

LIPI CONNECT

Connecting the Indonesian Institute of Sciences to the World

BULLETIN



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LIPI CONNECT
Issue 12 - April 2021

From the Editor in Chief

Hi readers,

We are back with the 12th edition of LIPI CONNECT from Indonesian Institute of Sciences (LIPI). This newsletter is designed especially for our international partners and networks.

In this edition, we are placing several issues that highlighting on LIPI's concrete action for adaptation and mitigation climate change, LIPI's contribution on Indonesia-South Korea's partnership and LIPI's research on medical waste and Covid-19. Furthermore, LIPI also actively participate on some international events such as ISC Extraordinary General Assembly 2021, GRC Asia Pasific Meeting, Young Leader Meeting on FEALAC forum, and also WINNER Climate Adaptation Summit (CAS).

Please feel free to contact us for any inquiries.

Hope you enjoy reading the 12th edition of LIPI CONNECT.

Regards,

Mila Kencana

Editor in Chief LIPI CONNECT

Head of Bureau for Cooperation, Legal, and Public Relations LIPI

LIPI Participation on Engaging with International Activities



LIPI's Concrete Action for Adaptation and Mitigation Climate Change



ISC Extraordinary General Assembly 2021



FEALAC young leader forum

Source: LIPI

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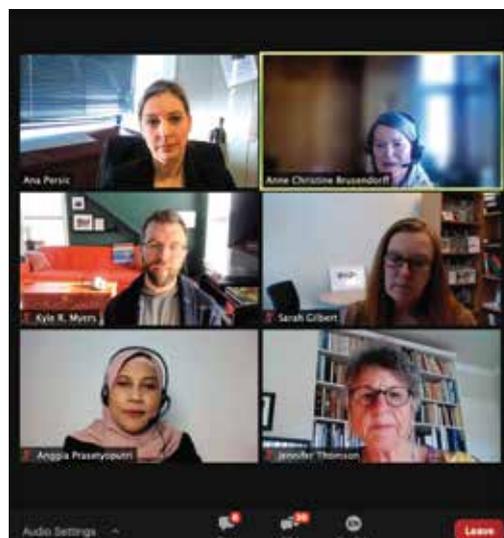
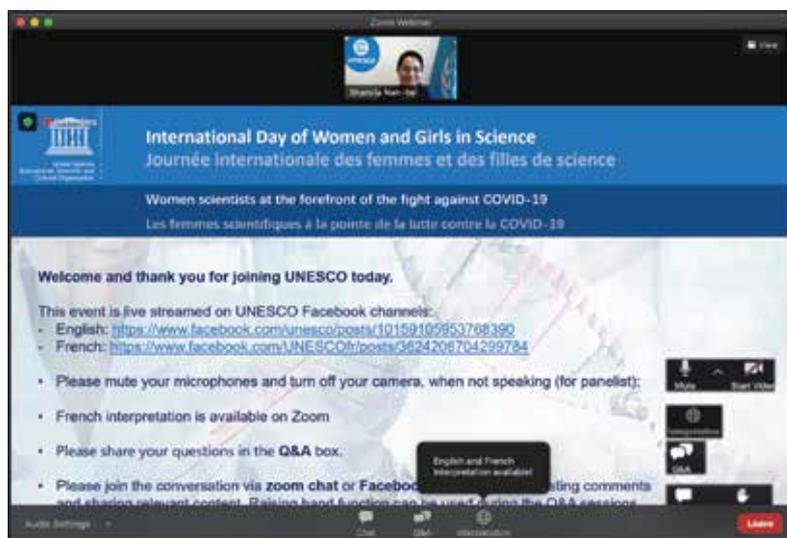
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International Day of Women and Girls in Science

“Women Scientists at the Forefront of the Fight Against COVID-19”



Source: LIPI

Webinar Women Scientists at the Forefront of the Fight Against COVID-19

Since the beginning of 2020, we all know almost all governments around the world announced that coronavirus became a dangerous disease we called COVID-19, that was easily transmitted. The world was shocked by discovering a new disease that originated in Wuhan, China, and began to spread to surrounding countries. The coronavirus outbreak was growing rapidly and has made the World Health Organization (WHO) appealed to countries in the world constantly to be vigilant. The COVID-19 pandemic forced everyone to face all changes and adapt to them. Not only men but also women have their respective challenges to survive in the pandemic. Women played an essential role in stopping the spread of the coronavirus infection pandemic or Covid-19. Starting from guiding the family while at home to being at the forefront of healing Covid-19, becoming medical personnel and nurses, women could also become a researcher to develop the newest innovations to save the world from this virus.

The scientific community celebrated women and girls' contributions to science and innovation and broke down persistent gender barriers every year on February, 11. Especially for this year, the scientific community was carrying the theme regarding advancing knowledge on the virus and combating the spread of COVID-19. This auspicious webinar occasion was celebrating women and girls across the world and those who have pursued a scientific career.

This webinar event was opened by Shamila Nair-Bedouelle, Assistant Director-General for Natural Sciences, UNESCO. She strength that, this pandemic needed no doubt about the necessity of global investment in science for sustainable devel-

opment and resilience. In the aftermath of this crisis, all humans needed to pursue an inclusive approach toward science, technology, and innovation. Also, there were equal opportunities in access to science, and participation of the diverse partners and stakeholders in science education research and innovation were paramount for realizing the full potential of science for the benefit of all. She also liked to acknowledge the role of these women who have devoted their lives to discreet and protecting the world, especially by working in a field of research.

This event was divided into two sessions. The first session was a webinar from many inspiring women who concern about research aimed at fighting this virus. The first Speaker was Sarah Gilbert, a Professor of Vaccinology, Oxford University, and co-founder of Vaccitech. The activities carried out by her were went on to do trials where we tested the vaccine's efficacy. She and her team needed to find out if it stops people from getting infected with the coronavirus. This activity started in Oxford in April spread to the rest of the UK. Still, they also worked with partners in other countries, notably Brazil and South Africa, to extend the study around the world. The vaccine was licensed to Astra Zeneca. They began to conduct clinical studies, particularly in the US and Japan, and the Serum Institute of India sublicense the technology to make the vaccine. Nowadays, the result of those clinical trials is a summary of the vaccine efficacy; this is showing to us that across the trials in the UK and Brazil, they got 70% vaccine efficacy against mild symptomatic covid 19 infections.

The second speaker from BioNtech, Özlem Türeci (TBC), as Co-founder and Chief Medical Officer. A

(TBC), as Co-founder and Chief Medical Officer. A team from BioNTech was currently working on a vaccine developed from the previous MERS and influenza vaccine research. Even today, the members of this vaccine development were 60% women, which were never before. Hope for the future emancipation of women could help a lot and made a difference. Hopefully, the tested vaccines could boost immunity and reduced the risk of exposure to the virus.

