

SARAWAK BIODIVERSITY CENTRE

ANNUAL REPORT

TRADITIONAL KNOWLEDGE DOCUMENTATION
ACCESS & BENEFIT SHARING
R&D IN BIODISCOVERY
AWARENESS & APPRECIATION
BIOINDUSTRIAL PARK & SBC BIOPROCESS COMMERCIAL CENTRE



Sarawak
Biodiversity Centre

2020

Description :

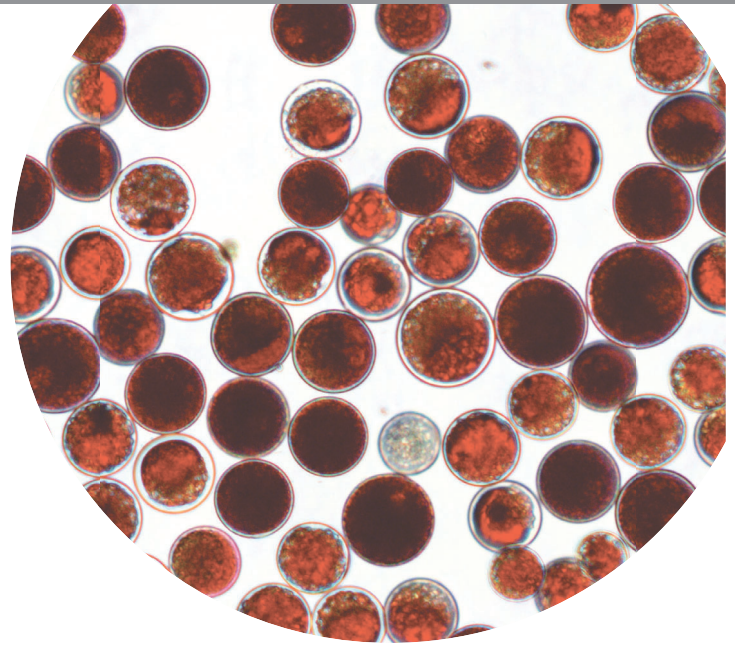
Boesenbergia stenophylla also known as “Jerangau Merah” is a perennial plant that is endemic to the highlands of Borneo. Traditionally, the rhizome is used to treat stomach-ache, food poisoning, and to prevent alcohol intoxication. Trans-cinnamic acid is one of the major compounds found in the rhizome. It is used in the manufacturing of dyes, pharmaceuticals, as well as a precursor to the sweetener, aspartame. The other major compound found in the rhizome is a styrylpyrone dimer, which is a photodimer of desmethoxyyangonin that can be found in *Piper methysticum* (also known as kava plant). It increases dopamine level and promotes anti-anxiety effects.

Chai, P.P.K. (2006). Medicinal Plants of Sarawak. Sarawak: Lee Ming Press.

Poulsen, A.D. (2006). Gingers of Sarawak. Borneo: Natural History Publication.

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Vision

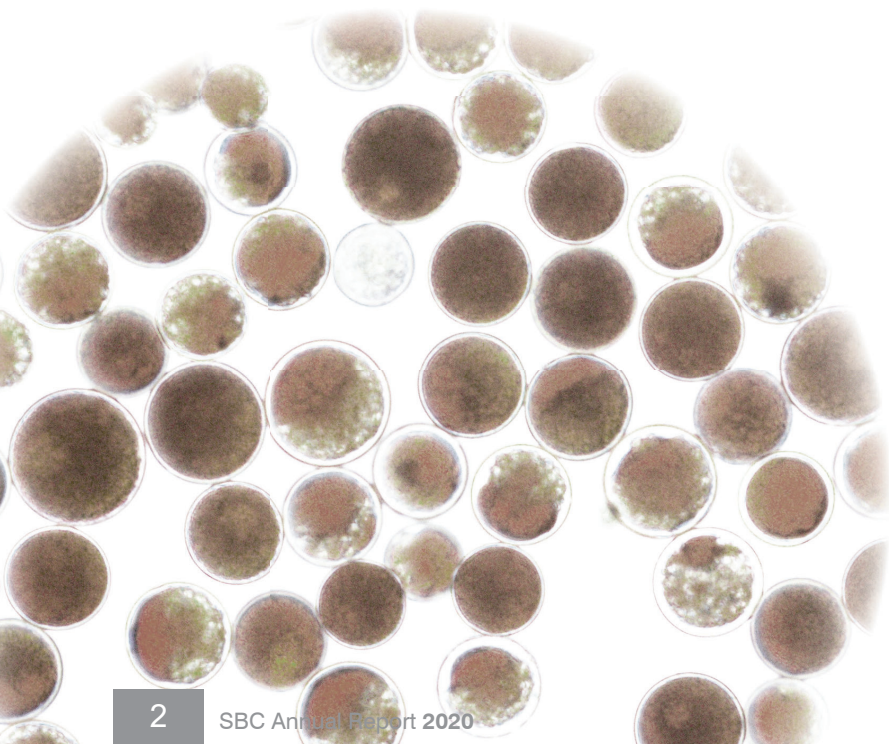
Enriching Lives with Breakthrough
Innovation in Biodiversity

Mission

To Decode Biodiversity for the
Benefit of Sarawak

Tagline

Biodiversity for a Better Tomorrow



Foreword from the Chairman of the Sarawak Biodiversity Council



It gives me great pleasure to write the foreword for the Sarawak Biodiversity Centre (SBC) Annual Report 2020 as the chairman of the Sarawak Biodiversity Council.

Since March 2020, I have observed first-hand, the breadth of research and development of Sarawak's biological resources at SBC, as well as the Centre's strategy towards commercialization of these resources.

SBC was allocated a 100-acre land in 2019 within the Kota Samarahan Industrial Estate (KSIE) to develop the Sarawak Bioindustrial Park. The project known as the "Bioindustrial Park and SBC Bioprocess Commercial Centre at Samarahan" received initial funding under *Projek Rakyat* and kicked off with a Masterplan Study. The study to strategise the development of the Bioindustrial Park for investment in biomanufacturing, and to harness Sarawak's rich biodiversity resources was completed in 2020.

Year 2020 has been a challenging year due to the Covid-19 pandemic. The State government formed the Sarawak Economic Action Council (SEAC) to facilitate its post Covid-19 exit economy strategy by re-evaluating the development strategies under the 12th Malaysia Plan. Under the SEAC, SBC plays a lead role in the Innovation sector as innovation is the enabler that cuts across various economic sectors that drives Sarawak's economic growth and achievements by the year 2030.

One of the potential economic contributions primarily towards improving the livelihood of the rural communities is the Access and Benefit Sharing programme spearheaded by SBC. The first Benefit Sharing Agreement (BSA) was signed by Sarawak and its indigenous community on the LitSara[®] Essential oil in 2019 and it was the first in Malaysia. We are proud to have signed the second BSA last year, despite the Covid-19 pandemic, to develop and commercialize AdenoSara[®], the essential oil of *Adenosma nelsonioides* (Bunga Ta'ang), through a partnership with two local communities: the Bidayuh of Kampung Semadang (Padawan) and the Iban of Rumah Simon (Lubok Antu). This project is funded by the Federal Ministry of Finance through United Nations Development Programme (UNDP) Malaysia under the Orang Asli/Orang Asal Micro Grant Facility (OAMGF) for Conservation and Livelihood. The aim of this project is to enhance the conservation efforts in Sarawak through sustainable use of biological resources with great emphasis on the engagement of local indigenous communities to improve their livelihood.

Lastly, on behalf of the Sarawak Biodiversity Council, I would like to congratulate SBC's team for their continuous commitment and passion in driving the research and innovation that will be impactful for the economy of Sarawak.

A handwritten signature in blue ink, belonging to YB Datuk Amar Jaul Samion. The signature is stylized and cursive, written over a horizontal line.

YB Datuk Amar Jaul Samion
Chairman, Sarawak Biodiversity Council

Sarawak Biodiversity Council



YB Datuk Amar Jaul Samion
State Secretary of Sarawak
Chairman, Sarawak Biodiversity Council



Mr Kameri bin Haji Affandi
Permanent Secretary,
Ministry of Education, Science and Technological Research (MESTR)
Deputy Chairman, Sarawak Biodiversity Council



Dr Yeo Tiong Chia
Chief Executive Officer, Sarawak Biodiversity Centre
Secretary, Sarawak Biodiversity Council



YA Datuk Talat Mahmood Bin Abdul Rashid
State Attorney-General
Council Member, Sarawak Biodiversity Council



YBhg Datuk Amar Ahmad Tarmizi Bin Haji Sulaiman
State Financial Secretary
Council Member, Sarawak Biodiversity Council



YBhg Dato Sri Haji Mohamad Abu Bakar Bin Marzuki
Deputy State Secretary [Socio-Economic Transformation]
Council Member, Sarawak Biodiversity Council



YBhg Datu Sr Zaidi Bin Haji Mahdi
Permanent Secretary
Ministry of Urban Development and Natural Resources (MUDeNR)
Council Member, Sarawak Biodiversity Council



YBhg Datu Hamden Bin Haji Mohammad
Director of Forests
Council Member, Sarawak Biodiversity Council



Dr Alvin Chai Lian Kuet
Director of Agriculture
Council Member, Sarawak Biodiversity Council



Mr Justine Jok Jau Emang
Controller, Natural Resources & Environment Board (NREB)
Council Member, Sarawak Biodiversity Council



YBhg Prof Datu Dr. Andrew Kiyu Dawie
Professor of Public Health, Faculty of Medicine and Health Sciences,
University Malaysia Sarawak
Council Member, Sarawak Biodiversity Council

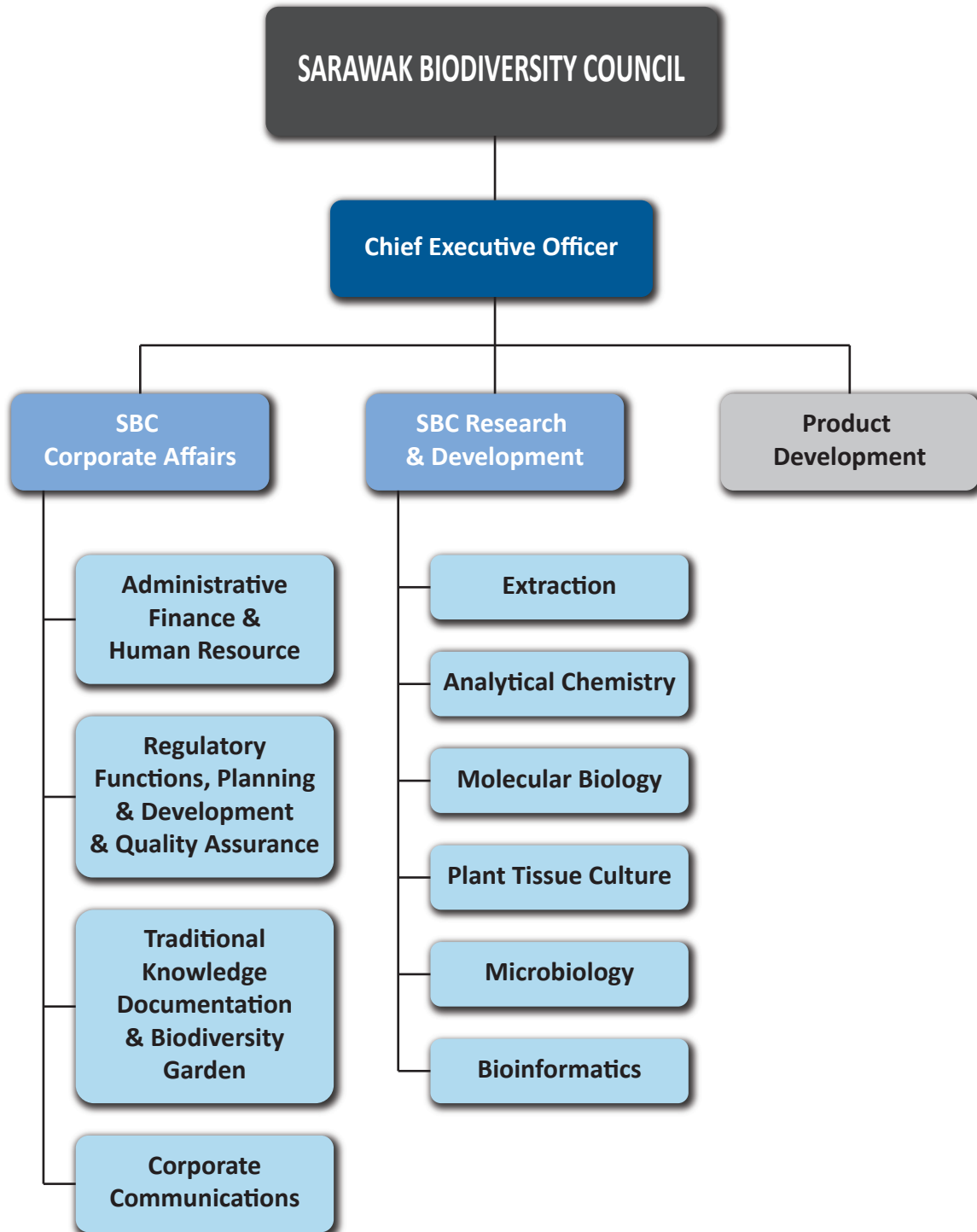


YBhg Dato Goh Leng Chua
Director, Lawmakers
Council Member, Sarawak Biodiversity Council



Dr. Avijit Roy
Board of Director, IML Development Services Sdn Bhd
Council Member, Sarawak Biodiversity Council

Organisation Structure



SBC's Key Achievements Year 2020

1

Two new patent applications filed under the Intellectual Property Corporation of Malaysia (MyIPO):

- Patent Application No. PI2020004121
(A composition for the treatment of autoimmune diseases)
- Patent Application No. PI2020007106
(Compound for treating neurodegenerative disease and its isolation method)

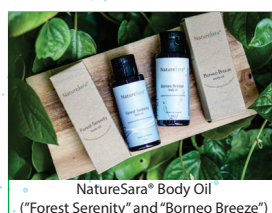
2

Completed Masterplan Study of Project Rakyat: Bioindustrial Park and SBC Bioprocess Commercial Centre at Kota Samarahan

- Masterplan study for a Bioindustrial Park in Sarawak

3

Three new personal care products inspired by biodiversity were launched:



4

Funding by the United Nations Development Programme (UNDP) in funding two of SBC's community-based projects:

- Project 1:
UNDP Orang Asli/Asal Micro Grant Facility for Conservation and Livelihood Project Entitled "Strengthening Community-based Enterprise in Conservation and Commercialisation of Products Developed from Traditional Knowledge Based on Access and Benefit Sharing Among the Bidayuh of Kampung Semadang, Penrissen and Iban of Rumah Simon, Lubok Antu, Sarawak"
- Project 2:
Project under United Nations Development Programme (UNDP) Covid-19 Socio-Economic Recovery Funds: "Recovery Initiative of Community-Based Sector, SMEs And MSMEs Associated with Bio-Related Products in Sarawak"

