



# IMPAAK

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Building Sustainable Communities

## Anugerah Langkawi 2015/2016



**Pengurniaan Anugerah Langkawi** kepada warganegara Malaysia yang telah mencapai kecemerlangan dalam bidang alam sekitar adalah salah satu daripada program yang dianjurkan oleh Jabatan Alam Sekitar (JAS) sempena Sambutan Minggu Alam Sekitar Malaysia (MASM) pada setiap tahun. Ia bermula pada tahun 1991, selaras dengan **Deklarasi Langkawi** yang telah ditandatangani oleh Ketua-Ketua Negara Komanwel pada tahun 1989. Pencalonan Anugerah Langkawi dibuka kepada ahli-ahli Environmental Quality Council (EQC), Kerajaan Negeri, syarikat-syarikat GLC dan swasta, pertubuhan-pertubuhan bukan kerajaan, institut pengajian tinggi awam/swasta dan semua kementerian yang sebahagiannya adalah Rakan Strategik JAS. Anugerah ini merupakan sijil pengiktirafan daripada Seri Paduka Baginda Yang Di-Pertuan Agong, dan plak penghargaan dan wang tunai daripada Kementerian Sumber Asli dan Alam Sekitar.

### Penerima Kategori Individu - YBhg Prof. Datuk Dr. Azizan binti Baharuddin

YBhg. Prof. Datuk Dr. Azizan Baharuddin adalah Ketua Pengarah Institut Kefahaman Islam Malaysia (IKIM). Beliau dilahirkan pada 22 Februari 1955 di Kuala Lumpur. Sebelum ini, beliau bertugas di Universiti Malaya selama 33 tahun bermula tahun 1978 sehingga 2011 sebagai tutor, pensyarah, koordinator, timbalan pengarah dan pengarah. Sehingga kini beliau masih menjadi profesor di Jabatan Sains dan Teknologi, Fakulti Sains di Universiti Malaya.

Tahun 2015 / 2016 adalah merupakan penganugerahan kali ke 21 dan proses pencalonan telah dilaksanakan pada tahun 2015, manakala sesi penganugerahan pula telah diadakan pada 22 Oktober 2016 di Kuching, Sarawak sempena Hari Alam Sekitar Negara (HASN) Peringkat Kebangsaan 2016. Penerima anugerah bagi kategori individu ialah YBhg. Prof. Datuk Dr. Azizan Baharuddin, Ketua Pengarah Institut Kefahaman Islam Malaysia (IKIM) manakala penerima bagi kategori pertubuhan/ organisasi ialah Majlis Bandaraya Shah Alam (MBSA).

Di antara sumbangan beliau dalam bidang alam sekitar di peringkat kebangsaan dan antarabangsa adalah bergiat dalam pengajaran, penyeliaan, penyelidikan dan perundingan alam sekitar, terlibat dalam persidangan, seminar dan bengkel alam sekitar, pelaksanaan projek-projek alam sekitar, penerbitan buku berkaitan alam sekitar, penyediaan makalah jurnal dan prosiding alam sekitar, menjadi tetamu jemputan bagi program televisyen dan radio yang membincangkan mengenai alam sekitar, menyediakan artikel alam sekitar di suratkhbar dan terlibat dalam aktiviti penilaian alam sekitar. Beliau juga merupakan ahli bagi projek "Education for Sustainable



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# Building Sustainable Communities



As explained previously in various fora, speeches and papers, the main challenge facing JAS is public expectation given that the environmental issues facing us are becoming ever more complex. A case in point was the recent pollution of our water supplies from the Semenyih Dam which affected millions of households in the Klang Valley. Imagine the thousands of factories and industrial complexes operating near or in the vicinity of feeder streams and rivers which taken in total are the sources of our potable water.

Imagine also all the chemical laden lorries and trucks plying our roads. Then there are the numerous small family-owned businesses operating in small towns and villages in and around our larger towns and cities. Clearly to enforce the existing environmental laws which are very all-encompassing would require an army of enforcement personnel.