The need to convey scientific things into language that was easily understood by the public was also significant, especially in a pandemic like this time. Megan Hochstrasser, as Education Program Manager, Innovative Genomics Institute, felt this was also very helpful to make people more concerned about the health and understand some parts of the health and medical science field. She talked about communicating sensitive engineering tools like CRISPR technology to solve problems in this pandemic situation. "My job is in education and outreach, and I believe that knowledge is power, so I kind of see my role as empowering people to make informed decisions about areas of their lives that are impacted by science, and especially can mean sensitive areas like health and reproduction. So I try to be tactful in talking to people while also making things fun and accessible, so I make a lot of resources trying to appeal to general audiences", she said.

A representative from Indonesia was Anggia Prasetyoputri, a researcher at the Indonesian Institute of Sciences (LIPI), and 2020 Fellow of the L'Oréal-UNESCO For Women in Science Indonesia national program. Anggia focused on her proposed research on deep sequencing of swap samples to detect bacterial co-infection in COVID-19 patients so that this research would begin in the next exercise. She interested in seeing bacteria's claims in COVID-19 because she came from a microbiology background and was interested in antimicrobial resistance and automatic development during her doctoral studies. Anggia has an interest in doing this research because not many countries have started it. Her research suggested finding a fast and accurate method to detect deep sequencing of swap samples in patients. "I find that the co-infection factor for COVID-19 has proven to be a fairly big problem in patients, especially those who suffer from severe disease and not only have the coronavirus, but patients can also be infected with other bacteria by genic bacteria, and what happens is this can cause complications and then leads to a worse prognosis", she said.

The second session was a panel discussion on the impact of COVID-19 on the research and scientific careers of women scientists with Prof Jennifer Thomson, President, Organization for Women in Science for the Developing World (OWSD), and 2004 L'Oréal-UNESCO For Women in Science laureate, Kyle R. Myers, Assistant Professor of Business Administration, Harvard University, and Anne Christine Brusendorff, Secretary-General, International Council for the Exploration of the Sea (ICES). Anne said that during this



Dr Anggia Prasetyoputri, Researcher at the Indonesian Institute of Sciences (LIPI), and 2020 Fellow of the L'Oréal-UNESCO For Women in Science Indonesia national programme

Source: LIPI

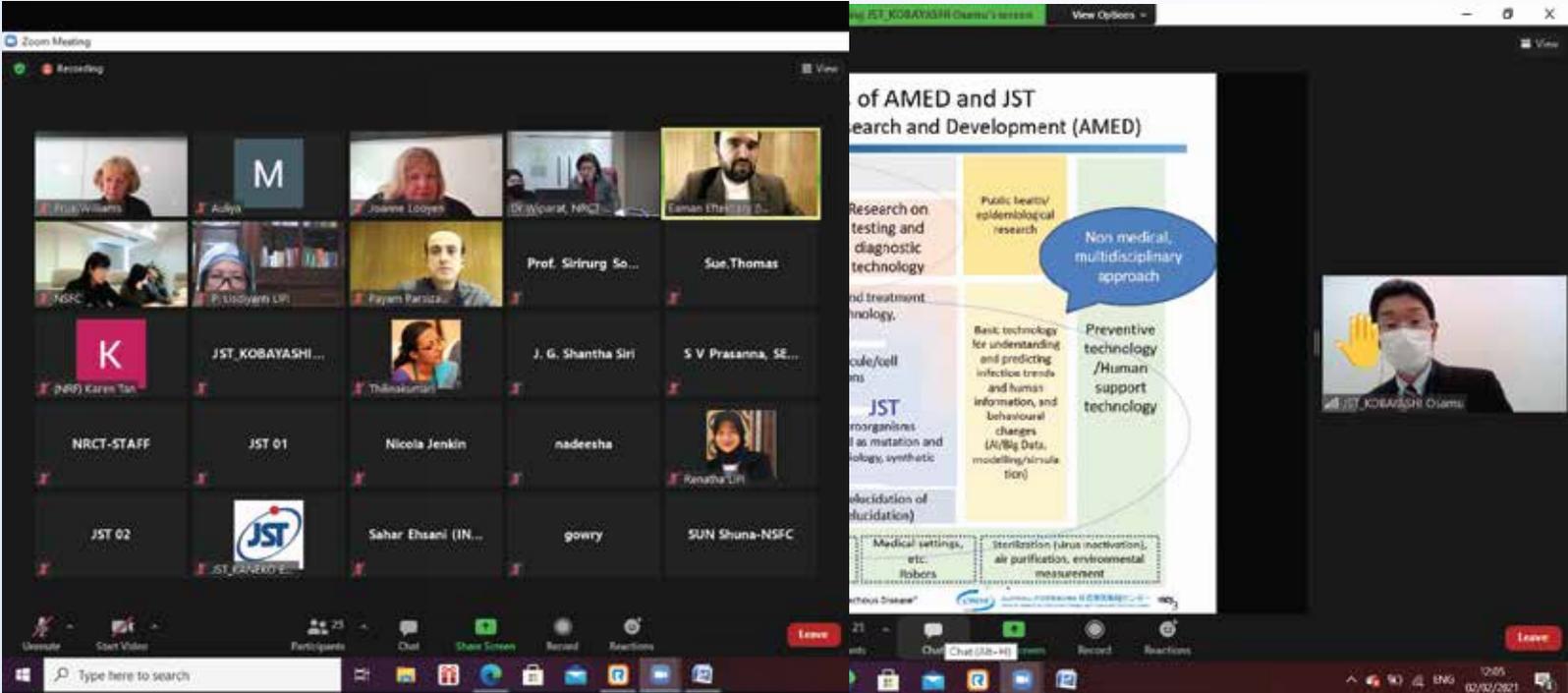
pandemic period, including work patterns and work rules, humans must be more accepting of work environments. Further considerations so building back better when looking into the future wanted to work on a long-term strategy for managing changes to working life and aim to do that in a way that was sensitive to gender equality to diversity and inclusion and ensuring that. The new working style includes women, and that in ICES was having a diverse workforce needed if we were going to ensure credible science.

Kyle R. Myers explained in a term of government policy that must be taken during this pandemic era, which concerns gender inequality—shown to be relevant, especially when considering gender-specific policies. Most developed economies persistently find smaller pay gaps between men and women. "So first, I would like to just highlight the world's leading economists in terms of thinking about gender issues in the workforce writ large", he said.

Jennifer Thomson presented the role of women in careers that were carried out during the pandemic was considered to be less publicized because they had a heavier role than men in caring for children; that's because women have a significant role in caregiving. But on the other side women were very flexible in the case of working powers more time with their family and can balance it. The flexibility of time management during the pandemic has been a great advantage to the women. "I think women scientists in the developing world of very resilient and be great resilience is not letting the pandemic win", she said.