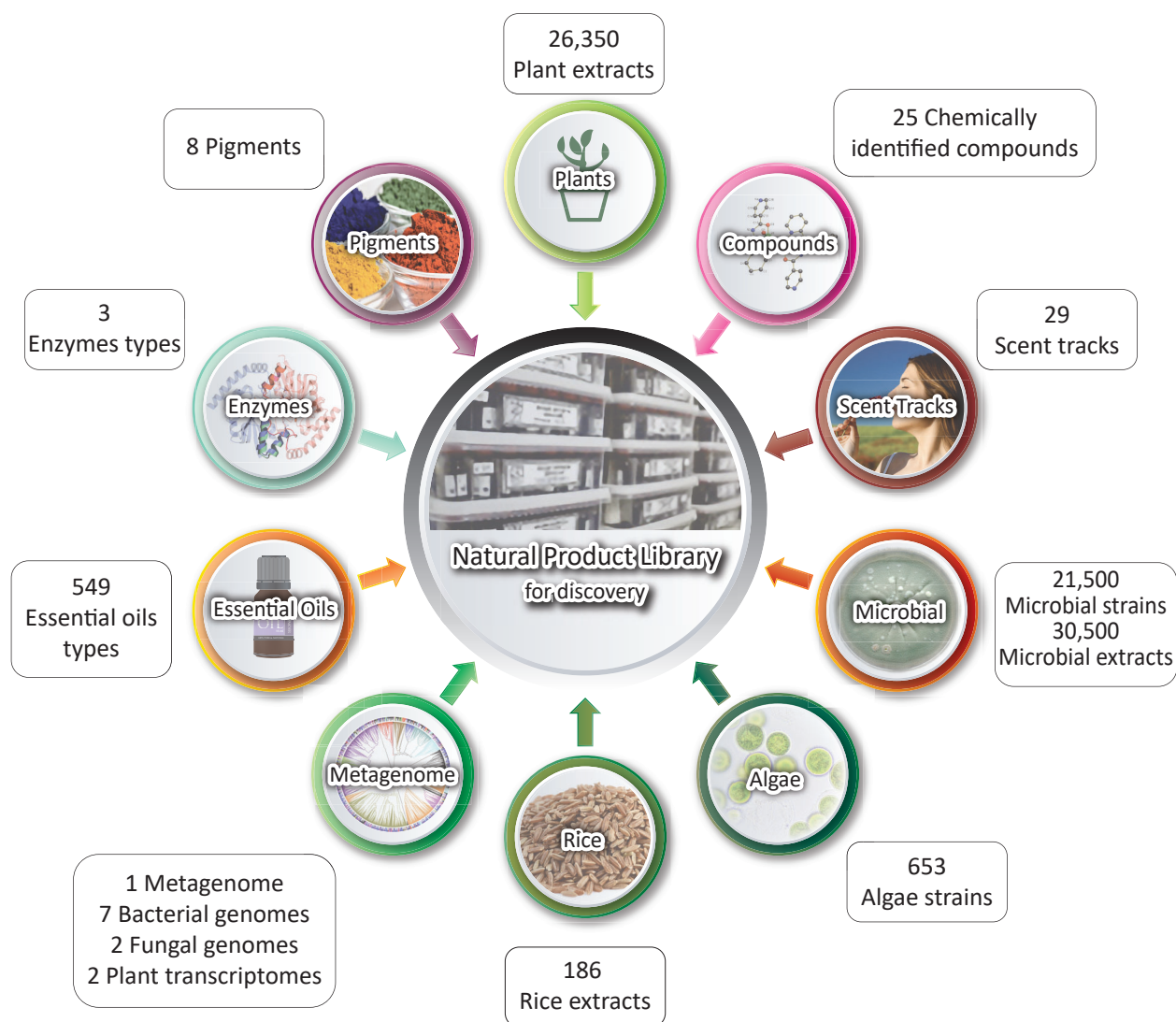
5

SBC Research Officers were the first batch of scientists selected to participate in a six-month scientific exchange programme in a collaboration between Cambridge Academy of Therapeutics Sciences (CATS), University of Cambridge and the Sarawak Research and Development Council (SRDC) under the Ministry of Education, Science and Technological Research (MESTR)

- Project 1:
In silico assessment of silvestrol's toxicity and anti-pathogenic properties.
- Project 2:
Structure activity relationship (SAR) and prediction of specific target for the secodammarane derivatives.

Natural Product Library

Since 2004, SBC had carried out extensive collection on unique indigenous rainforest plants and microorganism such as endophytic fungi and actinobacteria. The Natural Product Library (NPL) repository in the form of extracts and/or living organisms, was expanded in its diversity to include algae strains, essential oils, scent tracks, pigments, enzymes, compounds, and metagenomes. SBC strive to provide researchers with access to Sarawak's biodiversity through these invaluable resources for research that will hopefully lead to scientific breakthroughs.



Streamlining Natural Product Extraction

As the NPL serves as an important platform for research, SBC developed a Biodiversity Natural Product (BioD NatPro) Information Management System to safeguard the information on uses of traditional knowledge and the plants associated with it. To accommodate the expansion of the NPL, the BioD NatPro was upgraded into a comprehensive Laboratory Information Management System (LIMS) in 2015 to provide seamless, real time data integration of downstream processes such as extraction, fractionation and bioassay, as well as a tracking system. Each vial of extract is uniquely barcoded to link it to information that are important for tracing such as species name, specimen's digital image and location.

The SBC's team at the Extraction and Plant Preparation Laboratory is committed to ensure the plant extracts are of high quality for research, biological screening, and product development.



SBC's Natural Product Library: Barcoded extracts

Exploring the Chemical Diversity of Nature

The Analytical Chemistry team is in the forefront of identifying and solving the chemical structure of compounds. The team is actively engaging collaborators in search of novel compounds that are biologically active and patentable for intellectual property rights protection.

To complement SBC's existing research facilities, the Analytical Chemistry Laboratory was recently equipped with an Inductively Coupled Plasma Mass Spectrometry (ICP-MS) instrument. This is to expand the research capabilities in detecting trace elements in raw materials and extracts with great speed, precision and sensitivity as part of its quality control process.



To date, SBC has accumulated a total of 711 mg of silvestrol and 291 mg of epi-silvestrol. These two lead compounds that the Centre is actively producing are clinical candidates for proof of concept studies. The compounds' potent inhibitory action on eIF4A, a RNA helicase and a component of translation initiation factor, revealed key molecular site to target therapeutic agents in oncology and immunology.



Novel bioactive compound was isolated from the fungus, *Fusarium* sp. strain F274, which resides in the flower of *Alocasia* sp. (Keladi Semerang)

SBC has also discovered a novel bioactive compound that inhibits prolyl oligopeptidase (POP) activity from a fungus, *Fusarium* sp. strain F274, which was isolated from a flower of a yam plant, *Alocasia* sp. (Keladi Semerang)

A patent application of this compound for treating neurodegenerative disease and its chemical isolation method has been filed.

Discover Microbial Biodiversity

Microbes are well-known for its remarkable contribution in drug discovery. Therefore, the Microbiology team is constantly exploring new ways to isolate novel microbial population that are diverse and also, find ways to generate chemical diversity via fermentation.

SBC has successfully carried out sampling expeditions at National Parks in Sarawak, namely Limbang Mangrove wetlands, Lambir Hills, Gunung Buda, Bako, Kubah, and Gunung Gading. These expeditions focused on soil and mushroom collections to add to the diversity in SBC's NPL.

A total of 680 new microbial extracts were produced from microbial fermentation in 2020. Based on antibiotic screening studies of these 680 new microbial extracts, we found that 122 extracts showed narrow spectrum activity, which inhibited Gram-positive pathogens, Gram-negative pathogens, fungus or yeast only. A total of 400 extracts were found to have broad-spectrum activity that inhibited two or more of the pathogen groups. Only one (1) extract was found to be active against all four of the pathogen groups. The antimicrobial activities of the remaining 166 extracts are yet to be determined.

40 mushroom specimens have been collected thus far. Of particular interest is the *Ganoderma* family, a group of mushrooms traditionally known for its health enhancing benefits. This collection represents specimens that will be investigated in future for its medicinal properties as Sarawak's very own mushroom derived nutraceutical product.



Ganoderma sp. collected from National Parks in Sarawak

Amplify Understanding of Molecular Biodiversity

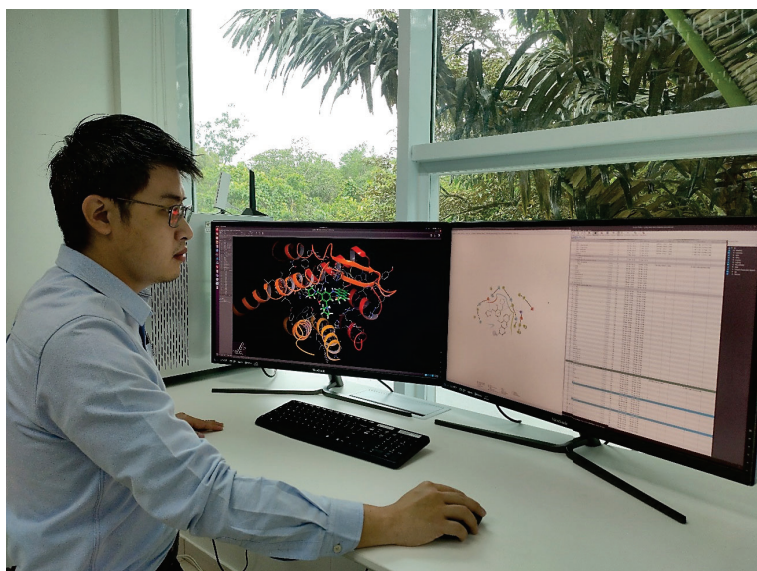
The Molecular Biology team is leading the identification of new source of therapeutic agents using in vitro bioassays for cell cytotoxicity, anti-cancer, anti-inflammatory, anti-proliferative, and anti-viral activity. A total of eight (8) cell cultures are used in SBC for in-house bioassay screening and for collaborative research work.

- Tumor cell culture collection – lung cancer (NCI-H460, ATCC®HTB-177), liver cancer (HEPG2, ATCC®HB-8065), breast cancer (MCF-7, ATCC®HTB-22) and leukemic T-lymphocytes (Jurkat E6.1, CLS-300223)
- Human tissue cell culture collection – lung fibroblasts (MRC-5, ATCC®CCL-171) and skin keratinocytes (HaCat, CLS-330493)
- Murine cell culture collection – mouse myoblasts (C2C12, ATCC®CRL-1772) and mouse macrophages (RAW264.7, ATCC®TIB-71)



The Molecular Biology Laboratory is now equipped with real-time PCR and Opentrons - an automated high-precision liquid handling robot system. These upgraded research instruments allow high-throughput molecular screening.

The team has been studying the anti-inflammatory efficacy of silvestrol in a cell-based assay and in peripheral blood mononuclear cells derived from healthy donors. To understand the dynamics of molecular action, transcriptomic profiles of silvestrol-activated mammalian cell lines were examined to track the compound's activity in various cellular pathways. This information is useful in guiding how silvestrol can be deployed at specific cell's processes in treating diseases such as autoimmunity and infections.



Structure-based virtual screening platform at SBC

In joint effort with research organizations around the world to study the SARS CoV-2 virus, the team was involved in screening natural products for antiviral activities using structure-based computer modeling and screening. This high performance digital tool enable the visualization of molecular interactions and measurement of binding affinity of the protein - ligand complex. This research is part of the training skills that was developed from the six-month virtual scientific internship programme with Cambridge Academy of Therapeutics Sciences (CATS).

Improving Viability in Micropropagation

With the increasing demand of plant-based products that depends on plentiful of materials for planting, concerns on sustainable supply without depleting the species in their natural habitat, is vital to the survival of the species. As such, SBC's Plant Tissue Culture (PTC) team has done pioneering work on mass propagation of targeted plants especially indigenous species that are difficult to propagate. The team has also increase planting stocks through conventional method via vegetative propagation and seed germination for species that are amendable using this approach.

SBC's researchers have established micropropagation and acclimatization protocols for *Litsea cubeba* (Pahkak) and *Boesenbergia stenophylla* (Jerangau Merah), and has since generated a total of 11,000 and 22,000 tissue culture plantlets, respectively. These protocols enable sufficient supply of high quality, genetically consistent plant materials for downstream use. Furthermore, Jerangau Merah plantlets has been successfully transplanted back to the wild to safeguard the sustainability of the species in its original habitat.

To date, the team has successfully increase number of aromatic and medicinal plants, namely *Cymbopogon nardus* (Serai wangi), *Cymbopogon citratus* (Serai makan), *Ocimum sanctum* (Kemangi), *Psychotria* sp. (Engkerabai), *Pogostemon cablin* (Nilam), *Costus speciosus* (Siluk), *Piper sarmentosum* (Kadok), *Lepisanthes alata* (Engkelili), *Centella asiatica* (Pegaga) and *Aglaia stellatopilosa* (Segera). These living stocks are targeted for SBC's product pipeline fulfillment.



SBC's researcher showcasing plant tissue culture plantlets.

Convert Biodiversity into Bio-based Products

The Product Development team had extended its technical reach to venture beyond profiling of floral scents, and into environmental scents that are psychoactive from nature and green spaces.

The team managed to achieve the reconstruction of a floral scent of *Spathiphyllum wallisii's* (peace lily) which was described as sweet and spicy. The essential constituents of this scent include eugenol, benzyl acetate and para-anisaldehyde.

The team had trapped natural environmental scents from Mulu National Park with two new scents reconstructed, mimicking the natural environment's olfactory experience within the Park's tourism hotspots. The scents comprised of compounds known to have relaxing and calming properties, courtesy of the high levels of phytoncides (phytoncide is a substance emitted by plants & trees and generally means the aroma of the forest) identified in the area.



Spathiphyllum wallisii's (peace lily) flower

In 2020, 13 new essential oils were deposited into SBC's Natural Product Library bringing the total number of essential oils to 549. The chemical compositions of the ingredients were analysed using Gas Chromatography Mass Spectrometry (GCMS) to identify new essential oils for aromatherapy. Additionally, focus on product formulation has yielded one (1) new product under the LitSara® trademark – Hand Sanitiser, and two (2) new products under the NatureSara® trademark – Body Oil & Lotion. These products are now available online at www.litsara.com.

Mine the “Green Gold” in Algae

The Algae Cultivation Facility (ACF) launched in 2019 was a successful outcome of the long term partnership between SBC and Mitsubishi Corporation. Being one of the largest outdoor Algae Cultivation Facility of its kind in South East Asia, SBC aimed to operate this outdoor photo bioreactor system as testbeds for bioindustrial stakeholders. It was designed to minimize operational cost and optimise production of algae with Internet of Things (IOT) sensors and digital tools.

The Algae team has successfully demonstrated outdoor cultivation of locally isolated *Chlamydomonas* and *Spirulina* at the ACF as feedstock for development of biofuel and aquaculture feed. Since September 2019, *Spirulina* culture has been supplied to Sea Horse Corporation Sdn Bhd, a prawn farming company, for field trial as a growth enhancer in the prawn growth cycle.