Clearly, the way forward over the longer term is by adopting the goal of self-regulation by aiding industries and entities to make environmental management part and parcel of their manufacturing processes or production activities. Care for the environment cannot be relegated to the margins of management or the periphery of production. The environment must be brought back to the centre of all that we do to repair the damage already done and to make it sustainable. It is because of this that JAS is firmly committed to environmental mainstreaming which involves the infusion and the embracing of the environmental agenda at all levels of decision-making process including at the production entity of an organisation, including its workers.

In this issue, we highlight an example of how this can be achieved in the article, "Green Industry Initiatives: Demonstration Premises for the Rice Mill Sector", involving Jabi Rice Mills Sdn Bhd. Over the years, since 2009, JAS has prioritised aiding SMEs like Jabi Rice Mill to face the challenges of 'greening' their procurement processes, their brand labelling and in reducing their greenhouse gas emissions. We envisage this mill to serve as a Green Industry model for all other rice mills operating in Malaysia. JAS saw the successful completion of 'greening' of this rice mill situated in Pokok Sena, Kedah. In all some 94 green industry practice options were identified. Among the greening elements that were implemented include the technologies to minimise pollution and save energy and the application of new technology installation such as of pre-cleaner, auto-huller and husk separator. This mill is now able to brand itself as an environmentally friendly manufacturer of a range of rice products. Syabas to Jabi Rice Mill!

I am all too aware that besides self-regulation, JAS must hone its skills in the forensic method of investigation particularly in pollution incidents. Environmental forensics involves a scientific and systematic investigation of physical, chemical, biological and historical information to audit the magnitude of a pollution incident. JAS has taken several initiatives to train its

officers in this method of investigation and in the improvement of work procedures.

We are also highlighting in this issue the launch of the online system of the Certified Service Technician Program (CSTP), essential for the certification of all air-conditioning service technicians by JAS. It was launched in conjunction with International Ozone Day, celebrated on 29 September 2016 by the Minister of Natural Resources and Environment Dato Sri Dr. Haji Wan Junaidi Bin Tuanku Jaafar. Six industry players were awarded the Ozone Depleting Substance (ODS) mini reclamation project which enables the reuse of recovered and reclaimed used refrigerants after cleaning these to 99% purity. This event also saw the appointment of ten new Authorised Training Centres (ATC) entrusted with the responsibility of organising the training of technicians under the CSTP.

These initiatives reflect our efforts to care for the environment on a sustainable basis and also gives credence to our push for environmental mainstreaming. We must therefore also encourage, reward and recognise individuals and organisations who strive hard to make our environment a better place to live in for us and the generations to come. To honour these individuals and organisations, the Anugerah Langkawi 2015/2016 was held in Kuching, Sarawak in conjunction with National Environment Day on 22 October 2016. The individual category was won by Prof. Datuk Dr. Azizan Baharuddin, Director General of the Institut Kefahaman Islam Malaysia while Majlis Bandaraya Shah Alam was the winner in the organisations category. Congratulations and well done!

We must step-up the pace of such initiatives even as we continue to look at a host of issues that are more global in nature such as the United Nations Convention on the Law of the Sea, 1982 and the need for improving our forensic abilities in environmental investigations in our efforts to develop sustainable communities.

Dato Dr Ahmad Kamarulnajuib bin Che Ibrahim  
Ketua Pengarah  
Jabatan Alam Sekitar

Development”, UNDP Center of Excellence, USM (International) serta pernah mendapat pengiktirafan menjadi anggota / ahli majlis berkaitan alam sekitar.



### Penerima Kategori Pertubuhan Organisasi – Majlis Bandaraya Shah Alam (MBSA)

Pentadbiran Shah Alam bermula dengan penubuhan MPSA pada 7 Disember 1978 mengikut Akta 71, Akta Kerajaan Tempatan. Penubuhan MPSA adalah serentak dengan perisytiharan bandar Shah Alam sebagai ibu negeri Selangor. Bagaimanapun, pentadbiran MPSA hanya mula beroperasi pada 1 Januari 1979. Kepadatan pembangunan Shah Alam semakin meningkat dari sehari ke sehari lebih-lebih lagi setelah dinaik tarafkan sebagai bandaraya pada 10 Oktober 2000. Shah Alam ditadbir oleh Pihak Berkuasa Tempatan Majlis Bandaraya Shah Alam (MBSA) yang sebelum ini dikenali sebagai Majlis Perbandaran Shah Alam (MPSA). Sebagai pentadbir ibu negeri Selangor maju, MBSA berusaha untuk mewujudkan pembangunan perbandaran yang seimbang dari segi sosial, alam sekitar dan ekonomi bagi kesejahteraan warganya.