Hopefully, this International Day of Women and Girls in Science event could inspire and encourage many young women worldwide to follow education because becoming a scientist is possible for all women and girls across the globe. Not only in overcoming the current pandemic but also in becoming equal leaders and community leaders because we are capable of doing so. We need to close the gender gap, therefore, we need to accelerate collective efforts in closing the gender gaps in science and technology.

Nur Afifah Agustina



GRC Asia Pacific Virtual Meeting

Source: LIPI

GRC Asia Pacific Virtual Meeting Encouraged International Collaboration on Covid-19

Jakarta, Indonesian Institute of Sciences (LIPI) with Global Research Council (GRC), Iran National Science Foundation (INSF), and Ministry of Business, Innovation and Employment New Zealand (MBIE) held “GRC Asia Pacific Virtual Meeting on Covid-19 Response” on Tuesday (2/2) as a forum for sharing experiences, learning practices, and finding a solution to overcome Covid-19. This meeting is held online by Zoom Meeting.

“This meeting is an important momentum in bridging and enhancing international collaboration to overcome Covid-19, including collaboration in vaccine research”, said Prue Williams, MBIE New Zealand in her opening. This meeting was also attended by representatives of institutions/agencies from various countries such as the National Research Council of Thailand (NCRT), the Australian Research Council, the National Science Nature Foundation of China (NSFC), the Science and Engineering Board India (SERB), Japan Science and Technology Agency (JST), National Research Foundation Singapore (NRF), and National Science Foundation Sri Lanka (NSF)

In this meeting, LIPI informed that currently, their research focus is still on vaccine. “Previously, LIPI had made various efforts to overcome Covid-19 started from research formulas, production of hand sanitizers, clinical trials of herbal immunomodulators, testing of respiratory aids, and public perception surveys”, said Puspita Lisdiyanti, Director for Research Center for Biotechnology LIPI. Meanwhile, New Zealand has three stages in of counter-

measures, namely the immediate term by continuing to actively encourage Covid-19 research activities, medium-term with proper communication efforts in the new normal period, and long term with economic recovery efforts, one of which is through increased research.

“We provide tolerance for extending the deadline for completing research proposals to encourage increased Covid-19 research”, stated KOBAYASHI Osamu, Japan Science and Technology Agency (JST). Besides JST, Science and Engineering Board India (SERB), and Australian Research Council also extended deadlines for the same interests.

Besides provides an extension of time, global collaboration is important to overcome the global pandemic Covid-19. The New Zealand Government has budgeted a total of NZ \$37M for vaccine research including international collaborative funding with amount of NZ \$15M”. In line with MBIE, JST encourages Covid-19 research collaboration between countries through the e-Asia Joint Research Program. “One of the potential schemes of international research collaboration that LIPI has is the post- doctoral fellowship/visited fellowship program”, Puspita added.

For the closing remarks, Mike Brike from United Kingdom Research and Innovation (UKRI), as well as the GRC Executive Secretary hoped that the 9th Annual Meeting on 24-27 May 2021 and the 2021 GRC Regional Meeting in October-November can be carried out well.

Maftuha Rifka Auliya

LIPI Contribution for Enhancing Indonesia-South Korea Connectivity



Source: LIPI

International Webinar on Enhancing Indonesia-South Korea Connectivity

The massive spread of the Korean Wave in Indonesia shows the widespread acceptance of Korean culture by the Indonesian people, especially among the younger generation. The relationship between Indonesia and South Korea has also been established in several fields of bilateral cooperation: including economic, political, and socio-culture.

The Deputy Chairman for Social Sciences and Humanities (IPSK)-LIPI held an international webinar with "Enhancing Indonesia-South Korea Connectivity" as the theme on Monday (22/3). This webinar was attended by the President of Korea Foundation and the Director of Korea Foundation Jakarta and presented some speakers including Santo Darmosumarto (East Asia and Pacific Director of the Ministry of Foreign Affairs-the Republic of Indonesia), Youngmee Jee (the Chief Executive Officer of the Institute Pasteur Korea), Andrew Eungi Kim (Academic in International Studies at Korea University), and Nanto Sriyanto (Researcher at the Research Center for Politics-LIPI).

In his remarks, Chairman of LIPI, Laksana Tri Handoko, stated that LIPI has opened the promotion scheme for many activities widely such as exchanges and mobility of researchers and research assistants, research internship for students, visiting professors, and post-doctoral activities. "This is a good opportunity to invite the Korea Foundation to expand its cooperation network in Indonesia," he said. Handoko added that LIPI would be the right partner and hub for the Korea Foundation in Indonesia and the region.

Deputy Chairman for Social Sciences and Humani-

ties-LIPI, Tri Nuke Pudjiastuti, said that this webinar was one of the strategic foundations for expanding long-term relations and cooperation between Indonesia and South Korea, as well as improving people-to-people connectivity between both countries. She also emphasized LIPI's commitment to strengthen cooperation and collaboration with South Korea through the Korea Foundation.

H.E Umar Hadi, the Indonesian Ambassador for South Korea, expressed his optimism that this collaboration will be able to produce strategic cooperation according to the needs of the world community. "I believe that the strategic partnership between Indonesia and South Korea can create responsible global leadership, innovation in politics, science and technology, as well as a clear view that can embrace all levels of society," he said.

Meanwhile, the South Korean Ambassador for Indonesia, H.E Park Tae-sung stated that Indonesia and South Korea have continuously strategic collaboration in various fields such as in the fields of industrial innovation, climate change, and COVID-19 solution. "I am also very happy for the development of Korean cultures, such as K-Pop, K-Drama, K-Food, and K-Beauty, which can be enjoyed in Indonesia, especially the younger generation," he added.

This meeting is expected to be a valuable opportunity to discuss the relationship between Indonesia and South Korea, so the mutually beneficial connectivity can be realized for both countries.

Noor Hidayah

International Science Council (ISC) Extraordinary General Assembly 2021



**International
Science Council**
The global voice for science

ISC extraordinary General Assembly

1 - 5 FEBRUARY 2021
ONLINE

ISC Extraordinary General Assembly 2021

Source: <https://council.science/current/news/isc-general-assembly-2021-will-be-held-virtually/>

ISC is an international non-governmental organization that brings together the natural and social sciences and global scientific organizations with 40 international scientific unions and associations and more than 143 national and regional scientific organizations, including academics and research institutions. ISC's vision is to advance science as a global public good. Universal ease of access to scientific knowledge, data, and expertise. Science practice must be inclusive and equitable in opportunity and capacity building. While its mission, ISC has several points such as promote research and scholarship in global challenges; Improve understanding of evidence-information and decision making at all levels of public policy, discourse, and action; Promote the continuous and equal advancement of scientific power, creativity, and relevance in all parts of the world; and Protect scientific freedom and advocate for principles for responsible science practice.