With the establishment of the ACF and successful pilot runs, SBC is now poised to fully support the production of high-quality algal material for the aquaculture, nutraceutical, healthcare, and renewable energy industries. The microalgae cultivation in general can be adapted to fit the ambit of a circular economy by recycling carbon dioxide gas as well as wastewater. With this technology in hand, SBC is moving ahead to explore the development of homegrown sustainable green technologies in Sarawak.



1000m² Algae Cultivation Facility (ACF) in SBC

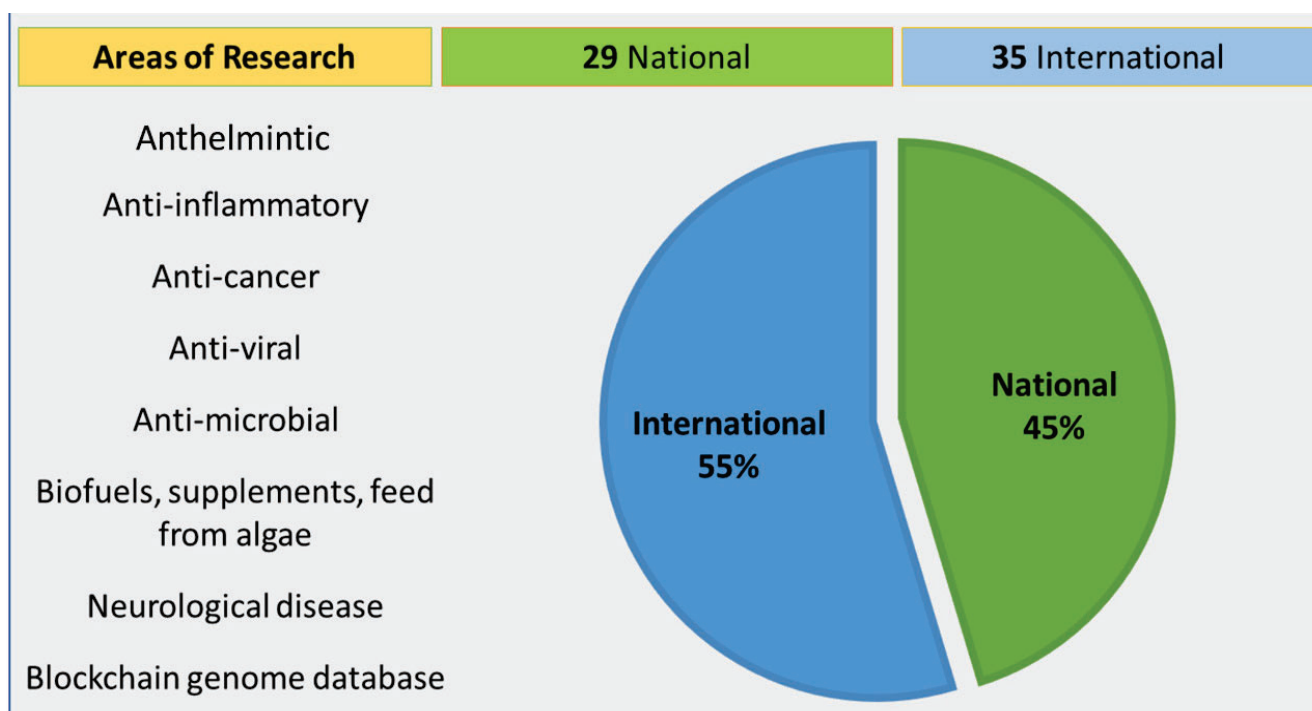
Strengthen the Culture of Collaboration

Year 2020 had been a challenging year not only for SBC, but also for many other research organisations, due to the Covid-19 pandemic. Some research laboratories had to be closed temporarily, or had to operate with limited activities. It was evident that research progress had slowed down while the main focus was to manage the pandemic.

Notwithstanding these challenges, SBC has continued to intensify and broaden its research collaborations. In 2020, SBC signed five (5) Non-Disclosure Agreement, three (3) Material Transfer Agreement, and two (2) Memorandum of Understanding with various parties to collaborate in the following areas:

1. Identify anti-viral properties of compounds isolated from natural products.
2. Screen antibacterial compounds from natural products for the potential treatment of diabetic related foot infection.
3. Develop large-scale, controlled cultivation of microalgae for industrial applications.
4. Develop products from indigenous essential oils.
5. Develop blockchain genome database.

The year 2020 also saw the end of a long-term collaboration project with Mitsubishi Corporation, Japan, which started in 2012. SBC had benefited immensely from this project in term of technology transfer, capacity building of its researchers, research funding, and the establishment of an outdoor algae cultivation facility. Mitsubishi Corporation intended to continue their next collaboration toward algae research via one of its subsidiary company involved in the supply of gas for energy. SBC looked forward to such a collaboration and in the meantime, continue the effort to develop microalgae strains for commercial applications. For that purpose, a Memorandum of Understanding with Chitose Bio Evolution Pte Ltd, a biotech company from Japan, was signed. The collaboration explores opportunities of establishing partnership with industrial partners in the microalgae industry in Sarawak.



Patenting of Intellectual Property Rights

In 2020, SBC added two new inventions for patents in Malaysia, to our growing list of Intellectual Property Rights. The full list of IP rights are listed below:

Year	Type	Title
2020	Patent	A Composition for the Treatment of Autoimmune Diseases (Patent Application No. PI2020004121)
2020	Patent	Compound for Treating Neurodegenerative Diseases and its Isolation Method Thereof (Patent Application No. PI2020007106)
2018	Patent	LitSara [®] related – oral care
2015	Geographical indication	Sarawak Adenosma (GI2015-00018), registered under class 3.
2015	Trademark	Adenosara [®] , registered under class 3, 5, 16 and 35.
2011	Geographical indication	Sarawak Litsea (GI2011-00001), registered under class 3.
2011	Trademark	LitSara [®] registered under Class 3, 5, 16 and 21
2010	Patent	Method for Identification of <i>Aglaia Stellatopilosa</i> (Patent Number WO2012030206A1)
2002	Patent	Therapeutic Compounds & Methods (Patent number US 6,710,075 B2)

Patent Application No. PI2020004121

The invention:

- provide treatment of autoimmune diseases by inhibiting production of Tumor Necrosis Factor (TNF) with reduced risk of fungal infections.
- provide a pharmaceutical composition comprising silvestrol or its analogous compound for use in treatment of autoimmune diseases.
- relates to the use of a compound in the manufacture of medicament for treating autoimmune disease by inhibiting TNF with reduced risk of fungal infections.

Patent Application No. PI2020007106

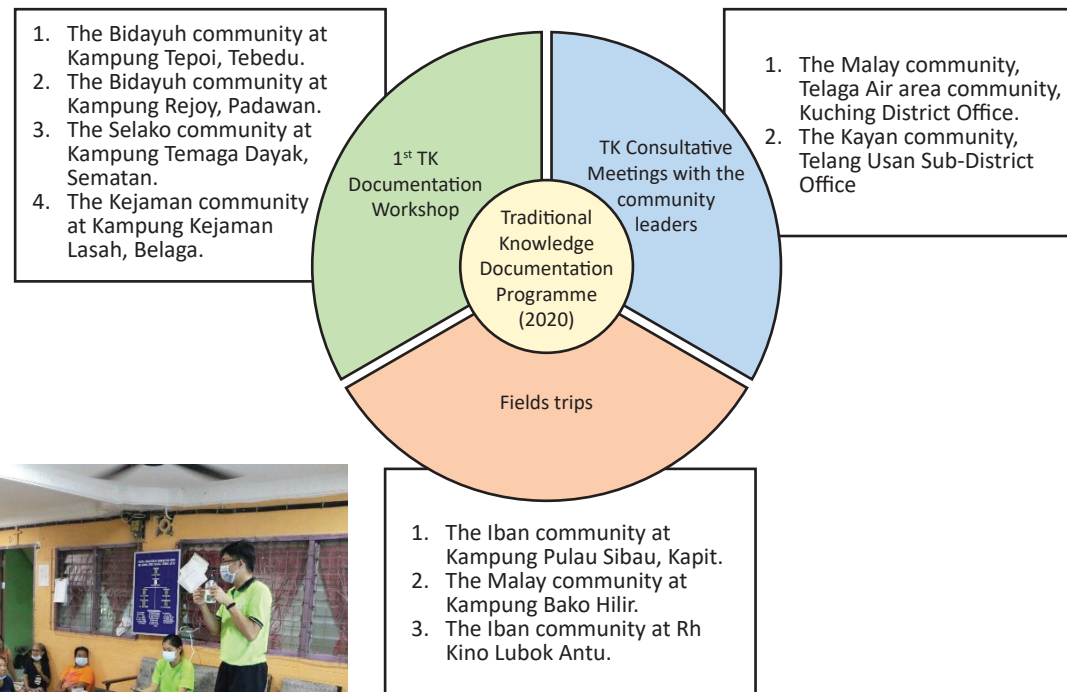
The invention:

- relates to a compound isolated from a fungus, *Fusarium* sp. strain F274 found in a flower of a Yam plant, *Alocasia* sp.
- claims the compound is able to inhibit POP (prolyl endopeptidase) enzyme and may be used to treat or improve the quality of living of people suffering from neurodegenerative disease such as Alzheimer's disease or Parkinson's disease.

Revive Awareness of Traditional Knowledge

According to World Intellectual Property Organisation (WIPO), Traditional Knowledge (TK) means knowledge, know-how, skills, and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. SBC's TK Documentation Programme aimed to assist the indigenous communities in preserving their TK on useful plants and raise the awareness of the benefits of TK by identifying benefits that could be provided to local communities in return for their contributions.

Since the beginning of year 2002, SBC has worked closely with the local communities to document the useful plants used for their daily activity. To date, SBC had documented a total of 6,500 plants from 99 locations with 1,700 species identified. The Kejaman community is newly added into the programme in year 2020, bringing a total of 21 out of 28 ethnic communities' participation in the programme.



TK Workshop conducted at Rh Simon under the UNDP Orang Asli/Asal Micro Grant Facility for Conservation and livelihood Project

11 trips
UNDP Orang Asli/Asal Micro Grant Facility for Conservation and Livelihood Project

26 Dialogue sessions and workshops
(2020)

5 trips
United Nations Development Programme (UNDP) Covid-19 Socio-Economic Recovery Funds

10 trips
TERAJU Dana Pembangunan Usahawan Bumiputera (DPUB) Project

AdenoSara® project with TK communities



RH Simon community with AdenoSara® products



Showing the AdenoSara oil to the communities



SBC is showing the AdenoSara® product to Kampung Semadang Community



Nyait ak Tumo, a bidayuh lady is doing the weeding activity at the community farm

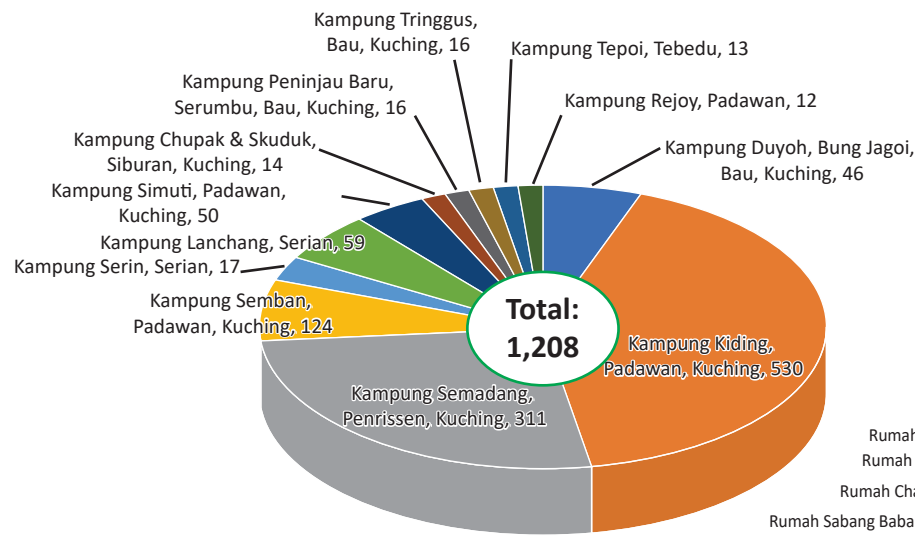


The Iban community of RH Simon, Lubok Antu

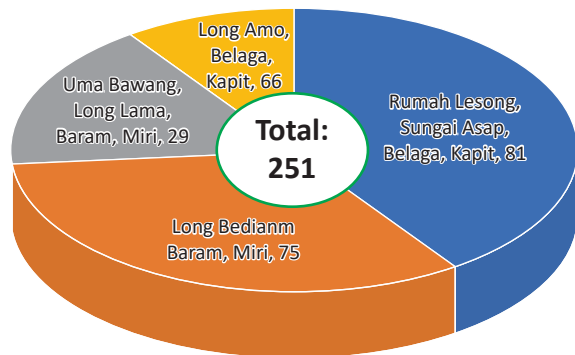


The Bidayuh community of Kampung Semadang, Penrissen, Kuching

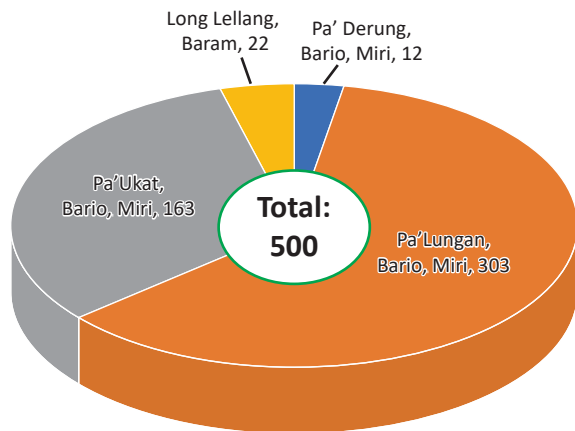
Number of plants documented based on community