MBSA bertanggungjawab memberikan perkhidmatan-perkhidmatan pembangunan perbandaran seperti perancangan, pembangunan, penyediaan kemudahan asas infrastruktur, pembersihan, kesihatan awam, tanah perkuburan, keindahan landskap, keceriaan bandaraya dan pelbagai lagi. Tugas MBSA turut meliputi pembangunan insaniah dengan menganjurkan program-program kemasyarakatan berlandaskan konsep mesra rakyat untuk semua lapisan masyarakat, menyalurkan bantuan kemiskinan, bencana alam, membanteras gejala sosial serta membantu golongan ibu tunggal dan warga emas.

Menurut Ketua Bahagian Korporat dan Perhubungan Awam, Encik Shahrin Ahmad, “MBSA sentiasa memberi penekanan kepada konsep dan inisiatif ‘Pembangunan Hijau’ dalam pelaksanaan pembangunan. Ia menggariskan panduan bagi meningkatkan kualiti persekitaran kondusif dengan menerapkan elemen penghijauan dalam perancangan guna tanah, reka bentuk bandar, susun atur kawasan kejiranan dan sebagainya. Semua program aktiviti adalah berasaskan inisiatif hijau bagi menjadikan Shah Alam sebagai **Bandaraya Rendah Karbon menjelang 2030.**”

#### Di antara sumbangan-sumbangan MBSA berkaitan alam sekitar adalah yang berikut:

- Pelaksanaan objektif Inisiatif Hijau Mesra
- Pelantikan Duta Hijau di kalangan pegawai MBSA
- Pelaksanaan Inisiatif Kejiranan Hijau 2015 melalui Projek Sistem Pengumpulan dan Penggunaan Semula Air Hujan (SPAH)
- Membangun Rangka Kerja Perbandaran Rendah Karbon
- Projek rintis Program Pengasingan Sampah dari rumah

- Zon Mini Bersih – Mini Zee Bee
- Projek Kempen 3R di sekolah-sekolah Shah Alam
- Projek menanam pokok Shah Alam “Trees for Life”
- Projek Pengumpulan Minyak Masak Terpakai
- Program Baja Kompos Sisa Kebun dan Sisa Makanan,
- Kebun Kejiranan,
- Penyediaan 7 unit pusat kitar semula di Shah Alam
- Penyediaan trek basikal dan pejalan kaki sepanjang 10KM
- Naik taraf kolam tadahan air hujan menjadi pusat riadah
- Penyediaan perkhidmatan Bas Komuniti secara percuma
- Membanyakkan tempat letak kereta berbayar untuk mengalakkan penggunaan pengangkutan awam,
- Transformasi lorong belakang kepada “Street Arts”
- Penerbitan alam sekitar seperti buku, buletin, kalendar, panduan dan akhbar.

MBSA juga telah mendapat pengiktirafan antarabangsa, Green Apple Awards 2014 dan tempat ke 3 dalam pertandingan “We Love Cities” dari 166 bandaraya dari 17 negara. MBSA juga menyertai “Earth Hour City Challenge” bagi mewakili Malaysia.

Mengikut Encik Shahrin, “Penganugerahan ini merupakan satu penghormatan yang dijadikan sebagai motivasi kepada seluruh warga kerja MBSA. Kami terus memberikan perkhidmatan lebih cekap kepada masyarakat khususnya komuniti Shah Alam.”