Three years after the 2018 Extraordinary General Assembly in Paris was held, the ISC elected the ISC representative council. Currently, the Extraordinary General Assembly in 2021 is being held from February 1 to 5, 2021, to re-elect the new ISC representative council. The International Science Council (ISC) Governing Board cordially invites all ISC Members to participate in an extraordinary General Assembly held online. Besides, the ISC Governing Board facilitated an electronic extraordinary General Assembly (eGA). From LIPI also attended the General Assembly on February 2, 2021, represented by Head of the Bureau For Cooperation, Legal, And Public Relations and

team.

During the 2021 extraordinary General Assembly, ISC voting Members were invited to vote on the approval of proposed changes to the ISC Statutes and Rules of Procedure and elect the 2021 Elections Committee. The first event, namely the Demonstration about how to navigate the election, vote, and Polling platform in this general assembly, was operated by Anne Thieme (ISC) International Science Council (Membership Liaison Officer) and moderated by Charles Erkelens, and the Opening Ceremony was opened by Daya Reddy (Council's founding General Assembly ISC).

On February 2, 2021, the extraordinary General Assembly discussed several improvements and the introduction of a final version of the statute and regulations in the opening of online voting. First, the final statute No. 26 with the contents of the text of the statute, namely: the ISC President and the ISC Vice President will serve for one term of three years, non-renewable. In Governing Board sessions, the quorum must consist of a minimum of 50% of the members casting a vote on the Governing Council. For every decision made by an officer following the Articles of Association, at least three out of five officers must register their support. Some of the related statutes that have received sufficiently in-depth discussion are:

1. Final amendments of statute 6.1: The Election Committee will invite at least 6 six months before the ordinary session of the General Assembly, each Member of the Council in good standing (according to

statute 9) to nominate one candidate for the post of President elected, and three Vice Presidents. Each proposal must be accompanied by biographical information, and a statement of motivation and if selected.

2. Final amendments of statute 7.2 The Electoral Committee, after reviewing this proposal and taking into account Rule of Procedure 5, will propose a candidate list containing 20-30 names for the ten Ordinary membership positions of the Governing Council. The Election Committee may include additional names not proposed by Members in this shortlist if it is deemed inadequate in any case offered by the proposed group. This list is the final list of candidates.

3. Final Amendments to the Election Committee (statute, 32 RoP 10.6) The Election Committee, chaired by the President and includes eight additional members. Additional members are nominated by the Governing Council, taking into account geographical, disciplinary, and gender considerations, and are elected by the General Assembly. The Electoral Committee will be responsible for advising and managing the Governing Council's nomination and selection process.

The ISC General Assembly agreed that voting for the membership of the Election Committee would be conducted in the following manner; the first General Assembly will vote for 8 (out of 16) Members of the Election Committee; Second, if the general assembly delegation approves changes to the rules in the statute and rules of procedure, the Election Committee will consist of 8 elected members; Third, that is, if there is a change in the Articles of Association and Code of Conduct in the section related to the number of Election Committee members not approved by the general assembly, the Election Committee will consist of 4 members who receive the highest number of votes.

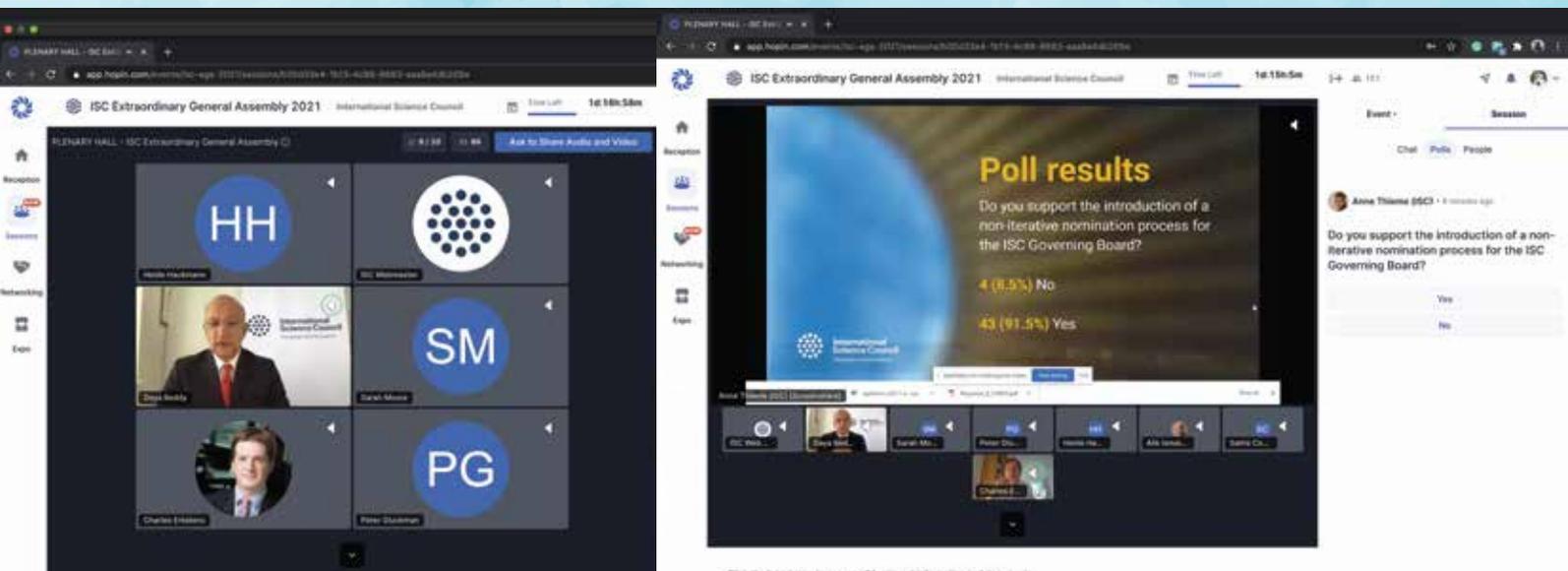
The proposed amendments to the ISC statutes and Rules of Procedure provide the legal reference and legal basis for electing the next term president and vice

president. ISC Members will be invited to vote during the Extraordinary General Assembly in February 2021. These elections and hearings have a potential impact on the role and composition of the Electoral Committee. Most importantly, if the proposed changes are accepted, the Electoral Committee will consist of nine key elected officials (President + eight additional members) rather than five (President + four additional members). Subsequently, the Election Committee will be required to provide ISC Members with two or three candidates per Governing Council position from the entire submission list of candidates without a maximum number.