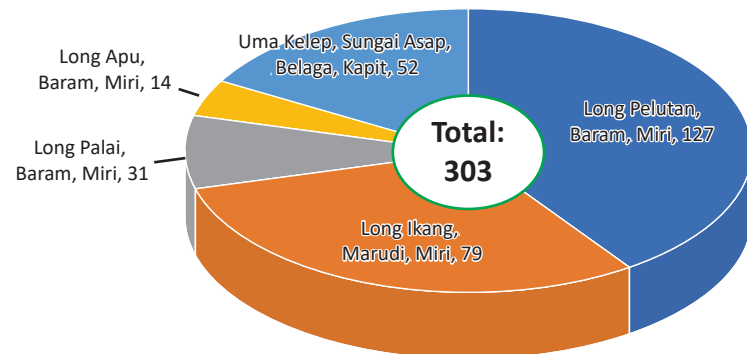
Bidayuh Community



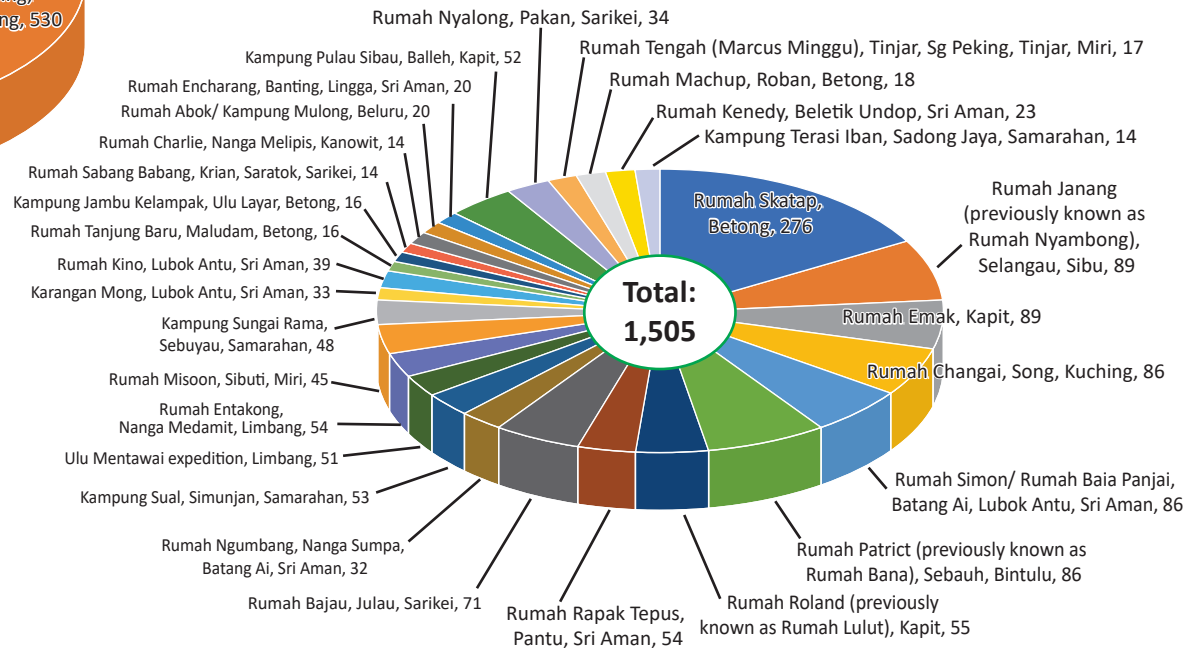
Kayan Community



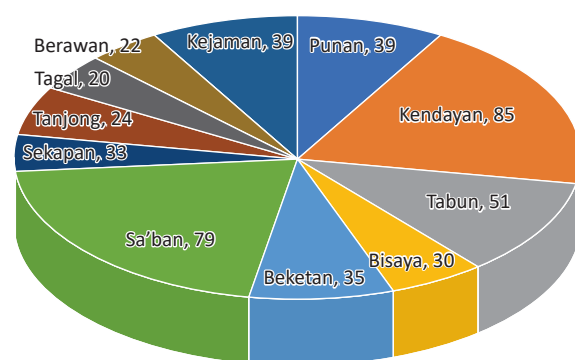
Kelabit Community



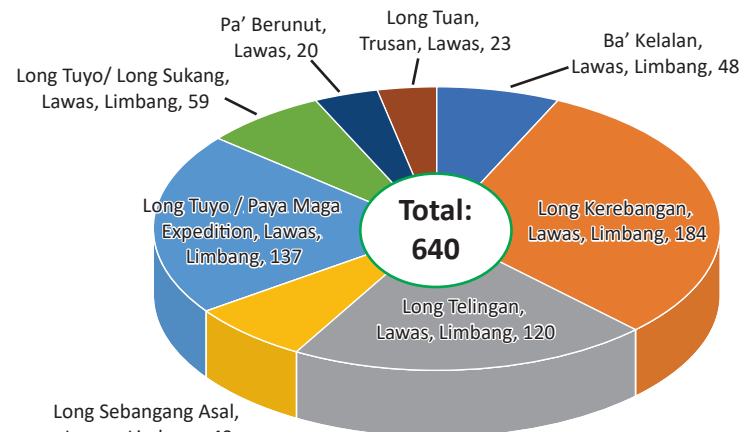
Kenyah Community



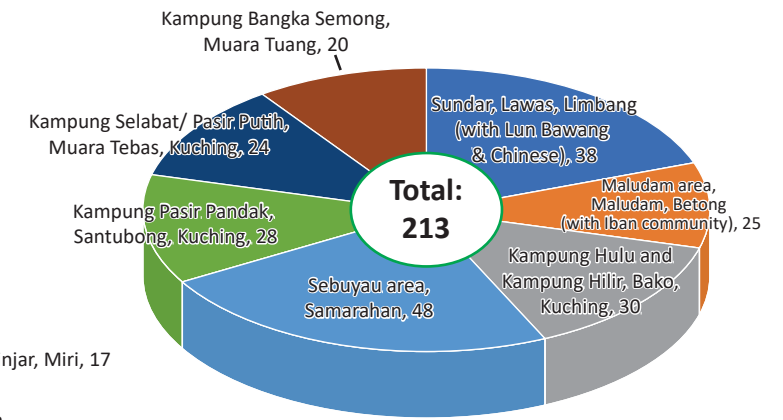
Iban Community



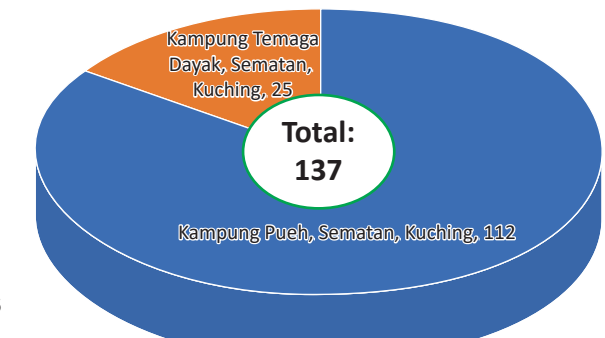
Other communities



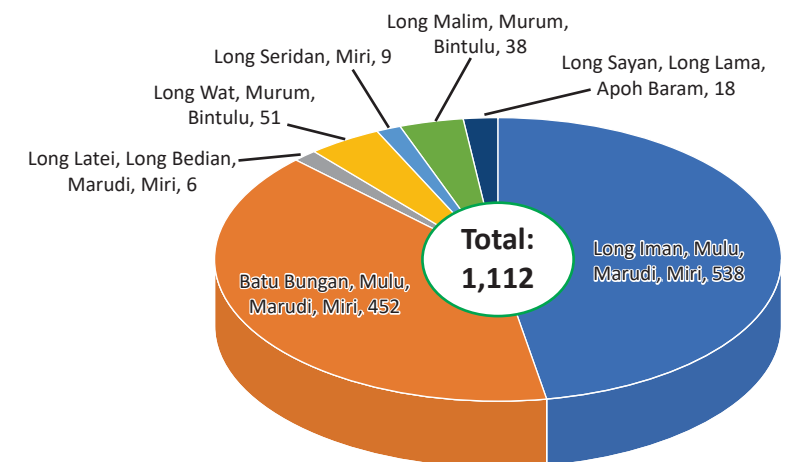
Lun Bawang Community



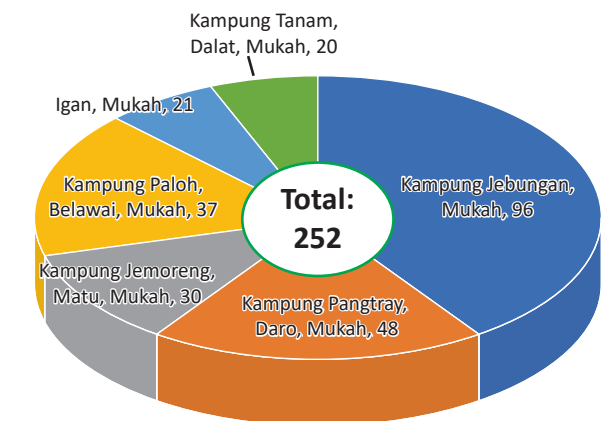
Malay Community



Selako Community



Penan Community



Melanau Community

Projects funded by the United Nations Development Programme (UNDP)

Project 1:
UNDP Orang Asli/Asal Micro Grant Facility for Conservation and Livelihood Project Entitled “Strengthening Community-based Enterprise in Conservation and Commercialisation of Products Developed from Traditional Knowledge Based on Access and Benefit Sharing Among the Bidayuh of Kampung Samadang, Penrissen and Iban of Rumah Simon, Lubok Antu, Sarawak”

- This fund is to manage and protect the environment in orang asli/orang asal (OA) communities and support sustainable livelihoods in the same communities.
- The main goal of this project is to develop processes to enable the sustainable cultivation, extraction and commercialization of products from an indigenous plant, *Adenosma* sp., while conserving and promoting traditional knowledge, and improving the livelihoods of the Bidayuh and Iban communities of Sarawak.
- The two (2) communities involved: the Bidayuh of Kampung Semadang, Penrissen, Kuching, Sarawak and the Iban of Rh Simon, Lubok Antu, Sarawak.
- Duration: August 2020 - November 2021



The Bidayuh women of Kampung Semadang showcasing their traditional herbs, the 'Bunga Taang'.

Project 2:
Project under United Nations Development Programme (UNDP) COVID-19 Socio-Economic Recovery Funds: “Recovery Initiative Of Community-Based Sector, SMEs And MSMEs Associate with Bio-Related Products in Sarawak”

- This fund is to support the socio-economic recovery of informal sector/Micro, Small & Medium Enterprise (MSMEs) / Small Medium Enterprise (SMEs) during the COVID-19 crisis and its recovery phase.
- The main goal of this project is to help the community-based business to recover from the business crisis caused by the restrictions to stop the spread of COVID-19 and adapt to the “New Normal” way of doing business, in particular with digital technologies.
- The seven (7) communities involved: the Melanau community of Kampung Jemoreng, Kampung Pantray, Mukah, and the Iban community of Maludam area, Betong on Sekiu/Ketiau and the Iban community of Rumah Emak, Kapit, Rumah Janang, Selangau, Kampung Jambu Kerampak, Betong, Rumah Bajau Julau, and Sarikei on Engkabang.
- Duration: October 2020 - October 2021



The women at Kampung Jemoreng, Matu are seen collecting Sekiu seeds from the river. Best collection time is from December to March.

Communities and local sustainable development solutions

Biodiversity-Biotechnology Awareness & Appreciation Programme

SBC is committed to promote awareness and appreciation towards biotechnology in relation to the rich biodiversity among the general public and specific target groups, such as scientists, researchers, policymakers and business stakeholders.



First prize “Nature Through My Lens”
Photography By: Mr Mak Sen Fatt
Caption: Food chain that illustrates the passage energy among plants and insects in an ecosystem

Under restricted movement control, SBC organized its first online Biodiversity Day 2020 in conjunction with the International Day for Biological Diversity (IDB) on 22 May with the theme “Our Solutions are in Nature”.

The 2020 IDB emphasizes on hope, solidarity and the importance of working together at all levels to build a future of life in harmony with nature. Various activities were lined up via digital platform.

SBC also hosted its first online seminar on biological research on 30 November 2020, where six researchers who have completed their projects approved under the Sarawak Biodiversity Regulations 2016, came together to share their research discoveries. It was a successful event with 159 participants from various government departments, research institutes, universities and members of the general public logged in online. SBC looks forward to organize more webinars on scientific research work in the upcoming year 2021. The Covid-19 pandemic may have changed the way we work but it does not stop us from reaching out to researchers all over the globe.

The list of speakers for the seminar:

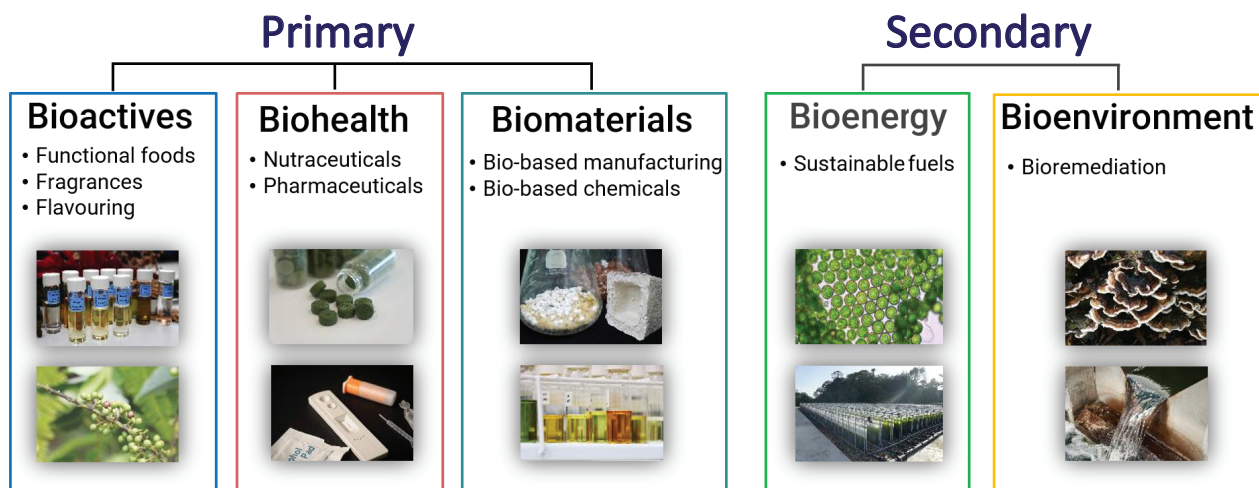
- A.P. Dr. Hwang Siaw San of Swinburne University of Technology Sarawak (SUTS) (Research Title: Antioxidant capacity and cytoprotective effects of Sarawak rice bran extracts)
- Dr. Nur Izzati Bt. Mohd Noh of University Teknologi Malaysia (UTM) (Research Title: Antioxidant potential and flavonoids composition of Kunak, an unknown indigenous plant of Borneo Island)
- Puan Siti Zaleha bt. Raduan of International Islamic University Malaysia (IIUM) (Research Title: Investigation on the use of Sarawak native plants, Engkala bark in Neurodegenerative disease)
- Dr. Mohamad Hasnul Bin Bolhassan of University Malaysia Sarawak (UNIMAS) (Research Title: Documentation of wild and cultivated culinary mushroom of Sarawak)
- A.P. Dr. Moritz Muller of Swinburne University of Technology Sarawak (SUTS) (Research Title: Rivers of Sarawak: Where Land and Sea Meet)
- A.P. Ir. Dr. Stephanie Chan Yen San of Curtin University Malaysia (Research Title: Extraction of antioxidant from fruit wastes of *Mangifera pajang* and solubility enhancement in natural deep eutectic solvent)



The Sarawak Bioindustrial Park in Kota Samarahan

With the announcement on the development of Sarawak Bioindustrial Park (SBP) at Kota Samarahan by the Right Honourable Chief Minister on 13 April 2018, SBC embarked on this *Project Rakyat* with a vision to commercialise its research on natural products. An area of 100 acres of land near Kota Samarahan Industrial Estate (KSIE) was approved by the State Planning Authority in 2019 for this project. A consultant was appointed to undertake the masterplan study of the park which started in February 2020 and completed in November 2020.