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# System of Environment and Economic Accounting (SEEA) Towards Present and Future Sustainable Living

Under Chapter 8, Agenda 21 “Integrating Environment and Development in Decision Making Process”, the United Nations calls for all member countries to develop a method of measuring the role of the environment as the source of natural capital and a sink for by-products generated from human activities. In response to this plea, the United Nations Statistical Divisions (UNSD), together with relevant international organisations, published a ‘Handbook of National Accounting: Integrated Environment and Economic Accounting’(SEEA) in 1993. This provides an impetus for countries to compile SEEA-based data to develop the environmental-economic accounts for individual countries. Through a series of knowledge sharing sessions among SEEA practitioners, the SEEA 1993 document was further refined into the SEEA Central Framework and finally adopted as an international standard by the UN Statistical Commission (UNSC) in 2012.

The SEEA Central Framework allows for the integration of environmental information (measured as physical terms) with economic information (measured in monetary terms) in a single framework. It uses the same accounting convention, consistent with the System of Nation Account (SNA). It is a multipurpose system that facilitates policy development and evaluation as well as decision making:

- It summarises information in the form of aggregates and indicators that can be applied to environmental issues that are the focus of policy makers.
- Information which addresses key drivers of change in the environment can be used to provide better understanding of the policy issues concerning sustainable development.
- The compiled data in SEEA can be used in models and scenarios to assess national economics and environmental effects of different policy scenarios.

## The SEEA Central Framework covers four areas:

### 1 Flow Accounts

This account measures the physical flow of materials and energy within the economy and between the economy and the environment. The flows from the environment to the economy are recorded as natural inputs (e.g. mineral resources, timber resources, aquatic resources and water resources). The flows within the economy are recorded as product flows. Flows

from the economy to the environment are recorded as residuals (e.g. solid wastes, air emissions and return flows of water). Countries with a high level material throughput find it useful to develop this account.

### 2 Stock/Asset Accounts

This account assesses whether current patterns of economic activity are depleting or degrading the available environmental

and monetary accounts (Input-Output). For example, the physical and monetary terms of fish resources combined with information on the supply and use of fish resources through the economy, information on employment in the fishing industry, information on the emissions generated by aquaculture, and information on fishing subsidies.

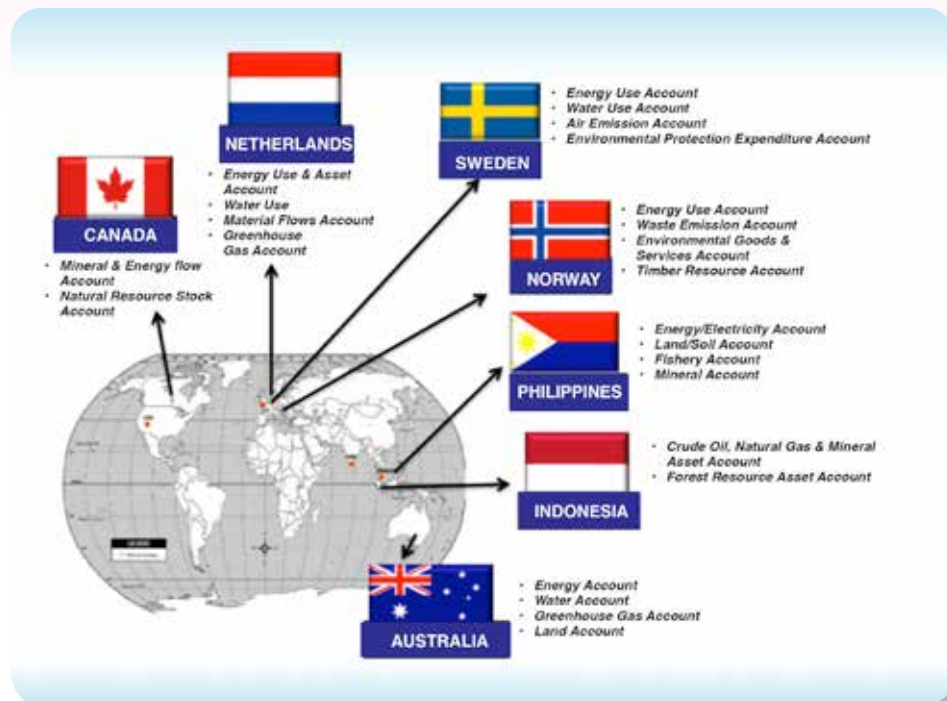


Figure 1. The different accounts under SEEA

## SEEA and Sustainable Development Policy

The SEEA framework is linked to sustainable development policy and can be categorised into four core policies, each addressing a different perspective on assessing the environmental-economic relationship.

