Utilization of proven biological fertilizer products as a starter (inoculum) for the manufacture of organic fertilizer from vegetable or fruit waste, and 3) Continuous collaboration between Biology Lecturers, Department of Biology, FMIPA, IPB and the Belitung Regency Environment Agency in the utilization of research products.



14 Monitoring the Water Quality of Situ/Reservoir at OKI Jakarta in 2021

This activity is a collaboration between PPLH-IPB and the Oinas for the Environment of the OKI Jakarta Province in the implementation of monitoring the quality of water in situ/reservoir in OKI Jakarta. This activity to monitor the status of water quality in situ/reservoir in the OKI Jakarta province in 2021 is a continuation of the PPLH-IPB collaboration with the Oinas for the Environment (OLH) of the OKI Jakarta Province. This monitoring activity was carried out in 61 ponds/reservoirs spread across the OKI Province of Jakarta. The results of the study are used to determine the condition of the water quality of the lake/reservoir, priority locations, and efforts related to the management of the lake/reservoir. The in situ/reservoir water quality monitoring survey activities in 2021 are divided into 2 periods, March - April represents period 1 and August - September represents period 2.

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15 Hygiene Sanitation Technical Guidance for Food Safety Supervisors of Fresh Plant Origin

The implementation of supervision and development of SPPB PSAT for MSEs which will be carried out by district/city supervisors faces the challenge of lack of mastery of sanitation and hygiene knowledge (18/9/2021). The lack of knowledge on sanitation and hygiene of supervisors is caused by an inappropriate/less appropriate educational background and/or lack of training and experience related to the application of sanitation and hygiene. The purpose of this training is to provide an understanding and practice of hygienic sanitation required by district/city fresh food supervisors and to improve the ability to supervise and provide guidance to MSEs that have obtained PSAT-PDUK registration.

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Clean Water Packages

Independent Volunteer Action (ARM) IPB University Alumni Association (HA) in collaboration with the Regional Leadership Council (DPD) HA South Kalimantan distributed 160 jerry cans of drinking water with a capacity of 18 liters (total 2,880 liters). The aid was distributed in humanitarian action, (20-22/2). We reached out to Hantakan and Batu Benawa sub-districts in Hulu Sungai Tengah district to hand over six units of fiber water reservoirs (toren) with a capacity of 650 liters per reservoir to help nearly 600 families in three villages. Clean water for the community is an urgent matter to be addressed. Therefore, we took the initiative to donate six water tendons with a capacity of 650 liters each. We want to ensure that residents have a container to store the availability of clean water that is adequate for their daily needs.



6 CLEAN WATER AND ADEQUATE



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Water Crisis Campaign

Our alumnus from the Applied Climatology Study Program (KLI Study Program), Department of Geophysics and Meteorology, Faculty of Mathematics and Natural Sciences (FMIPA), Meriana Ina Kii invites the younger generation to care about the water crisis that occurred on Sumba Island, East Nusa Tenggara (NTT). This was conveyed in a talk show entitled "Greeting the Country", (3/9). Meriana is directly involved in overcoming the water crisis in the management of agricultural land. Meriana also shared her experience in regulating the flow of water from rivers as optimally as possible just to keep the soil moisture in the rice fields so that they continue to produce optimally.

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<https://ipb.ac.id/news/index/2021/9/ipb-university-alumnus-encourages-young-generation-to-help-ntt-overcome-water-crisis/69bb59fe2ef9a2573a8ebfa6e5eb8003>



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18 Sanitation and Hygiene Training

IPB University lecturers from the Vocational School also provided sanitation and hygiene training for Sago SMEs, in Tanah Baru Village, Bogor City. Sanitation and hygiene of the production process play an important role in determining food quality and safety. The importance of sanitation should be applied to all food production facilities. The fulfillment of sanitation and hygiene requirements as well as the application of good manufacturing practices will produce high quality food products.



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