Following the rules of statute procedure point 2.7, and since voting on proposed changes to the statute and rules of procedure will be facilitated in parallel with the election of the 2021 Election Committee during the Extraordinary General Session in February 2021, ISC Members may elect the top four (in the event of changes proposed in Legislation not approved) as well as the top eight (in the case of proposed changes to approved statutes) candidates before the meeting via the online voting form.

An additional point from the ISC election committee was that the final vote was Friday, February 5, 2021, and the election committee agreed that there would be a follow-up meeting to discuss this election. Due to the ongoing COVID-19 pandemic, the ISC Governing Board has decided to hold the 2021 General Assembly in October 2021 online and reschedule the Muscat Global Knowledge Dialogue to early 2023. A registration link to attend the GA will be made available in September 2021. All staff members, office bearers, and representatives of the ISC are cordially invited to participate in the meeting. There was no limit regarding the number of attendees per organization.

Nur Afifah Agustina



Online ISC Extraordinary General Assembly 2021

Source: LIPI

The Forum for East Asia Latin America Cooperation (FEALAC) is an inter-regional multilateral forum that was first established in Singapore in 1999 in response to the growing need to build a cooperative mechanism and interdependence between East Asia and Latin America in the 1990s. The organization was officially named FEALAC at the 1st Foreign Ministers' Meeting in Santiago, Chile, in 2001. Since its establishment, FEALAC has held 7 Foreign Ministers' Meetings, 17 Senior Officials' Meetings, and 40 Working Group Meetings, and continues to expand its propelling cooperation between East Asia and Latin America. FEALAC has 36 member countries from Asia and Latin America, 16 from Asia, and 20 from Latin America.

Sciences, represented Indonesia in this program.

In this opportunity, Renatha gave an opinion in the discussion regarding the question "What can FEALAC countries and Japan do in cooperation to achieve the SDGs?". She conveyed that "One of the challenges in the SDG's implementation, especially during the pandemic, includes the limited domestic funding source. A magnificent financing strategy is a must while supporting creative and innovative financing to develop is also a necessity. Financing resource mobilization will also be the key to the successful implementation of the 2030 agenda".

Young Leader Meeting on The Forum for East Asia Latin America Cooperation (FEALAC) Related to STI and SDGs

The Ministry of Foreign Affairs of Japan (MOFA) extends a cordial invitation to leaders in the field of politics, economy, administration, and academia in respective countries, intending to offer an opportunity to deepen their understanding of Japan through the exchange of views with Japanese experts from government and private sectors.

Since 2001 Japan has been inviting young leaders from FEALAC. This year, the program that focus on "The use of technology for a sustainable society (SDGs) and natural environment," inviting young government officials who are or will be engaged in policymaking on the use of the technology. The participant can share views in his/her own country related to the field and be responsible for encouraging to build a sustainable society and conserve the natural environment.

Moreover, both Asia and Latin America, and the Caribbean regions, which show a high interest in SDGs and the preserved natural environment, are expected to lead these global issues, considering the rapid development and economic potential. The meeting has held four times via zoom platform on 5, 9, 17 February 2021, dan 19 February 2021. The program started at 9 AM Japan time and took 1 to 1.5 hours each time. The total number of participants was 33, consisting of 1 person from each FEALAC member state participating in this program. Renatha Ayu Rossdiana, Coordinator of International Affairs from the Indonesian Institute of

The requirements for the participants to be nominated for this program were approximately 25-35 years old. They are young governmental officials engaged in the cooperation between Asia and Latin America and the Caribbean or those who are or will be involved in policymaking on sustainable growth related to the said technology.

There were several topics to discuss. On the first day, the discussion related to FEALAC and Japanese Diplomacy towards Latin America and Japan's Efforts for Achieving the SDGs. On the second meeting, participants talked about Japan's Science and Technology Diplomacy and STI for SDGs. At the third meeting, the participants discussed Tokyo 2020-Sustainable Games Delivery promoting SDGs and Introducing the Olympic torch with sustainable energy, Hydrogen. At the last meeting, participants and speakers from the Ministry of Foreign Affairs Japan discuss and formulate the current problem and solution proposed by the young leader.

"FEALAC has offered various experiences to enhance the growth in respective countries. We believe that it is important to share Japan's experience in this area with young leaders of FEALAC member countries in the two regions and beyond," said Mr. Masamoto Kenichi, Director of Mexico, Central America and Caribbean Division, Ministry of Foreign Affairs Japan.

Renatha Ayu Rossdiana

LIPI Research Related to Medical Waste Treatment



Webinar LIPI Research Related to Medical Waste Treatment

Source: LIPI

The Covid-19 pandemic has not ended yet. The Covid-19 pandemic raised various problems. Apart from a health problem, there are environmental, social, and economic problems. Environmental problems are related to medical waste and waste management systems. This medical waste includes masks, gloves, and other protective equipment. During the Covid-19 pandemic, masks were not only used by medical personnel, but also by the general public as well. Data from DKI Jakarta Environment Agency stated that the amount of masks waste from April to December 2020 reached 1,5 tons.

LIPI held a Webinar Mask Waste Management during the Covid-19 Pandemic with the theme "Don't Throw Your Mask!". The webinar which was held on February 16, 2021, aims to discuss medical waste problems in Indonesia and the solutions that LIPI has. LIPI conducts various researches to solve the problem related to medical waste. LIPI's innovations in dealing with medical waste include small scale Covid-19 infectious waste incinerators for factories and offices, research on mask waste recycling, wastewater treatment plant with nanobubble plasma, and syringe crusher (APJS).

LIPI uses autoclave sterilization technology to break down disposable mask waste. The use of chopped autoclave is in accordance with the direction of the Minister of Environment and Forestry Circular Letter

No. 2 of 2020. Autoclave sterilization technology uses steam at a temperature of 1200C for 30 minutes. The result of autoclaving is plastic ore which can be processed into other plastic products. "LIPI also developing solar autoclaves for areas that far from waste processing facilities," said Herlian Eriska Putra, researcher from Research Unit for Clean Technology LIPI.

Arifin Nur the researcher from Research Center for Electrical Power and Mechatronics LIPI stated that was developing a small-scale Covid-19 infectious waste incinerator for factories and offices. One of the reasons for this research is the limited place for processing waste in Indonesia. "The concept of Covid-19 medical waste treatment should be close and safe," He said. The expected advantages from the development of the incinerator include the combustion temperature can be constant according to the desired temperature, the use of LPG fuel which is easy to find, quickly reach the desired working temperature, low exhaust emission, low selling price and maintenance costs, and the easy and understandable technology.