**Quadrant I** Refers to policies that aim to ensure that households have access to appropriate, reliable and affordable resources and services (Indicators: Current and capital costs associated with the provision of the services and their financing; losses in distribution of resource used).

**Quadrant II** Refers to the allocation of natural resources for meeting the needs of current and future generations in relation to the available endowments (Key aggregates and indicators: Resource use of production and consumption; genera on emissions and waste by economic activity and households; resource efficiency; decoupling indicators for emissions and

assets. Environmental assets consist of living and non-living components. Many of these assets are transformed to varying degrees by economic activities. This account provides information regarding the way in which governments appropriate revenue from the extraction of natural resources. A resource-rich country might develop this account first as part of their overall management of these natural endowments.

### 3 Environmental Activity/Purpose Accounts

This account explicitly identifies environmental transactions already existing in the SNA. e.g. Environmental Protection Expenditure (EPE) accounts, statistics on environmental goods and services (EGSS), environmental taxes and subsidies. For countries with strict environmental standards, with significant cost to producers and consumers, EPE is appropriate.

### 4 Combined physical and monetary accounts

The final products of SEEA accounts capture both the physical accounts

resource use; carbon and energy embedded into products; environmental goods and services; green jobs)

**Quadrant III** Potential for economic activities to cause harm and the potential to protect or restore natural capital for future benefit (stocks of natural resources; emissions into water, air and soil and waste generation; environmental protection expenditure and resource management; land use and land cover; condition and health of ecosystems; regulatory services provided by ecosystems; economic instruments to reduce impacts.

**Quadrant IV** Refers to policies that aim to reduce human, economic and ecological harm created by extreme natural events and changing environmental patterns (greenhouse gas emissions by type of economic activity; expenditure on mitigation (e.g. technologies); expenditure for adaptation to extreme events (e.g. dykes, etc.).

### Global Perspectives of SEEA

The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, A New Global Partnership in 2013, highlighted the importance of better data quality and statistics which will help the government of an individual country to track progress on sustainable development and make sure their decisions are evidence-based; hence strengthening accountability is of utmost importance. The Panel also proposed that by 2030 all large businesses should be reporting on their environmental and social

impacts. Several developed and developing countries have taken this initiative to adopt environment-economic accounting.

### Way forward for the Malaysia - SEEA (MySEEA)

The implementation of SEEA as part of Malaysian's national statistical system is a valuable and significant investment in the way forward for the Malaysia-SEEA. Commitments and policy initiatives of Malaysia towards environment at national and international levels are well documented.

It ranges from the general direction setting in the Eleventh Malaysia Plan (RMK-11, 2016-2020) to specific targets on environmental commitments. Efforts towards economic- environmental sustainability are also supported by the existing laws and regulations. There are many relevant policies, programs and projects on topics such as climate change, sustainable consumption and production, food security, deforestation, rainfall, sustainable development and green growth indicators that all have links to information that may be sourced from SEEA- based accounts. Figure 3 shows some important policy documents and regulations addressing environmental matters. This list may not include all environmental related policies and regulations across agencies but, the most important ones are captured.