The SBP is envisioned to be the place to develop bio-business opportunities. This park aims to attract local and foreign investments from public-private partnership to foster growth of new businesses, employment of science graduates, and develop an ecosystem for the advancement of innovation and biotechnology in the natural product space.



Key niche area for Sarawak Bioindustrial Park



Location of Bioindustrial Park at Kota Samarahan

Sarawak Economic Action Council (SEAC)

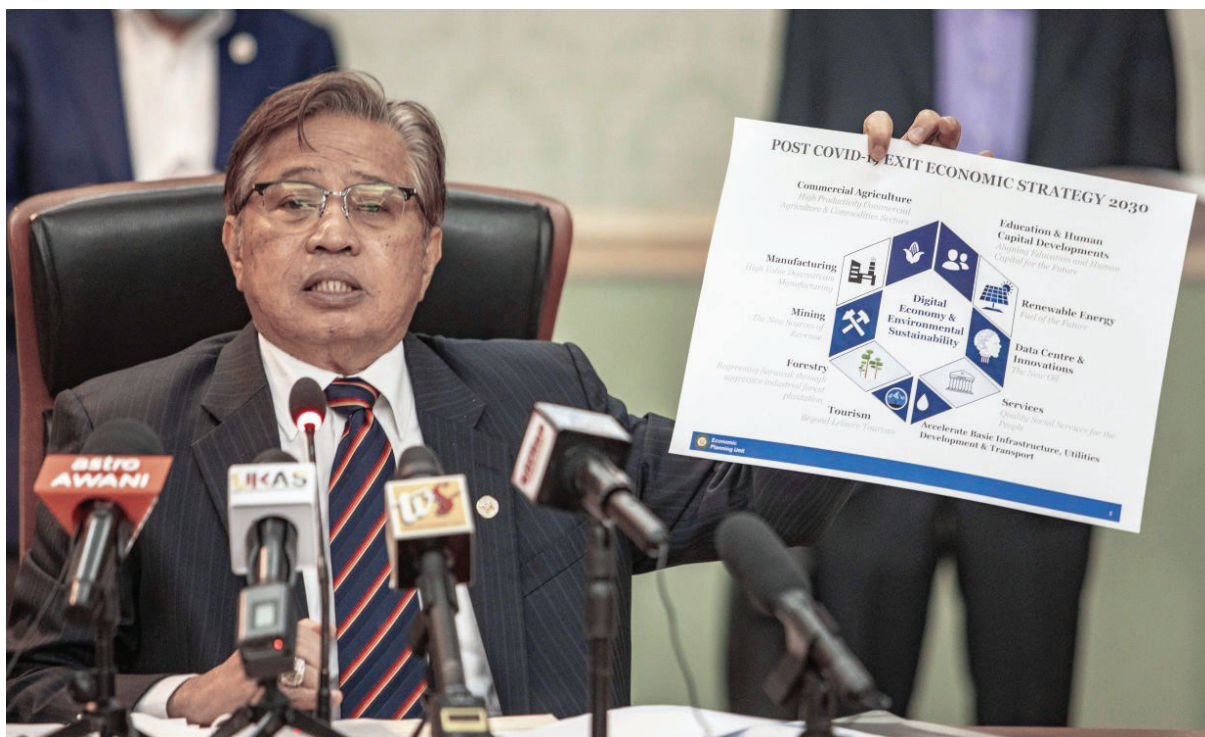
The Right Honourable Chief Minister called for the setting up of the Sarawak Economic Action Council (SEAC) on 6 May 2020 to facilitate the implementation of post Covid-19 economic recovery till the year 2030. The goal of SEAC is to formulate a strategy to help Sarawak recover from the severe economic impact due to Covid-19, adapting to the new normal and promote future economic growth and development. The strategy is founded on Sarawak's aspiration for economic prosperity, social inclusivity and sustainable environment. Under the SEAC, 4 clusters were established. The clusters are:

1. Digital Transformation and Innovation
2. Commercial Agriculture, Human Capital and Services
3. Basic Infrastructure, Utilities & Transport
4. Resources & Industrial Development

Under the Innovation cluster, Chief Executive Officer of SBC was appointed as the Working Team leader to work with members who contributed strategic insights and formulated objectives and catalytic projects to target desired economic outcomes. A total of 49 members joined the cluster with SBC as the Secretariat. The members are comprised of diverse background such as research experts, businessmen, entrepreneurs, venture capitalist, academicians and leaders of established companies.

The Innovation Aspiration Framework developed by the team is for Sarawak to be a global innovation cluster, by leveraging excellence in research and commercialisation, that will contribute to the strong economic growth by 2030. Catalytic initiatives were proposed to ensure that Sarawak capitalize on innovation capability. The team had proposed 2 initiatives: (1) Sector specific trigger projects with R&D, innovation, and commercialisation elements; and (2) Development of a sustainable innovation ecosystem.

Source: *The Star*, 6 May 2020



Chief Minister Datuk Patinggi Abang Johari Tun Openg during the announcement of the formation of SEAC to formulate economic agendas for the state after its recovery from COVID-19 pandemic.

<https://www.thestar.com.my/news/nation/2020/05/06/s039wak-forms-council-to-draw-up-post-covid-19-economic-strategy-up-to-2030>

Highlight Events 2020

Benefit Sharing Agreement Signing Ceremony for AdenoSara® project between the Sarawak Biodiversity Council and The Bidayuh Community of Kampung Semadang, Penrissen & The Iban Community of Rumah Simon, Lubok Antu at Community Hall, Kampung Semadang



The Honourable Datuk Amar Michael Manyin Jawong, Minister of Education, Science and Technological Research (MESTR) and The Honourable Datuk Amar Jaul Samion, State Secretary of Sarawak and Dr Yeo Tiong Chia, Chief Executive Officer of SBC were present with representatives from the Bidayuh Community of Kampung Semadang, Penrissen and the Iban Community of Rumah Simon, Lubok Antu for the signing of Benefit Sharing Agreement.

On 17 October 2020, SBC signed a Benefit Sharing Agreement (BSA) with the Bidayuh of Kampung Semadang, Penrissen and the Iban of Rumah Simon, Lubok Antu under the AdenoSara® Project. The event was witnessed by The Honourable Datuk Amar Michael Manyin Jawong, Minister of Education, Science and Technological Research and The Honourable Datuk Amar Jaul Samion, State Secretary of Sarawak who is also the Chairman of Sarawak Biodiversity Council.

This BSA partnership will enable the indigenous communities mentioned in the agreement to find new uses for a traditional herb, which is the Bunga Ta'ang. SBC will formulate commercial products from the herb and thus convert the traditional harvest into a sustainable and income-generating activity.



AdenoSara® products derived from Bunga Ta'ang.

Official Visit to Sarawak Biodiversity Centre by the Minister for Education, Science and Technological Research (MESTR)

On 13 August 2020, The Honourable Dato Sri Michael Manyin Jawong, Minister for Education, Science and Technological Research (MESTR) made his official visit to Sarawak Biodiversity Centre. The Minister was accompanied by The Honourable Dr Annuar Rapae, Assistant Minister for Education, Science and Technological Research, and delegates from Ministry of Education, Science and Technological Research (MESTR) and the Sarawak Research Development Council (SRDC).

The Minister and his delegation witnessed industrial and scale-up production of bio-based products during a tour of the Centre's laboratories and algae cultivation facility.



The Honourable Dato Sri Michael Manyin Jawong is proudly showing one of SBC's lead compounds.

Best of Bumi Kenyalang Program in collaboration with AEON Co. (M) Sdn Bhd and the Ministry of Domestic Trade and Consumer Affairs

The “Karnival Bumi Kenyalang & Kempen Beli Barangan Malaysia” Exhibition in collaboration with the Ministry of Domestic Trade and Consumer Affairs was held at AEON MALL Nilai, Negeri Sembilan throughout the period of 14th – 30th September 2020. The event was officially launched on 22 September 2020 by YB Datuk Alexander Nanta Linggi, Minister of Domestic Trade and Consumer Affairs and YB Datuk Haji Mohd. Naroden Haji Majais, Assistant Minister for Entrepreneur and SME Development.

Approximately 27 exhibitors participated in this event which included four (4) government agencies (CRAUN Research, Sarawak Product Pavilion, Pertubuhan Peladang Negeri Sarawak and Sarawak Biodiversity Centre) and 23 local entrepreneurs from Sarawak.

The event was held to promote Sarawak domestic tourism activities. It is a platform that provide opportunities for SME entrepreneurs to revive their post-MCO business with optimal exposure, which aims to boost the local economy. In addition, entrepreneurs were able to expand their product reach through AEON online marketplace.

SBC was privileged to be invited as exhibitor in this event to showcase the LitSara® products. It was a great exposure on product marketing, an opportunity that broaden SBC’s niche market for LitSara® products.



LitSara® products display at the exhibition booth



YB Datuk Alexander Nanta Linggi looking at LitSara®

LitSara® Traditional Wisdom Tour – Secrets of Borneo Native Scents and Wellness

Through the LitSara® Traditional Wisdom tour, the participants had the opportunity to discover the enchanting LitSara® fragrances sourced from the highlands of Sarawak. The one-and-a-half-hour tour was designed to excite the sense of sight, smell and feel.

The participants' olfactory senses were stimulated by a line-up of essential oils derived from local herbs and plants. They were given the opportunity to make their own aromatherapy oil from those oils, which was a deserving gift for pampering themselves or for a loved one.

In addition, the participants were able to experience an interpretive tour of the SBC Ethnobotanical Garden. Here, the participants learnt about traditional knowledge used by the indigenous communities in Sarawak.

The tour also provided the participants with opportunity to experience a 'Native Style' Traditional Steam Spa and invigorate their tired feet and hands with series of LitSara® products.



The tour ended with a native storytelling which unravels the strong connection between man and nature.

The BioHub Port and Industrial Area Development in Sarawak Showcase Event Exhibition

The BioHub Port and Industrial Area Development in Sarawak Showcase Event was held on 26 August 2020 at Menara FELDA, Kuala Lumpur. SBC was honoured to be invited by Agensi Inovasi Malaysia (AIM) to participate in the event to exhibit SBC's Natural Product Library, Algae Cultivation Facility and Milestones, LitSara® products, and a proposed project, the Sarawak Bioindustrial Park.

The BioHub Port concept project is based in Bintulu Port and operates on a circular economy model. In this project, waste streams are collected and used as primary biomass feedstock for mid-stream and downstream companies. These downstream companies will produce biofuels, biochemicals, and bio-based products in Sarawak for global markets. This project is one of the catalytic projects proposed under the SEAC Innovation sector.



Datuk Ir Dr Siti Hamisah Tapsir, Secretary General, Ministry of Science, Technology and Innovation (MOSTI), His excellency Aart Jacobi, Ambassador of the Netherlands to Malaysia and other key stakeholders were present on stage during the launching of the event.

Dr Yeo Tiong Chia, Chief Executive Officer of SBC explained the framework of the SBC's Natural Product Library, and how it supports upstreams research at SBC to Datuk Ir Dr Siti Hamisah, Secretary General MOSTI, His Excellency Aart Jacobi, Ambassador of the Netherlands to Malaysia and other key stakeholders.



Cambridge Academy of Therapeutic Sciences (CATS), University of Cambridge, UK: Scientific Exchange Programme

The Sarawak Research and Development Council (SRDC) and the University of Cambridge signed a Memorandum of Agreement on 1 November 2019 to implement a six-month scientific exchange programme for Sarawak's scientists at the University of Cambridge. Two of SBC's Research Officers, Gilbert Lau (Bioinformatics) and Michele Mejin (Chemistry) were the first batch to participate in the scientific exchange programme under the supervision of Dr Andreas Bender, whose area of expertise is on the prediction of molecular properties based on toxicity, high-throughput screening data, and molecular structure similarity.

Both Research Officers started the programme on 18 May 2020 via online platform where they had regular weekly meeting to discuss their research work. The area of study throughout this programme was focused on development of machine learning model, molecular docking and studying the biological effects of a plant compound using gene expression data.

With the emergence of digital platforms, the researchers were able to access Cambridge-license software off-site to run their research work and had the opportunity to participate in the Cambridge Research Community online workshops. It is indeed an exceptional experience. The researchers are expected to complete their programme in May 2021.



An exchange of Memorandum of Agreement between SRDC and University of Cambridge was held at Pullman Hotel on 6 December 2019.

Talk on “Keselamatan Semasa Kebakaran serta Demonstrasi Cara-cara mengendalikan alat pemadam Api” by Balai Bomba dan Penyelamat Siburan

On 20 October 2020, the SBC’s Emergency Response Team and Safety and Health Committee (S&H) organised a talk entitled “Keselamatan Semasa Kebakaran serta Demonstrasi Cara-Cara Mengendalikan Alat Pemadam Api” by Balai Bomba dan Penyelamat Siburan to promote awareness on fire safety and handling of a fire extinguisher.

The talk on “Keselamatan Kebakaran” was given by Mr Michael Anak Gumbai while the demonstration on “Alat Pemadam Api & Tatacara Penggunaan” was presented by Mr Hafdan bin Morshidi and Mr Noor Firdaus bin Zono. It was a successful event as all SBC staff fully participated in the talk and fire extinguisher demonstration with enthusiasm.



Mr Hafdan explained on different types of fire extinguisher



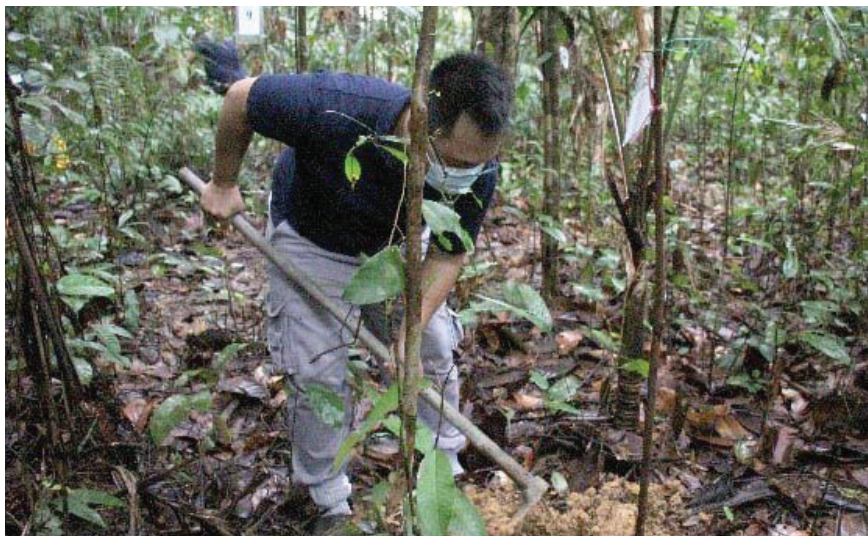
Mr Hafdan guiding SBC staff on how to operate fire extinguisher properly

Tree planting by SBC staff

The SBC's QE/5S committee had organized a tree planting exercise on 19 December 2020. This is to promote ex-situ conservation among SBC staff and to diversify the tree species in SBC's Nature Trails.