Apart from the incinerator, LIPI also researched on the recycling of mask waste. Bioplastic research is being carried out to break down single-use masks. Disposable masks waste are collected, then sterilized and dried. After that, the masks will be cut into small

pieces for extrusion. The result is recycled plastic ore. This plastic ore can be molded into recycled plastic products (printed products, sheets, and fiber).

Other research related to plastic medical waste is by using the crystallization method conducted by the Research Center for Chemistry LIPI. The background of this research is the large amount of medical waste which is difficult to recycle. This medical waste tends to be a lot and is likely to produce microplastic waste that can disrupt the ecosystem. Therefore, LIPI developed a method of recycling medical plastic waste by using recrystallization.

The advantages of this method include the high purity for recycled products, so it can be used again for the same purpose, the method has the potential to separate free metal content that may be included inside recycled medical plastics, low energy consumption potential, the method can be developed so sterilization can be done in-situ, easy and effective to apply to PP, PE, PS, PVC, PC, MMA plastics.

"The basic principle of this method is solubility. Plastic dissolves in a certain solvent, then insoluble in certain solvents. This can be manipulated so we can crystallize plastics in solution into powder," said Sunit Hendrana, researcher from Research Center for Chemistry LIPI. The process starts with dissolving. After that, the mask's waste will be mixed with anti-solvent until there is deposition. After that, we can separate the plastic powder. Solvents and anti-solvents can be separated

and used again. The final product is a plastic powder with very high purity.

Sahniza Tamara Basori



Gontoh Produk Daur Ulang Limbah Masker Disposable yang Telah Hasil

Keunggulan:

1. Teknologi mudah dan murah
2. Menghasilkan produk plastik bermanfaat
3. Industri/UKM daur ulang plastik cukup banyak

Solusi praktis di masa Pandemi !

CP: Dr. A.H. Dawam Abdullah (LPTB-LIPI) dawamduhah@yahoo.com 81312065295

produk-produk plastik daur ulang (cetak, lembaran, fiber)

Webinar Presentation of the Disposable Mask Waste Recycling Trial

Source: LIPI

Inovasi LIPI mengatasi limbah APD

Incinerator Sampah Infeksius Covid-19 Skala Kecil Untuk Pabrik dan Perkantoran



Riset Daur Ulang Limbah Masker



INSTALASI PENGOLAHAN AIR LIMBAH DENGAN PLASMA NANOBUBBLE



Alat Penghancur Jarum Suntik (APJS)



Prototype



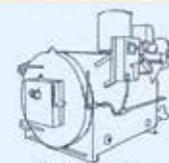
LIPI's innovation overcomes Personal Protective Equipment

Teknologi Sterilisasi Autoklaf

- Uap panas (steam) pada suhu 120°C selama 30 menit → untuk steam bisa melewati kemasan plastik yang digunakan untuk mematikan patogen

Inactivating porcine coronavirus before nucleic acid isolation with the temperature higher than 56 °C damages its genome integrity seriously

Chen Zhang, S1 Qinghai Univ. <https://doi.org/10.1101/2020.02.20.048716>



- Jumlah autoklaf yang dimiliki rumah sakit/fasyankes lebih banyak dibandingkan insinerator

- SE No. 2 MenLHK Tahun 2020 → insinerator 800°C dan autoklaf berpencacah untuk menangani limbah infeksius



Source: LIPI

Indonesia-Netherlands Commitment in the Context of Climate Change Adaptation and Mitigation



A WINNER follow-up to the Climate Adaptation Summit (CAS)
10 March 2021, 09:00 - 11:00 CET (15:00 - 17:00 WIB)

H.E. Dr. Siti Nurbaya Bakar
Minister of Environment and Forestry of the Republic of Indonesia

H.E. Mrs. Cora van Nieuwenhuizen
Minister of Infrastructure and Water Management of the Kingdom of the Netherlands

Keynote speech from Minister

Source: KITLV/Royal Netherlands Institute of Southeast Asian and Caribbean Studies

Currently, global warming is one of the hot issues that still need to be discussed and resolved. This condition was exacerbated by uncontrolled development activities, the effect of greenhouse emissions, and disposing of littering and waste anywhere without paying attention to the environment. The Indonesian Institute of Sciences (LIPI), in collaboration with The Dutch Research Council, the Embassy of the Kingdom of the Netherlands in Indonesia, Nuffic Neso, the Indonesian Academy of Young Scientists (ALMI), the Netherlands Royal Academy of Arts and Sciences (KNAW), and the Dutch The Research Council (NWO) held a webinar event titled "A Journey of Hope for a climate-resilient future Delivering the Adaptation Action Agenda in Indonesia" through an online platform on March 10, 2021. This WINNER event was a follow-up to the Climate Adaptation Summit (CAS), which was held on January 2021. It explored forms of cooperation between and within nations to make climate adaptation work for everyone, focusing on Indonesia and the Netherlands.

The event invited several great speakers as panelists and did not forget the ministers' keynote speeches from two countries. As the opening act for this webinar, there are welcome remarks from representatives of ambassadors from both countries. The first to give a

speech was H.E. Lambert Grijns, Netherlands Ambassador to Indonesia. He said that this event was follow-through the climate adaptation summit held in January last year, which came up with a strong action agenda and the Ministry of Environment and Forestry in Indonesia. "We make this agenda relevant for Indonesia and Netherlands. We do to give it a complete follow-up and then basically came up with two ideas, and it's actually to see the ministry is engaged in many more concrete ideas to make Asian and Dutch scientist researchers members of the scientific community increasingly has a strong network to the issue of climate adaptation and resilience", he said.

H.E. Mayerfas, the Ambassador of the Republic of Indonesia to the Netherlands also strengthened the opinion from H.E. Mr. Lambert Grijns. He said that this event was very essential to create people awareness, explore ideas, and form close cooperation between Indonesia and the Netherlands to make climate adaptation works for everyone as well as strengthening global cooperation in sustainable development that would have an impact on economic improvement that also affected by the issue of climate change and the Covid-19 pandemic.

Moving to the second event was the keynote speeches, first from Cora van Nieuwenhuizen, Netherlands Minister of Infrastructure and Water Management (IenW). The importance of global cooperation in facing the challenges of climate adaptation and mitigation was conveyed through a video recording by Cora. According to her, global cooperation on climate change adaptation and mitigation can foster sustainable development, including creating business opportunities, reducing imbalances, and protecting nature. "That's why this event today is so important practical and concrete follow-ups action tracks to build back better and create a more resilient future our interdependence has never been more clear, communities worldwide need to join forces and learn from each other, we all need to act because the impacts of local action or the lack of it will be felt on the other side of the planet so we all recognize the urgent need to act and thus the need for shared knowledge and expertise I support further collaboration between our two countries to limit the effects of climate change and enhance climate adaptation".