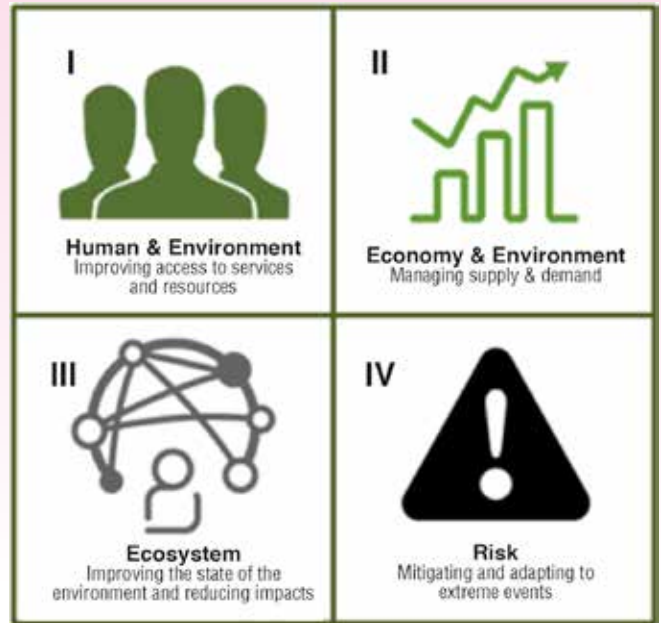


Figure 2. The four core policies

In an effort to materialise MySEEA, a pilot SEEA project was embarked in mid-2016. The strategic partners consist of international agencies (The United Nations Statistical Divisions(UNSD), Economic and Social Commission for Asia and the Pacific (ESCAP) and the Department of Statistics Malaysia (DOSM), as the national host). Various agencies, which include the Ministry of Finance (MOF), Economic Planning Unit (EPU), Ministry of Energy, Green Technology and Water (KeTTHA), Ministry of Natural Resources and Environment (NRE), Ministry of Agriculture and Agro-based Industry (MOA), other key agencies, and UPM are among the main key players in the development of MySEEA .

The SEEA-central framework approach can make a major contribution to sustainable planning and development of Malaysia. There is a significant need for an integrated database that provides useful and comprehensive policy analysis. Such a database would also support the national and international initiatives and commitments, which include the Eleventh Malaysia Plan and the Sustainable Development Goals (SDGs).

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#### Source

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Figure 3. Important policy documents

# Marine Environmental Protection

## The 1982 United Nations Convention on the Law of the Sea (UNCLOS)



Sea-based pollution from global shipping activities is addressed by various IMO conventions

### The United Nations Convention on the Law of the Sea 1982

The United Nations Conference on the Law of the Sea held in 1958 (referred to as UNCLOS I), codified much of the existing uses of the seas and oceans into four major conventions i.e., (i) The Convention on the Territorial Sea and Contiguous Zone, (ii) the Convention on the High Seas, (iii) the Convention on Fishing and Conservation of the Living Resources of the High Seas, and (iv) the Convention on the Continental Shelf. UNCLOS I, however, did not reach an agreement on the width of the Territorial Seas, and hence was considered a failure despite its acceptance of the above mentioned conventions. Subsequently in 1960 (two years later), UNCLOS II was convened. But likewise, this also failed to reach a consensus on the breadth of the Territorial Seas. Due to the failures of these early conferences to address pertinent issues, a more comprehensive convention governing all maritime interests was therefore necessary.

UNCLOS III negotiations began in 1973, and was completed and opened for signing on 10 December 1982 in Jamaica. More than 150 countries took part in the negotiations. The outcome was the 1982 UNCLOS, commonly referred to as the “constitution of the oceans” due to its scope and comprehensive coverage of all the uses of the oceans. There are 17 parts within the convention, with 320 articles and 9 annexes – dividing the sea into maritime zones and jurisdiction for governance purposes. UNCLOS 1982 particularly fixed the breadth of the territorial sea at a maximum

of 12 nautical miles and designated other segments of the ocean, balancing interests and needs of the maritime states.

**UNCLOS is a legal framework upon which management of the global oceans could be carried out. It details out obligations, responsibilities, rights, duties, liabilities and limitations of a nation state in the context of sea use and management. Each of the designated zones carries with it different rights and responsibilities concerning marine conservation and protection.**

Generally as these maritime zones progress seaward, the rights of the coastal states decrease while the rights of other maritime users increase. UNCLOS came into force on 16 November 1994. Malaysia ratified UNCLOS on 14 October 1996; it came into force on 13 November 1996.

### Conservation of the Marine Environment

There are numerous provisions addressing the conservation of the marine environment. Part XII focuses on the protection and preservation of the marine environment. More specifically, Part XII calls for States to take measures to prevent, reduce and control pollution of the marine environment, individually or jointly to prevent marine pollution from all sources including vessels, land-based sources, dumping and installations on the sea-bed as well as in the marine environment. States are also required to establish national laws for implementation, and include laws to be

enforced by Flag States, Port States and Coastal States; as well as monitor effects of pollution on the marine environment.