Group photo before heading into the trails



Preparation of planting holes for timber seedlings

The Forest Department Sarawak contributed to this activity by providing SBC with timber seedlings from different species of *Dipterocarpaceae* family, namely *Hopea latifolia*, *Dryobalanops beccarii*, *Hopea micrantha*, *Shorea macrophylla*, *Shorea pinanga*, *Shorea retusa*, *Shorea multiflora*, *Shorea ladiana*, *Shorea leprosula*, *Dipterocarpus oblongifolius* and *Shorea brunnescens*.

A total of 120 timber seedlings were planted in the north and south trails at SBC. The tree planting activity was a great success, and each seedling was labelled with its species name and the planter's name as a token of appreciation for their contribution in conserving nature.



Planting of timber seedlings along the SBC Nature trails

Staff Achievements 2020

Certificate of Achievement for three consecutive years without sick leave at SBC from 2018 to 2020:

1. Ainley anak Tumis, Security Guard (KP11)
2. Barbara anak Ngikoh@Nyikoh, Research Officer (Q41)
3. Bee David anak Lamada, Security Guard (KP11)
4. Gilbert Lau Sei Kung, Research Officer (Q48)
5. Hafizah Binti Booty, Research Officer (Q41)
6. Lee Jong Jen, Research Officer (Q41)
7. Margarita Naming, Senior Research Officer (Q54)
8. Mohamad Nasar Bin Pawi, Research Assistant (Q19)
9. Rosy anak Tian Lin, Admin Assistant (N22)
10. Sabda bin Safiee, Research Officer (Q41)
11. Sunarjo bin Suip, Security Guard (KP14)

Bentara Bintang Sarawak (BBS) Recipients:



Sunarjo Bin Suip



Tora anak Ranggon

Bentara Bintang Sarawak is an award given to support group in recognition of their contributions to the agency, community, State, and country.

Records of Sarawak Biodiversity Council, SBC Establishment Committee, SBC Finance and Investment Committee and SBC Audit Committee Meeting in the year 2020

No	Type of Meeting	Frequency
1	<p>Sarawak Biodiversity Council</p> <ul style="list-style-type: none"> - Special Meeting of Sarawak Biodiversity Council [1/2020] 23 January 2020 @ 2.00 pm Sarawak Biodiversity Centre - 56th Sarawak Biodiversity Council Meeting [2/2020] 3 September 2020 @ 3.30 pm Bilik Mesyuarat Utama, Level 2 Wisma Bapa Malaysia - 57th Sarawak Biodiversity Council Meeting [3/2020] 4 November 2020 @ 3.30 pm Bilik Mesyuarat Utama, Level 2 Wisma Bapa Malaysia 	3
2	<p>SBC Audit Committee Meeting</p> <ul style="list-style-type: none"> - 21st Meeting of SBC Audit Committee [1/2020] 21 May 2020 @ 10.00 am Sarawak Biodiversity Centre - 22nd Meeting of SBC Audit Committee [2/2020] 16 October 2020 @ 2.30 pm Sarawak Biodiversity Centre - 23rd Meeting of SBC Audit Committee [3/2020] 11 December 2020 @ 2.30 pm Sarawak Biodiversity Centre 	3
3	<p>SBC Establishment Committee</p> <ul style="list-style-type: none"> - 33rd Meeting of SBC Establishment Committee [1/2020] 16 January 2020 @ 10.00 am Meeting Room, 19th Floor, Wisma Bapa Malaysia - 34th Meeting of SBC Establishment Committee [2/2020] 4 June 2020 @ 10.30 am Zoom Meeting - 35th Meeting of SBC Establishment Committee [3/2020] 1 December 2020 @ 2.30 pm Zoom Meeting 	3
4	<p>SBC Finance & Investment Committee</p> <ul style="list-style-type: none"> - 41st Meeting of SBC Finance & Investment Committee [1/2020] 13 January 2020 @ 9.00 am Conference Room, 18th Floor, Wisma Bapa Malaysia - 42nd Meeting of SBC Finance & Investment Committee [2/2020] 12 June 2020 @ 9.00 am Conference Room, 18th Floor, Wisma Bapa Malaysia - 43rd Meeting of SBC Finance & Investment Committee [3/2020] 14 August 2020 @ 9.00 am Conference Room, 18th Floor, Wisma Bapa Malaysia - 44th Meeting of SBC Finance & Investment Committee [4/2020] 27 October 2020 @ 9.00 am Conference Room, 18th Floor, Wisma Bapa Malaysia - 45th Meeting of SBC Finance & Investment Committee [5/2020] 16 December 2020 @ 9.30 am Conference Room, 18th Floor, Wisma Bapa Malaysia 	5

SBC Audit Committee 2020



Mr John Kennedy Janang
Director, Financial Compliance Unit, State Financial Secretary's Office
Chairman, SBC Audit Committee



Dr Alvin Chai Lian Kuet
Director, Department of Agriculture, Sarawak
Member, SBC Audit Committee



Mr Justine Jok Jau Emang
Controller, Natural Resources and Environment Board
Member, SBC Audit Committee



Miss Christina Wong Hie Ping
Accountant, Sarawak Biodiversity Centre
Secretary, SBC Audit Committee

SBC Establishment Committee 2020



YBhg Dato Sri Haji Mohamad Abu Bakar Bin Marzuki
Deputy State Secretary (Socio-Economic Transformation)
Chairman, SBC Establishment Committee



YBhg Datu Sr. Zaidi Bin Haji Mahdi
Permanent Secretary, MUDeNR
Member, SBC Establishment Committee



YBhg Dr Alvin Chai Lian Kuet
Director of Agriculture Department
Member, SBC Establishment Committee



YBhg Datu Haji Ismail Bin Mohamad Hanis
Director of State Human Resource Unit
Member, SBC Establishment Committee



Dr Yeo Tiong Chia
Chief Executive Officer, Sarawak Biodiversity Centre
Secretary, SBC Establishment Committee

SBC Finance and Investment Committee 2020



YBhg Datuk Amar Haji Ahmad Tarmizi Bin Haji Sulaiman
State Financial Secretary
Chairman, SBC Finance and Investment Committee



Mr Kameri Bin Haji Affandi
Permanent Secretary, Ministry of Education, Science and Technological
Research Sarawak
Member, SBC Finance and Investment Committee



YBhg Datu Hamden Bin Mohammad
Director, Department of Forest, Sarawak
Member, SBC Finance and Investment Committee



Dr Alvin Chai Lian Kuet
Director, Department of Agriculture, Sarawak
Member, SBC Finance and Investment Committee



Dr Yeo Tiong Chia
Chief Executive Officer, Sarawak Biodiversity Centre
Secretary, SBC Finance and Investment Committee

Financial Statement for the Year Ended 2020

**MAJLIS KEPELBAGAIAN BIOLOGI
SARAWAK**

**PENYATA KEWANGAN
BAGI TAHUN BERAKHIR
31 DISEMBER 2020**

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SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance 1997
Chapter 24, Laws of Sarawak)

COUNCIL MEMBERS

- Chairman : State Secretary Sarawak
YB Datuk Amar Jaul Samion
- Deputy Chairman : Permanent Secretary, Ministry of Education, Science and Technological Research Sarawak
Tuan Kameri Haji Affandi
- Secretary : Chief Executive Officer, Sarawak Biodiversity Centre
YBrs Dr Yeo Tiong Chia
- Council Members : State Attorney General, Sarawak
Yang Arif Datuk Talat Mahmood Bin Abdul Rashid
- : State Financial Secretary, Sarawak
YBhg Datuk Amar Haji Ahmad Tarmizi Bin Haji Sulaiman
- : Permanent Secretary, Ministry of Urban Development and Natural Resources Sarawak
YBhg Datu Sr Zaidi Bin Haji Mahdi
- : Deputy State Secretary (SET), Sarawak
YBhg Datu Haji Mohamad Abu Bakar Bin Marzuki
- : Director, Department of Forest, Sarawak
YBhg Datu Hamden Bin Mohammad
- : Director, Department of Agriculture, Sarawak
YBrs Dr Alvin Chai Lian Kuet
- : Controller, Natural Resources and Environment Board
YBrs Encik Justine Jok Jau Emang
- : YBhg Dato Goh Leng Chua
- : YBhg Prof. Datu Dr Andrew Kiyu Dawie
- : Dr Avijit Roy

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance 1997
Chapter 24, Laws of Sarawak)

OFFICER AND PROFESSIONAL ADVISORS

Chief Executive Officer	: Dr Yeo Tiong Chia
Registered office	: Lot 724 Block 3, Sentah-Segu Land District KM 20 Jalan Borneo Heights Semengoh, Locked Bag No. 3032 93990 Kuching Sarawak
Auditor	: Ketua Audit Negara Malaysia
Bankers	: Malayan Banking Berhad Level 1, Wisma Satok Jalan Satok 93400 Kuching Sarawak
	: RHB Bank Berhad Jalan Kulas 93400 Kuching Sarawak
	: Public Bank Berhad 384-388, Sentosa Central, Batu 7 Jalan Penrissen 93250 Kuching Sarawak

PENYATA Pengerusi dan Timbalan Pengerusi

Kami, YB DATUK AMAR JAUL SAMION dan TUAN KAMERI HAJI AFFANDI yang merupakan Pengerusi dan Timbalan Pengerusi MAJLIS KEPELBAGAIAN BIOLOGI SARAWAK dengan ini menyatakan bahawa, pada pendapat Ahli - Ahli Majlis, Penyata Kewangan yang mengandungi Penyata Kedudukan Kewangan, Penyata Pendapatan Komprehensif, Penyata Perubahan Ekuiti dan Penyata Aliran Tunai yang berikut ini berserta dengan nota-nota kepada Penyata Kewangan di dalamnya, adalah disediakan untuk menunjukkan pandangan yang benar dan saksama berkenaan kedudukan MAJLIS KEPELBAGAIAN BIOLOGI SARAWAK pada 31 DISEMBER 2020 dan hasil kendaliannya serta perubahan kedudukan kewangannya bagi tahun yang berakhir pada tarikh tersebut.

Bagi pihak Majlis,



.....
YB DATUK AMAR JAUL SAMION

Bagi pihak Majlis,



.....
TUAN KAMERI HAJI AFFANDI

Tarikh: 14 April 2021

Kuching

Tarikh: 14 April 2021

Kuching

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance 1997
Chapter 24, Laws of Sarawak)

PENGAKUAN OLEH PEGAWAI UTAMA YANG BERTANGGUNGJAWAB
KE ATAS PENGURUSAN KEWANGAN
MAJLIS KEPELBAGAIAN BIOLOGI SARAWAK

Saya, DR YEO TIONG CHIA, pegawai utama yang bertanggungjawab ke atas pengurusan kewangan dan rekod-rekod perakaunan MAJLIS KEPELBAGAIAN BIOLOGI SARAWAK, dengan ikhlasnya mengakui bahawa Penyata Kedudukan Kewangan, Penyata Pendapatan Komprehensif, Penyata Perubahan Ekuiti dan Penyata Aliran Tunai dalam kedudukan kewangan yang berikut ini berserta dengan nota-nota kepada Penyata Kewangan di dalamnya, pada pendapat saya, adalah betul dan saya membuat ikrar ini dengan sebenarnya mempercayai bahawa ianya adalah benar dan atas kehendak-kehendak Akta Akuan Berkanun, 1960.

Sebenar dan sesungguhnya)

diakui oleh penama di atas)

di KUCHING, SARAWAK)

pada 14 haribulan April)

2021 .



DR YEO TIONG CHIA
(K.P. NO.: 660420-13-5379)

Di hadapan saya

MAGISTRATE

GREGORY ANAK WILFRED UKIK
SECOND CLASS MAGISTRATE
(In and for The State of Sarawak)



**SIJIL KETUA AUDIT NEGARA
MENGENAI PENYATA KEWANGAN
MAJLIS KEPELBAGAIAN BIOLOGI SARAWAK
BAGI TAHUN BERAKHIR 31 DISEMBER 2020**

Sijil Mengenai Pengauditan Penyata Kewangan

Pendapat

Saya telah mewakilkan sebuah firma audit swasta untuk mengaudit Penyata Kewangan Majlis Kepelebagaian Biologi Sarawak. Penyata Kewangan tersebut merangkumi Penyata Kedudukan Kewangan Pada 31 Disember 2020 dan Penyata Pendapatan Komprehensif, Penyata Perubahan Ekuiti serta Penyata Aliran Tunai bagi tahun berakhir pada tarikh tersebut dan nota kepada penyata kewangan termasuklah ringkasan polisi perakaunan yang signifikan seperti dinyatakan pada muka surat 9 hingga 27.

Pada pendapat saya, penyata kewangan ini memberikan gambaran yang benar dan saksama mengenai kedudukan kewangan Majlis Kepelebagaian Biologi Sarawak pada 31 Disember 2020 dan prestasi kewangan serta aliran tunai bagi tahun berakhir pada tarikh tersebut selaras dengan Piawaian Pelaporan Entiti Persendirian Malaysia (MPERS), *The Statutory Bodies (Financial and Accounting Procedure) Ordinance, 1995* dan *The Sarawak Biodiversity Centre Ordinance, 1997*.

Asas Kepada Pendapat

Pengauditan telah dilaksanakan berdasarkan Akta Audit 1957 dan *International Standards of Supreme Audit Institutions*. Tanggungjawab saya dihuraikan selanjutnya di perenggan Tanggungjawab Juruaudit Terhadap Pengauditan Penyata Kewangan dalam sijil ini. Saya percaya bahawa bukti audit yang diperoleh adalah mencukupi dan bersesuaian untuk dijadikan asas kepada pendapat saya.

Kebebasan dan Tanggungjawab Etika Lain

Saya adalah bebas daripada Majlis Kepelbagaian Biologi Sarawak serta telah memenuhi tanggungjawab etika lain berdasarkan *International Standards of Supreme Audit Institutions*.

Maklumat Lain Selain Daripada Penyata Kewangan dan Sijil Juruaudit Mengenainya

Ahli Majlis Kepelbagaian Biologi Sarawak bertanggungjawab terhadap maklumat lain dalam Laporan Tahunan. Pendapat saya terhadap Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak tidak meliputi maklumat lain selain daripada Penyata Kewangan dan Sijil Juruaudit mengenainya dan saya tidak menyatakan sebarang bentuk kesimpulan jaminan mengenainya.