It's been said countless times Indonesia and the Netherlands have a lot in common when it comes to the effects of climate change water management and coastal management have always been important pillars in the collaboration between these two countries and the coming years this cooperation will continue with a focus on addressing water-related sustainable development goals. The Netherlands aims to support Indonesia's national priorities and national medium-term development plan. Good practices will resonate in these future activities promoting transfer and exchange of knowledge and bringing parties together to take good ideas from the design table to practical application working in harmony with nature and building communities.

Related to the launch program "Climate Adaptation Challenge for Indonesian-Netherlands Alumni" H.E Cora Van Nieuwenhuizen gave her opinion that this program was one of new approach not curbing national forces but using them as a part of the solution through the duty projects with Jakarta capital city with sharing multiplying and applying practical knowledge because there were network alumni of Dutch universities in Indonesia comprises over 20,000 people eager to exchange ideas and collaborate with this bilateral network. "They can help strengthen awareness of the substance and potential of the global adaptation action agenda so I welcome the launch of the WINNER alumni challenge today we need the involvement and creativity of this generation to come up with fresh ideas to promote awareness via outreach campaigns on the climate adaptation agenda and to pursue our common goals with regard to climate adaptation our cooperation will only become stronger", she said.

Also, attend in this webinar H.E Siti Nurbaya Bakar (Indonesia Minister of Environment and Forestry) she also emphasizes the importance of climate change adaptation and mitigation efforts. Siti gave appreciation to the Dutch embassy for concealing the WINNER program early this year addressing the issue of adaptation to climate change. "I believe the winner program is

one of the beautiful moments when we happily share collaboration research and education between our two countries not only between the two governments but also the two societies", she said.

This webinar also served as a momentum for launching and counting down the "Climate Adaptation Challenge for Indonesian-Netherlands Alumni" program where Indonesian-Dutch alumni can submit proposals containing ideas related to climate change adaptation and mitigation efforts.

This webinar, which was open to the public, was hosted by Irina Rafliana, LIPI, and Ruard Ganzevoort, the Upper Chamber of the Dutch national parliament for the Green party GroenLinks presented several panelists who were experts in the field of climate change and the environment from Indonesia and the Netherlands. The first speaker from Academic IDN Dian Afriyanie, Lokahita Research Center for Sustainable Ecology & Geospatial, conveyed the importance of reframing urban green space planning for flood protection through socio-ecological resilience. Humans and nature are united.

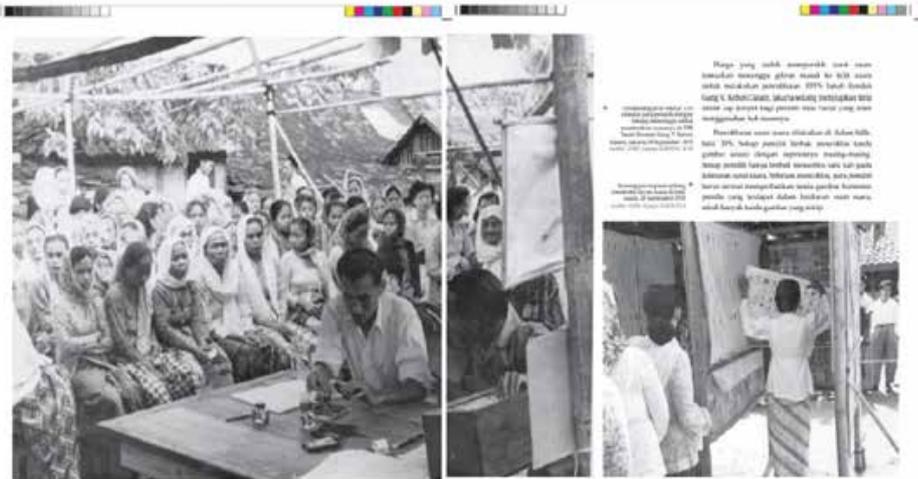
The second speaker that comes forward was Annisa Triyanti, a researcher from Governance of Water, Climate, and Future Deltas, the Copernicus Institute of Sustainable development, Faculty of Geosciences, Utrecht University. She explained climate change adaptation, which was a journey towards societal transformation. It was necessary to have an interdisciplinary and transdisciplinary contribution to climate change adaptation. Therefore, she advised that people should be able to build their capability to protect the ecosystem because we are part of the ecosystem itself. "I invite all people to work together to build a better ecosystem in the future", she said.

From the government of Indonesia, there was Joko Tri Haryanto, Ecological economist, Agency for Fiscal Policy, Ministry of Finance of Indonesia who shared about Indonesia environmental performance such as in the medium-term national government planning 2020-2024 put sustainability and environmental protection directly on the national priority, established climate change mitigation budget tagging since 2016, piloting several regional governments, and thought budget tagging mechanism with improving public transparency and accountability.

Next in the private sector, we have Peter Letitre, a Senior Project Manager and Strategic Advisor Deltares that concern about Climate change adaptation was a very complex issue that did not just require technical issues but also governance and social inclusion and that could only be brought in by broad partnerships with people who understand local conditions a few obstacles to finalizing. He added that business to business would not be successful if it was not accompanied by knowledge to knowledge and cooperation between parties and countries in overcoming climate change.

Nur Afifah Agustina

Indonesian Gender Equality Documentation and Archives will be Nominated as World Heritage



Indonesian Institute of Sciences (LIPI) through the Center for Scientific Data and Documentation (PDDI) as the National Committee for Memory of the World (MOW) Indonesia, focal point held a Gender and Documentary Heritage activity. The Virtual discussion was collaboration with The United Nation Educational, Scientific and Cultural Organization (UNESCO) and the National Archives of the Republic of Indonesia (ANRI). The discussion with the topic "Identification of related archives with a Gender Equality Marker" was held on 28 January 2021. The discussion aims were to identify documentary heritage that was related to gender issues. UNESCO established a gender equality marker (GEM) as an indicator for documentary heritage assessment that supports gender equality. The GEM indicators are gender-sensitive, gender-responsive, and gender-transformative. UNESCO encouraged Indonesia to nominate gender-themed archives to be nominated as MoW. This was also considering that many archives have been registered as MoW, especially in the Asia Pacific, which were only have 4 gender themes.

Lim Ming Kwok as UNESCO representative said that the process of identifying and categorizing archives should be deep and narrow. The need for the categorization process based on GEM - for UNESCO was not a large list of archives but the clarity and completeness of the archival information. The more complete the historical information, the more significant the markers of gender equality will be.