Other basic obligations are underlined in Articles 192, 193 and 194 within UNCLOS 1982. Specifically, Article 192 highlights States’ obligation to protect and preserve the marine environment. Article 193 spells out States’ sovereign rights to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment. Article 194 requires States, individually or jointly, to take all measures consistent with the convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practical means at their disposal and in accordance with their capabilities. Further, Article 194(3) enumerates four sources of pollution i.e., the release of toxic, harmful and noxious substances pollution from vessels and pollution from other installations and devices operating in the marine environment. Article 194(5) mandates measures necessary to protect and preserve rare and fragile ecosystems as well as the habitats of depleted, threatened or endangered species and other forms of marine life.

The emphasis on global and regional cooperation is embedded in Article 197 within UNCLOS. For instance, there exists a special role for the International Maritime Organisation (IMO) at the international level, largely responsible for the formulation of rules and standards as far as pollution from

vessels is concerned. IMO is a United Nations agency concerned with the safety and security of shipping and the prevention of marine pollution by ships. Further elaborations are provided in the following sections, with an emphasis on Article 211 of UNCLOS. Further, cooperation could also be on a regional basis such as that under the United Nations Environment Programme (UNEP) Regional Seas Programme as an initiative focusing on regional environmental protection of the seas. UNEP initiated the programme to provide for a framework of agreements and protocols for the prevention of pollution as well as biodiversity conservation in the various regions of focus. The effectiveness of the regional seas regimes is often questioned; the point however is that the program has raised overall awareness and increased cooperation between States involved.

### Addressing Marine Pollution from Vessels

There are intrinsically various sources of pollution originating from both land and sea-based sources. Sea-based sources of pollution, albeit smaller in terms of percentage compared to land-based sources of pollutants, attract more attention e.g., the Deepwater Horizon oil spill that occurred in 2010. This may be due largely to the impacts that are often more highly visible in terms of physical, economic, and social aspects e.g., oil covered marine life, oil washed ashore; costs from loss of income and livelihoods, and ecosystems degradation. There are generally threats from operational or intentional discharges and dumping of wastes from land, and marine accidents. States have therefore a major responsibility to prevent marine pollution from sea-based activities e.g., Port State Control to regulate standard of vessels. Regulations through legal and non-legal tools are taken to promote the effective control of sources of marine pollution and to take all practicable steps to prevent pollution of the sea.

There are specific provisions within UNCLOS 1982 that underline States responsibilities on related areas. For instance, Article 211 emphasises that States, acting through competent international organisations or general diplomatic conference, establish international rules and standards to prevent, reduce and control pollution of the marine environment from vessels. Flag States shall adopt laws and regulations for the prevention, reduction and control of pollution of the marine environment from vessels flying their flag or of their registry. These laws and regulations shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organisation.

Article 217 spells out enforcement by Flag States (state where the vessel was registered). States shall ensure compliance by vessels flying their flag or of their registry with applicable international rules and standards, established through the competent international organisation or general diplomatic conference, and with their laws and regulations adopted in accordance with this convention. For instance, if a vessel commits a violation of rules and standards established through the competent international organisation or general diplomatic conference, the flag State, without prejudice to articles 218, 220 and 228, shall provide for immediate investigation and where appropriate institute proceedings in respect of the alleged violation irrespective of where the violation occurred or where the pollution caused by such violation has occurred or has been spotted.

Article 218 underlines enforcement responsibilities of Port States. When a vessel is voluntarily within a port or at an off-shore terminal of a State, that State may undertake investigations and, where the evidence so warrants, institute proceedings in respect of any discharge from that vessel outside the internal waters, territorial sea or exclusive economic zone of that State in violation of applicable international rules and standards.

Threats from pollution to the marine environment are being addressed at national, regional, and international levels through various means. International conventions relating to tackling issues on marine pollution from vessel-based sources are under the purview of the International Maritime Organisation (IMO) based in London, United Kingdom.