Tanggungjawab Ahli Majlis Terhadap Penyata Kewangan

Ahli Majlis bertanggungjawab terhadap penyediaan Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak yang memberi gambaran benar dan saksama selaras dengan Piawaian Pelaporan Entiti Persendirian Malaysia (MPERS), *The Statutory Bodies (Financial and Accounting Procedure) Ordinance, 1995* dan *The Sarawak Biodiversity Centre Ordinance, 1997*. Ahli Majlis juga bertanggungjawab terhadap penetapan kawalan dalaman yang perlu bagi membolehkan penyediaan Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak yang bebas daripada salah nyata yang ketara, sama ada disebabkan fraud atau kesilapan.

Semasa penyediaan Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak, Ahli Majlis bertanggungjawab untuk menilai keupayaan Majlis Kepelbagaian Biologi Sarawak untuk beroperasi sebagai satu usaha berterusan, mendedahkannya jika berkaitan serta menggunakannya sebagai asas perakaunan.

Tanggungjawab Juruaudit Terhadap Pengauditan Penyata Kewangan

Objektif saya adalah untuk memperoleh keyakinan yang munasabah sama ada Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak secara keseluruhannya adalah bebas daripada salah nyata yang ketara, sama ada disebabkan fraud atau kesilapan, dan mengeluarkan Sijil Juruaudit yang merangkumi pendapat saya. Jaminan yang munasabah adalah satu tahap jaminan yang tinggi, tetapi bukan satu jaminan bahawa audit yang dijalankan mengikut *International Standards of Supreme Audit Institutions* akan sentiasa mengesan salah nyata yang ketara apabila ia wujud. Salah nyata boleh wujud daripada

fraud atau kesilapan dan dianggap ketara sama ada secara individu atau agregat sekiranya boleh dijangkakan dengan munasabah untuk mempengaruhi keputusan ekonomi yang dibuat oleh pengguna berdasarkan penyata kewangan ini.

Sebagai sebahagian daripada pengauditan mengikut *International Standards of Supreme Audit Institutions*, saya menggunakan pertimbangan profesional dan mengekalkan keraguan profesional sepanjang pengauditan. Saya juga:

- a. Mengetahui pasti dan menilai risiko salah nyata ketara dalam Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak, sama ada disebabkan fraud atau kesilapan, merangka dan melaksanakan prosedur audit yang responsif terhadap risiko berkenaan serta mendapatkan bukti audit yang mencukupi dan bersesuaian untuk memberikan asas kepada pendapat saya. Risiko untuk tidak mengesan salah nyata ketara akibat daripada fraud adalah lebih tinggi daripada kesilapan kerana fraud mungkin melibatkan pakatan, pemalsuan, ketinggalan yang disengajakan, representasi yang salah, atau mengatasi kawalan dalaman.
- b. Memahami kawalan dalaman yang relevan untuk merangka prosedur audit yang bersesuaian tetapi bukan untuk menyatakan pendapat mengenai keberkesanan kawalan dalaman Majlis Kepelbagaian Biologi Sarawak.
- c. Menilai kesesuaian dasar perakaunan yang diguna pakai dan kemunasabahan anggaran perakaunan dan pendedahan yang berkaitan oleh Ahli Majlis.
- d. Membuat kesimpulan terhadap kesesuaian penggunaan asas perakaunan untuk usaha berterusan oleh Ahli Majlis dan berdasarkan bukti audit yang diperoleh, sama ada wujudnya ketidakpastian ketara yang berkaitan dengan peristiwa atau keadaan yang mungkin menimbulkan keraguan yang signifikan terhadap keupayaan Majlis Kepelbagaian Biologi Sarawak sebagai satu usaha berterusan. Jika saya membuat kesimpulan bahawa ketidakpastian ketara wujud, saya perlu melaporkan dalam Sijil Juruaudit terhadap pendedahan yang berkaitan dalam Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak atau, jika pendedahan tersebut tidak mencukupi, pendapat saya akan diubah. Kesimpulan saya dibuat berdasarkan bukti audit yang diperoleh sehingga tarikh Sijil Juruaudit.
- e. Menilai persembahan secara keseluruhan, struktur dan kandungan Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak termasuk pendedahannya, dan sama ada Penyata Kewangan Majlis Kepelbagaian Biologi Sarawak telah melaporkan asas-asas urusaniaga dan peristiwa-peristiwa yang memberikan gambaran saksama.

Saya juga telah memaklumkan Ahli Majlis bahawa saya telah mematuhi keperluan etika yang berkaitan dengan kebebasan dan telah memaklumkan semua hubungan dan hal-hal lain yang berkemungkinan menjejaskan kebebasan dan langkah pencegahan yang bersesuaian, sekiranya berkaitan.

Hal-hal Lain

Sijil ini dibuat untuk Ahli Majlis berdasarkan *The Statutory Bodies (Financial and Accounting Procedure) Ordinance*, 1995 serta *The Sarawak Biodiversity Centre Ordinance*, 1997 dan bukan untuk tujuan lain. Saya tidak bertanggungjawab terhadap pihak lain bagi kandungan sijil ini.


(THOMAS ANAK PAUL BILUN)
b.p. KETUA AUDIT NEGARA



KUCHING, SARAWAK
TARIKH : 29 JUN 2021

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
Chapter 24, Laws of Sarawak)

**STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 2020**

	Note	2020 RM	2019 RM
NON-CURRENT ASSET			
Property, plant and equipment	4	26,239,816	19,663,407
CURRENT ASSETS			
Trade and other receivables	5	494,165	853,063
Tax refundable	11	32,102	-
Cash and cash equivalents	6	1,568,501	3,584,105
Fixed deposits	7	21,016,691	23,530,500
Total current assets		23,111,459	27,967,668
TOTAL ASSETS		49,351,275	47,631,075
EQUITY			
Retained surplus		36,894,957	32,514,248
NON-CURRENT LIABILITY			
Provision for retirement benefits	8	98,532	94,304
CURRENT LIABILITIES			
Development grants	9	11,210,924	13,975,920
Other payables and accruals	10	1,130,203	1,016,277
Provision for retirement benefits	8	16,659	-
Tax payable	11	-	30,326
Total current liabilities		12,357,786	15,022,523
TOTAL LIABILITIES		12,456,318	15,116,827
TOTAL EQUITY AND LIABILITIES		49,351,275	47,631,075

The accompanying notes on pages 51 to 65 form an integral part of the financial statements.

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
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STATEMENT OF COMPREHENSIVE INCOME
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020

	Note	2020 RM	2019 RM
Revenue	12	922,550	1,307,234
Government grants	13	17,987,380	7,412,259
		<u>18,909,930</u>	<u>8,719,493</u>
Staff costs	14	(8,589,453)	(8,432,837)
Depreciation of property, plant and equipment	4	(3,546,684)	(3,279,481)
Other operating expenses	15	(2,225,162)	(2,212,944)
Surplus/(Deficit) before taxation		<u>4,548,631</u>	<u>(5,205,769)</u>
Taxation	11	(167,922)	(238,990)
Surplus/(Deficit) for the financial year		<u><u>4,380,709</u></u>	<u><u>(5,444,759)</u></u>

The accompanying notes on pages 51 to 65 form an integral part of the financial statements.

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
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**STATEMENT OF CHANGES IN EQUITY
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020**

	Retained Surplus RM
Balance as at 1 January 2019	37,959,007
Deficit for the financial year	(5,444,759)
Balance as at 31 December 2019 and 1 January 2020	<u>32,514,248</u>
Surplus for the financial year	4,380,709
Balance as at 31 December 2020	<u><u>36,894,957</u></u>

The accompanying notes on pages 51 to 65 form an integral part of the financial statements.

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
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STATEMENT OF CASH FLOWS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020

	Note	2020 RM	2019 RM
CASH FLOW FROM OPERATING ACTIVITIES			
Surplus/(Deficit) before taxation		4,548,631	(5,205,769)
Adjustments for the items not involving the movements of cash and cash equivalents			
Amortisation of development grant	13	(9,987,380)	(1,412,259)
Depreciation of property, plant and equipment	4	3,546,684	3,279,481
Fixed deposit interest income	12	(699,575)	(995,891)
Provision for retirement benefits	8	20,887	13,983
Gain on disposals of property, plant and equipment		(1,564)	(4)
Loss on property, plant and equipment written-off		-	7
Operating deficit before changes in working capital		(2,572,317)	(4,320,452)
Decrease in trade and other receivables		92,523	59,042
Increase in other payables and accruals		113,926	793,911
Cash used in operations		(2,365,868)	(3,467,499)
Retirement benefits paid	8	-	(8,914)
Income tax paid	11	(230,350)	(227,825)
Income tax refunded	11	-	5,144
Net cash used in operating activities		(2,596,218)	(3,699,094)
CASH FLOW FROM INVESTING ACTIVITIES			
Purchases of property, plant and equipment		(10,123,139)	(1,906,829)
Proceed from disposals of property, plant and equipment		1,610	18
Development grant received	9	14,131,757	10,970,134
Research and development expenditure	9	(6,909,373)	(4,846,027)
Fixed deposit interest income received		965,950	1,001,603
Withdrawal of fixed deposits with maturity terms more than 3 months		2,513,809	469,500
Net cash generated from investing activities		580,614	5,688,399
Net (decrease)/increase in cash and cash equivalents		(2,015,604)	1,989,305
Cash and cash equivalents at beginning of the year		3,584,105	1,594,800
Cash and cash equivalents at end of the year	6	1,568,501	3,584,105

The accompanying notes on pages 51 to 65 form an integral part of the financial statements.

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
Chapter 24, Laws of Sarawak)

NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020

1. GENERAL INFORMATION

The registered address and principal place of business for Sarawak Biodiversity Council (Council) is Lot 724 Block 3, Sentah-Segu Land District, KM 20 Jalan Borneo Heights, Semengoh, Locked Bag No. 3032, 93990 Kuching, Sarawak.

The Council which is a body incorporated in accordance with the Sarawak Biodiversity Centre Ordinance, 1997 (Chapter 24, Laws of Sarawak), is a Sarawak State Government – owned statutory body and its vision is “Enriching lives with breakthrough innovations in Biodiversity”.

Since then, two amendments; i.e. Sarawak Biodiversity Centre (Amendment) Ordinance, 2003 [Chapter A106, Laws of Sarawak] and the Sarawak Biodiversity Centre (Amendment) Ordinance, 2014 [Chapter A163, Laws of Sarawak] came into force on 1 April 2004 and 1 June 2015 respectively. SBC is now entrusted with the following statutory functions:

- conduct bioprospecting/R&D Programme on the biodiversity of the State and maintain a library of extracts for R&D;
- implement the Traditional Knowledge Documentation Programme among the traditional communities in the State;
- provide facilities for research and development;
- establish linkages and partnerships to undertake research and development;
- to promote education and knowledge of biodiversity of the State;
- establish and maintain a database on information related to the biological resources of the State;
- implement Prior Informed Consent (PIC) to ensure benefit sharing with the ethnic communities of Sarawak when traditional knowledge associated with a biological resource is accessed and benefits are shared through mutually agreed terms.

The functional currency of the Council is Ringgit Malaysia (RM). The financial statements of the Council were authorised for issue by the Council Members during the meeting held on 7 April 2021.

2. SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Council have been prepared in accordance with the Malaysian Private Entities Reporting Standard (“MPERS”), Statutory Bodies (Financial and Accounting Procedure) Ordinance, 1995 and Treasury Instructions.

(a) Basis of preparation

The financial statements are prepared using cost bases and fair value bases.

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
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NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020

2. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

(b) Property, plant and equipment

The cost of an item of property, plant and equipment is recognised as an asset when it is probable that future economic benefits associated with the item will flow to the Council and the cost of the item can be measured reliably. After recognition as an asset, all items of property, plant and equipment are measured at cost less any accumulated depreciation and any accumulated impairment losses. Depreciation is provided on a straight-line method so as to write off the depreciable amount of the following assets over their estimated useful lives. The rates of depreciation are as follows: -

• Leasehold land	1.67% p.a
• Buildings	5% p.a.
• Office equipment	15% p.a.
• Furniture, fixtures and fittings	10% p.a.
• Computers and accessories	20% p.a.
• Office renovations	10% p.a.
• Motor vehicles	20% p.a.
• Specialised equipment (equipment)	15% p.a.
• Specialised equipment (computer)	20% p.a.
• Specialised equipment (software)	20% p.a.
• Temporary office	10% p.a.
• Nursery sheds	10% p.a.
• Lab specialised equipment	15% p.a.
• Lab furniture and fittings	10% p.a.

Depreciation of an asset begins when it is ready for its intended use. Fully depreciated assets are retained in the financial statements until they are no longer in use. Leasehold land is amortised over a leasehold term of 60 years.

The gain or loss arising from the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sale proceeds and the carrying amount of the asset and is recognised in profit or loss.

If there is an indication that there has been a significant change since the last annual reporting date in the pattern by which the Council expects to consume an asset's future economic benefits, the Council would review its present depreciation method and if current expectations differ, the Council would amend the residual value, depreciation method or useful life to reflect the new pattern.

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
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**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020**

2. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

(c) Operating grant

Grant received from the State Government for the operation or maintenance of the Council's activities is credited to statement of comprehensive income.

Grants that compensate the Council for operating expenses incurred are recognised as income over the periods necessary to match the grants on a systematic basis to the costs that they are intended to compensate.

(d) Development grant

The Council receives development grants from the State Government in order to finance activities and projects related to biodiversity research and development protection. This is in line with the functions and powers of the Council, as provided by the Sarawak Biodiversity Centre Ordinance, 1997. The grants received are credited to the development grants and offset against future costs when incurred.

Government grants that do not impose specified future performance conditions are measured at the fair value of the assets received or receivable and recognised in income when the grant proceeds are receivable.

Government grants that impose specified future performance conditions are recognised at their fair value in income only when the performance conditions are met.

Government grants received before the revenue recognition criteria are satisfied are recognised as a liability.

(e) Impairment of property, plant and equipment

Property, plant and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Whenever the carrying amount of an asset exceeds its recoverable amount, an impairment loss is recognised in profit and loss for items property, plant and equipment carried at cost. The recoverable amount is the higher of an asset's net selling price and value in use. The net selling price is the amount obtainable from the sale of an asset in an arm's length transaction.

Value in use is the present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life. Recoverable amounts are estimated for individual assets or, if it is not possible, for the cash-generating unit.

Reversal of an impairment loss recognised in prior years is recorded when there is an indication that the impairment loss recognised for an asset no longer exists or has decreased. The reversal is recorded in profit or loss.

SARAWAK BIODIVERSITY COUNCIL
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**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020**

2. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

(f) Employee benefits

(i) Short-term benefits

Wages, salaries, bonuses and social security contributions are recognised as expenses in the year in which employees of the Council render the associated services. Short-term accumulating compensated absences, such as paid annual leave are recognised when services rendered by employees that increase their entitlement to future compensated absences; and short-term non-accumulating compensated absences, such as sick leave are recognised when the absences occur.

(ii) Long-term benefits

Long-term benefits recognised as accruals is for the *Gantian Cuti Rehat* (GCR) that is based on the accumulated leave for an employee until it reaches a maximum of 150 days before compulsory retirement. The present value of the future estimated basic salary at a discount factor of 3.3% has been applied for the calculation of the liability.