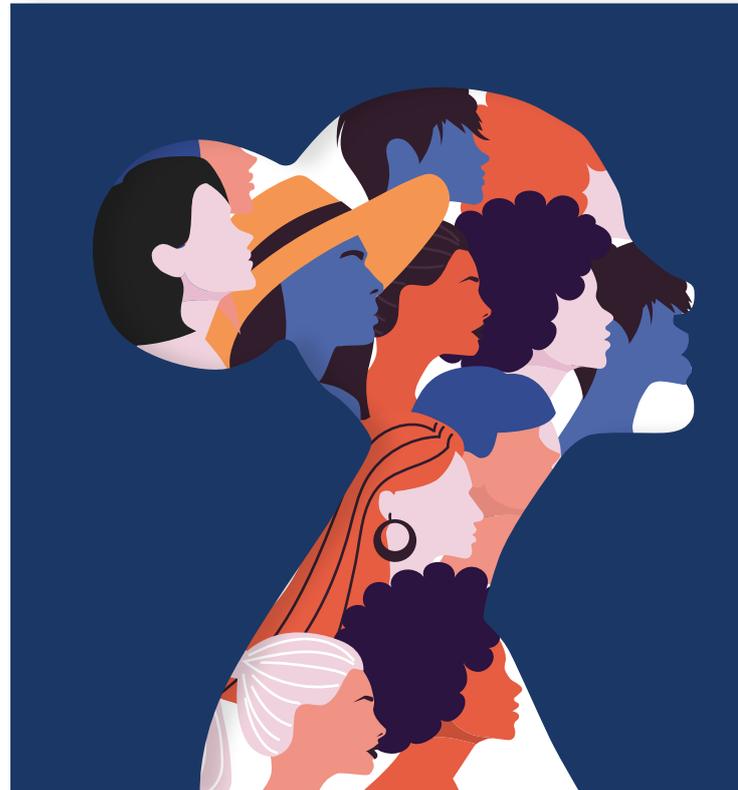
Deputy Chairman for Scientific Services LIPI, Mego Pinandito, as the Chair of the Indonesian MOW Committee, said that gender and documentary heritage study was carried out in October 2020 - June 2021 by collaborating with ANRI as the national archival institution that manages documentary heritage. "LIPI which has the scientific authority will conduct studies on gender documents and archives that meet the criteria to be proposed as a memory of the world," said Mego. He stated that this activity would contribute to enriching gender studies in Indonesia. "The result will be a recommendation for the category of gender archives that has the potential to be proposed as a world memory," said Mego.

Based on the results of the identification of archives stored in ANRI, researcher at the Research Center for Politics LIPI, Kurniawati Hastuti Dewi, conveyed the results of her study based on understanding and categorizing the results of searching for archives of gender, women, into 2 categories. First categories were culture, politics, and women, and the second categories were education, politics, and women.

Based on the three markers of gender equality (GEM) by UNESCO, the treasury of archives identified by the team categorized as gender archives by Kurniawati was proposed Indonesian Women's Congress I on December, 22, 1928 (GEM Responsive) with world significance was the issue of suffrage/basic rights and the universal value was the struggle for universal suffrage for all (women and men), obtained from the

archives of the 1928-1935 Indonesian Women's Congress. The First Indonesian Women's Congress on December 22, 1928, related to polygamy, child marriage, women's rights in marriage, women were in representative institutions. Meanwhile, the 3rd Indonesian Women's Congress in Bandung, 1938, questioned the investigation of the right to vote for Indonesian women. The letter from RA Kartini and Dewi Sartika (Transformative GEM) with World significance was a source of knowledge about the thoughts and lives of Indonesian women and the universal value was the education for all people (women and men). The R.A. Kartini and Dewi Sartika letter archives explained about the backward condition of ordinary women or Javanese aristocrats who did not receive education and only waiting for their turn to be married, seclusion, forced marriage, and polygamy, thinking that women should receive education to get out from forced marriage and helplessness, established a small school for girls, and Dewi Sartika, the Pride of the Wife School in 1904.

Yati Suryati



Source: www.freepik.com



Webinar On Gender, Archival Documentary Heritage and Memory of the World

Source: LIPI



Kumiawati Hastuti Dewi, Researcher at the Center for Political Research at LIPI, in her presentation revealed that the history of the Indonesian Women's Congress (1928-1935)

Source: LIPI



Webinar On Gender, Archival Documentary Heritage and Memory of the World

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Syringe Destroyer, LIPI's Contribution in Handling Covid-19



The signing of the license cooperation was carried out on March 18, 2021

Source: LIPI

Covid-19 mass vaccination in Indonesia has started on January 13, 2021. This was marked by President Joko Widodo as the first person who received the vaccine in the free mass vaccination program.

Since the Covid-19 outbreak in Indonesia in early 2020, the use of single-use medical devices especially syringe has raised. Health facilities such as hospitals, health centers, clinics, and health laboratories carry out medical procedures like vaccinations, blood draws, infusions, and anesthesia which contribute to an increase in the medical waste of syringes.

Medical waste was included in the category of infectious or hazardous and toxic waste (B3). To control it required the right way to avoid the risk of spreading dangerous diseases, the possibility of reuse, and environmental pollution.

The Covid-19 mass vaccination program leaved environmental problems such as biohazard waste in the form of syringes which was sure to increase drastically, so special handling was needed to deal with this waste.

For this reason, the Indonesian Institute of Sciences (LIPI) developed a Syringe Destroyer (APJS). This machine was capable of destroying as many as 5,000 syringes per unit and was expected to be able to control waste syringes during the covid-19 vaccination period.

At this time LIPI has developed a second generation of Syringe Destroyer (APJS). The innovation was in the sliding electrode method and self-heating system to destroy the metal parts of the syringe and crush the

needle tube so that it could not be used again.

This Syringe Destroyer with slide electrode has a patent registration number P00202006588. The inventors were all researchers from Research Center for Physics LIPI.

"The Syringe Destroyer was created by LIPI researchers to deal with the problem of needle waste in health facilities especially during this pandemic vaccination period, 360 million syringes will be used," said Agus Haryono, the Deputy Chairman of Engineering Science LIPI.

LIPI through the Center for Utilization and Innovation of Science and Technology (PPII) together with PT Gerlink Utama Mandiri agreed to cooperate in a license agreement on "Ordinary Patents: Syringe Destroyer with Slide Electrodes". By the increasing use of syringe during this pandemic, LIPI has collaborated with other institutions.

The signing of the license cooperation was carried out on March 18, 2021, to grant the right to use LIPI's invention, which is managed based on the Regulation of the Chairman of LIPI Number 1 of 2018 concerning Management and Transfer of Intellectual Property Technology and Research and Development Results in the LIPI Environment.

Previously, the first generation of Syringe Destroyer had been produced and sold. While this second generation would be submitted to several health offices so that there would be suggestions for the optimal process.

Vetti Rina