(iii) Defined contribution plan

The Council's contribution to defined contribution plans is charged to the statement of comprehensive income in the period in which it relates. Once the contributions have been paid, the Council has no further payment obligations.

As required by law, the Council makes contributions to the Employee Provident Fund (EPF). Such contributions are recognised as an expense in the statement of comprehensive income as incurred.

(g) Financial assets and liabilities

Financial assets and liabilities are recognised in the statement of financial position when the Council has become a party to the contractual provisions of the instrument. The particular recognition methods are dissolved below:-

(i) Other receivables

Other receivables are carried at amortised cost. Bad debts are written off when identified. An estimate is made for doubtful debts based on review of all outstanding accounts as at the reporting date.

SARAWAK BIODIVERSITY COUNCIL
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**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020**

2. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

(g) Financial assets and liabilities (cont'd)

(ii) Cash and cash equivalents

Cash and cash equivalents include cash and bank balances, short-term deposits and other short-term, highly liquid investments which are readily convertible to cash and are subject to an insignificant risk of changes in value with original maturities of three months or less, used by the Council in the management of its short-term commitments.

(iii) Fixed Deposits

Fixed deposits comprise long-term bank deposits with original maturity periods of more than three (3) months.

(iv) Other payables and accruals

Other payables are stated at amortised cost, which is fair value of the consideration paid in the future for goods and services received.

(h) Revenue recognition

- Revenue from sales of products is measured at the fair value of the consideration received or receivable, net of any trade discounts and indirect taxes applicable to the revenue. Revenue is recognised in profit or loss when it is probable that the economic benefits associated with transaction will flow to the Council and the amount of the revenue can be measured reliably.
- Fixed deposit interest income is recognised as it accrues using the effective interest method.
- Other income is recognised at the point of receipt or sales by the Council.

(i) Research and development

Research and development expenditure comprise deferred direct project costs and related overheads incurred for projects ranging from 2 to 30 years. These research and development expenditures are recognised as project costs when the research and development are completed and offset against development grant received.

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
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**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020**

2. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

(j) Provisions

Provisions are recognised when there is a present obligation, legal or constructive, as a result of a past event, when it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate.

(k) Taxation

Income tax on the profit or loss for the financial year comprises current tax. Current tax is the expected amount of income tax payable or receivable in respect of the taxable profit or loss for the financial year and is measured using the tax rates that have been enacted or substantively enacted at the reporting date and any adjustment payable in respect of previous financial years.

**3. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION
UNCERTAINTY**

(a) Critical judgments in applying the accounting policies

The judgments, apart from those involving estimations described below, that the management has made in the process of applying the accounting policies and that have the most significant effect on the amounts recognised in the financial statements are as follows:

(i) Fair value of financial assets and liabilities

The fair value for financial assets and financial liabilities are obtained from the quoted price in an active market, if quoted prices are unavailable, the price of a recent transaction for an identical financial assets or liabilities provides evidence of fair value as long as there has not been a significant change in economic circumstances or a significant lapse of the time since the transaction took place.

SARAWAK BIODIVERSITY COUNCIL
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**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020**

**3. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION
UNCERTAINTY (CONT'D)**

(b) Key sources of estimation uncertainty

The key assumptions concerning the future, and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are as follows:

(i) Change of estimated useful lives for property, plant and equipment

The Council reviews the estimated useful lives of property, plant and equipment annually.

(ii) Impairment loss of property, plant and equipment

The Council's property, plant and equipment comprise a significant portion of the Council's total assets.

Changes in technology or industry conditions may cause the estimated period of use or the value of these assets to change. Long-lived assets are reviewed for impairment at least annually or whenever events or changes in circumstances have indicated that their carrying amounts may not be recoverable. If any such indication exists, the recoverable amount is estimated.

The recoverable amount of an asset is the greater of its fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pretax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset, which requires significant judgment relating to level of revenue and amount of operating costs. The Council uses all readily available information in determining an amount that is a reasonable approximation of the value in use, including estimates based on reasonable and supportable assumptions and projections of revenue and operating costs. Changes in these estimates could have a significant impact on the carrying value of the assets and could result in additional impairment charge or reversal of impairment in future periods.

(iii) Provision for retirement benefits

Long-term benefits recognised as accruals is for the *Gantian Cuti Rehat* (GCR) that is based on the accumulated leave for an employee until it reaches a maximum of 150 days before compulsory retirement. The present value of the future estimated basic salary at a discount factor of 3.3% has been applied for the calculation of the provision.

SARAWAK BIODIVERSITY COUNCIL
(Incorporated under The Sarawak Biodiversity Centre Ordinance, 1997
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**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020**

4. Property, plant and equipment

2020	Buildings RM	Leasehold land RM	Office equipment RM	Furniture, fixtures and fittings RM	Computers and accessories RM	Office renovations RM	Motor vehicles RM	Specialised equipment RM	Temporary office RM	Nursery sheds RM	Lab specialised equipment RM	Lab furniture and fittings RM	Total RM
Cost													
At 1 January 2020	17,279,431	-	1,016,429	1,049,623	2,376,045	584,209	1,268,198	106,530	372,473	94,068	20,409,471	721,490	45,277,967
Additions	9,260	6,616,000	23,448	-	59,945	-	90,000	-	-	-	3,324,486	-	10,123,139
Disposals	-	-	(57,019)	(3,230)	(53,299)	-	-	-	-	-	(540,120)	(73,250)	(726,918)
At 31 December 2020	17,288,691	6,616,000	982,858	1,046,393	2,382,691	584,209	1,358,198	106,530	372,473	94,068	23,193,837	648,240	54,674,188
Accumulated Depreciation													
At 1 January 2020	6,317,584	-	784,897	634,584	1,610,375	539,184	791,314	106,494	372,472	87,369	13,717,849	652,438	25,614,560
Charges	864,126	27,622	78,381	81,007	254,474	8,098	157,731	-	-	6,694	2,063,789	14,762	3,546,684
Disposals	-	-	(57,013)	(3,225)	(53,277)	-	-	-	-	-	(540,107)	(73,250)	(726,872)
At 31 December 2020	7,181,710	27,622	806,265	712,366	1,811,572	547,282	949,045	106,494	372,472	94,063	15,231,531	593,950	28,434,372
Carrying amounts	10,106,981	6,588,378	176,593	334,027	571,119	36,927	409,153	36	1	5	7,962,306	54,290	26,239,816

SARAWAK BIODIVERSITY COUNCIL
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**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020**

4. Property, plant and equipment (cont'd)

2019	Buildings RM	Leasehold land RM	Office equipment RM	Furniture, fixtures and fittings RM	Computers and accessories RM	Office renovations RM	Motor vehicles RM	Specialised equipment RM	Temporary office RM	Nursery sheds RM	Lab specialised equipment RM	Lab furniture and fittings RM	Total RM
Cost													
At 1 January 2019	17,202,081	-	1,014,903	1,049,623	2,195,576	584,209	993,788	109,780	372,473	94,068	19,081,874	721,490	43,419,865
Additions	77,350	-	11,116	-	215,343	-	274,410	-	-	-	1,328,610	-	1,906,829
Disposals	-	-	(4,860)	-	(28,064)	-	-	-	-	-	-	-	(32,924)
Write-offs	-	-	(4,730)	-	(6,810)	-	-	(3,250)	-	-	(1,013)	-	(15,803)
At 31 December 2019	17,279,431	-	1,016,429	1,049,623	2,376,045	584,209	1,268,198	106,530	372,473	94,068	20,409,471	721,490	45,277,967
Accumulated Depreciation													
At 1 January 2019	5,444,087	-	716,415	546,008	1,420,778	527,877	632,866	109,743	372,472	78,962	11,896,901	637,676	22,383,785
Charges	873,497	-	78,069	88,576	224,455	11,307	158,448	-	-	8,407	1,821,960	14,762	3,279,481
Disposals	-	-	(4,859)	-	(28,051)	-	-	-	-	-	-	-	(32,910)
Write-offs	-	-	(4,728)	-	(6,807)	-	-	(3,249)	-	-	(1,012)	-	(15,796)
At 31 December 2019	6,317,584	-	784,897	634,584	1,610,375	539,184	791,314	106,494	372,472	87,369	13,717,849	652,438	25,614,560
Carrying amounts	10,961,847	-	231,532	415,039	765,670	45,025	476,884	36	1	6,699	6,691,622	69,052	19,663,407

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5. Trade and other receivables

	2020	2019
	RM	RM
Trade receivables	4,645	108,772
Other receivables	19,200	67,696
Prepayments	60,100	-
Interest receivables	410,220	676,595
	<u>494,165</u>	<u>853,063</u>

6. Cash and cash equivalents

	2020	2019
	RM	RM
Cash and bank balances	<u>1,568,501</u>	<u>3,584,105</u>

7. Fixed deposits

	2020	2019
	RM	RM
Fixed deposits	<u>21,016,691</u>	<u>23,530,500</u>

Fixed deposits with licensed banks of the Council at the end of the reporting period and having maturity periods of twelve (12) months bore effective interest rates ranging from 2.50% to 3.55% (2019: 3.90% to 4.10%).

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8. Provision for retirement benefits

	2020	2019
	RM	RM
Balance as at 1 January	94,304	89,235
Payment for the year	-	(8,914)
Provision for retirement benefits during the year	20,887	13,983
Balance as at 31 December	<u>115,191</u>	<u>94,304</u>
	2020	2019
	RM	RM
Current provision for retirement benefits	16,659	-
Non-current provision for retirement benefits	98,532	94,304
	<u>115,191</u>	<u>94,304</u>

9. Development grants

	2020	2019
	RM	RM
Balance as at 1 January	13,975,920	9,264,072
Received during the year	14,131,757	10,970,134
Amortised during the year	(9,987,380)	(1,412,259)
Offset against research and development expenses	(6,909,373)	(4,846,027)
Balance as at 31 December	<u>11,210,924</u>	<u>13,975,920</u>

Development grants comprise grants received from the Sarawak Government and collaborators for the purpose of research and development.

10. Other payables and accruals

	2020	2019
	RM	RM
Other payables	1,086,646	774,572
Accruals	43,557	241,705
	<u>1,130,203</u>	<u>1,016,277</u>

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11. Provision for taxation/Taxation

In exercising the powers under Section 127(3)(b) of Income Tax Act 1967, YB Menteri Kewangan Malaysia has made a new order: **Income Tax (Exemption) (No.22) Order 2006 [P.U. (A) 207 @ 01 June 2006]**. This order is applicable to Sarawak Biodiversity Council where the Minister has exempted:

- (a) any person from the payment of income tax in respect of income relating to the allocations given by the Federal or State Government in the form of grant or subsidy; and
- (b) a statutory body from the payment of income tax in respect of income derived from:
 - (i) the income received in respect of an amount chargeable and collectible from any person in accordance with the provisions of the Act regulating the statutory authority; or
 - (ii) any donations or contribution received.

This Order shall have effect from the Year of Assessment 2006. Income Tax (Exemption) (No.17) Order 1995 [P.U. (A) 213/1995] and Income Tax (Exemption) (No.4) Order 2003 [P.U. (A) 33/2003] are revoked from the Year of Assessment 2006.

The provision for taxation is made based on the fixed deposit interest income only.

	2020	2019
	RM	RM
Balance at 1 January	30,326	14,017
Current year provision	167,922	238,990
Tax paid	(230,350)	(227,825)
Tax refunded	-	5,144
Balance at 31 December	<u>(32,102)</u>	<u>30,326</u>
Tax payable	<u>-</u>	<u>30,326</u>
Tax refundable	<u>32,102</u>	<u>-</u>

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12. Revenue

	2020	2019
	RM	RM
Fixed deposit interest income	699,575	995,891
Tender document fees	13,200	11,100
Gain on disposals of property, plant and equipment	1,564	4
Sales of products	42,608	75,485
Other income	165,603	224,754
	<u>922,550</u>	<u>1,307,234</u>

13. Government grants

	2020	2019
	RM	RM
Operating grant	8,000,000	6,000,000
Amortisation of development grant	9,987,380	1,412,259
	<u>17,987,380</u>	<u>7,412,259</u>

The operating grant received from State Government is mainly for operating expenditures. The development grant is amortised for the cost of property, plant and equipment capitalised for the year.

14. Staff costs

	2020	2019
	RM	RM
Personnel emolument	7,187,534	6,784,143
Provision for retirement benefits	20,887	13,983
Staff incentives	116,072	164,137
EPF	912,049	876,709
SOCSSO	85,589	73,874
Overtime	62,733	93,063
Transport and travelling	52,909	264,397
Medical expenses	79,059	116,433
Staff uniform	72,621	46,098
	<u>8,589,453</u>	<u>8,432,837</u>
Number of staff	<u>123</u>	<u>119</u>

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15. Other operating expenses

	2020	2019
	RM	RM
Advertisement	22,606	15,192
Audit fees	8,045	8,045
Bank charges	1,850	1,862
Computer and accessories	101,185	312,502
Consultancy fees	44,180	73,190
Conference and seminar fees	32,645	60,835
Council Members' allowance and sitting fees	117,200	153,067
Electricity charges	262,877	294,366
Entertainment	41,204	109,348
Fuel and lubricant	14,696	26,409
Human resource development expenses	-	31,370
Lab consumables	288,489	122,458
Lab maintenance	186,754	50,899
Indigenous Knowledge Benefit Sharing	3,572	7,549
Insurance	63,878	60,387
Motor vehicles road tax	2,062	1,838
Newspapers and magazines	6,198	96,667
Office expenses	163,055	235,136
Office maintenance	753,255	412,595
Postage and courier	16,932	10,459
Property, plant and equipment written-off	-	7
Printing and stationery	24,479	67,029
Repairs and maintenance - motor vehicles	22,944	11,268
Telecommunication and internet charges	28,305	28,946
Water charges	18,751	21,520
	<u>2,225,162</u>	<u>2,212,944</u>

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16. Capital commitments

Approved capital expenditure and contracted for in the financial statements as at 31 December 2020 is RM2.33 million (2019: RM2.19 million).

17. Financial instruments

17.1 Categories of financial instruments

	2020	2019
	RM	RM
<u>Financial assets measured at amortised cost</u>		
Trade and other receivables (excluding prepayments)	434,065	853,063
Cash and cash equivalents	1,568,501	3,584,105
Fixed deposits	21,016,691	23,530,500
	<u>23,019,257</u>	<u>27,967,668</u>
<u>Financial liabilities measured at amortised cost</u>		
Other payables and accruals	1,130,203	1,016,277

17.2 Net gains arising from financial instruments

	2020	2019
	RM	RM
Net gains arising on:		
Financial assets measured at amortised cost	699,575	995,891

KM20, JALAN BORNEO BORNEO HEIGHTS, SEMENGOH, LOCKED BAG NO.3032, 93990 KUCHING, SARAWAK, MALAYSIA

TEL: +6 082 610 610 FAX: +6 082 611 535

EMAIL: biosar@sbc.org.my WEBSITE: www.sbc.org.my