### The International Maritime Organisation and its Role in Addressing Marine Pollution

The International Maritime Organisation (IMO) is a specialised agency of the United Nations responsible for measures to improve the safety and security of international shipping and to prevent marine pollution from ships. It is also involved in legal matters, including liability and compensation issues and the facilitation of international maritime traffic. It was established by means of a Convention adopted under the auspices of the United Nations in Geneva on 17 March 1948. It currently has 171 Member States, including major ship-owning nations, major ports and coastal states, maritime industry bodies, as well as inter-governmental organisations and NGOs.

The Member States are responsible for implementing and enforcing the adopted

regulatory framework. While the Secretary General of the United Nations receives instruments of ratification and accession and the UN provides support for meetings of states party to the Convention, the UN has no direct operational role in the implementation of the Convention. There is, however, a role played by organisations such as the IMO. IMO develops global regulations, and adopts treaties and guidelines at the inter-governmental level. This is done by the respective committees within the IMO i.e., Marine Environment Protection, Maritime Safety, Legal, Technical Co-operation, as well as Facilitation Committee.

One of the most crucial conventions under the IMO that addresses marine pollution is the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL 73/78). There are six annexes under this Convention that covers all aspects of ship-generated pollution sources e.g., oil, harmful and noxious liquid substances, sewage, garbage, as well as harmful air emissions. The provisions in these annexes ensure ships are adequately designed, equipped, certified and inspected. MARPOL 73/78 requires States to provide for waste reception facilities for handling oily and chemical wastes from ships.

### Significance to Malaysia

With a sea area almost four times larger than its land area and having more than 90% of its international trade carried by seaborne transport, Malaysia's dependence on the maritime sector is undisputed. This reliance on seaborne trade for the transportation of oil and other goods poses a certain level of risk to the coastal and marine environment. Much has been done through the framework of international conventions, non-legal instruments and national actions but emerging issues and challenges emanating from coastal and shipping activities need to be constantly assessed and addressed. For instance, Malaysia has ratified all six annexes of the MARPOL 73/78 Convention, showcasing serious efforts at addressing marine pollution.

Essentially, UNCLOS is the single most important and far-reaching legal instrument to address issues of marine conservation. The comprehensive nature of UNCLOS provides the framework to address current and future issues in the law of the sea.

#### Source

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# The TPPA: One Last Look?



## Background

The Trans Pacific Partnership Agreement (TPPA), an agreement that made news for many reasons, was finally agreed upon late last year and then signed by the twelve Pacific Rim negotiating countries on 4<sup>th</sup> February 2016. The signatories include big developed economies like the US, Canada, Japan, Australia and New Zealand. In ASEAN, Malaysia, Vietnam, Singapore and Brunei are the signatory parties. Chile, Mexico and Peru are the Latin American parties.

One of the biggest controversies was that the agreement was negotiated in secret. To their credit, the Malaysian negotiating team led by MITI did conduct several public dialogue sessions, especially towards the final stages of the 7-year long negotiation process. While the sessions sought to address concerns that were growing in the public sphere about what the TPPA could imply for Malaysia, it could never fully compensate for the fact that the negotiations were shrouded by strict secrecy provisions. And it was not just the Malaysian public that was concerned. Opinions were (and remain) divided in all the negotiating party countries including the US. It has been a key point of contention in the run-up to the recent US Presidential elections and many have been left wondering about the fate \*of the TPPA, given the President Elect's strong views on the TPPA and other trade agreements.

Provisions like (i) strong foreign investor protection through an arbitration mechanism

called the Investor State Dispute Mechanism (ISDS) that bypasses national judicial processes and (ii) increased intellectual property rights, provide due justification to fears that the agreement only serves the interests of big corporations. Proponents of the agreement on the other hand foresee job and economic growth as benefits of this agreement.

## Issues at Play

The TPPA text, more than 6000 pages long, was released to the public upon concluding the negotiation process last year. There are 30 chapters, one of which is chapter 20 on the Environment.

The TPPA has been touted as a comprehensive 21st century agreement as it includes chapters on issues not normally covered in trade agreements like Environment and Labour. But it has also been roundly criticised by notable economists. Former UN Assistant Secretary General for Economic Development, Professor Jomo Kwame Sundaram of Malaysia and colleagues projected the TPPA's economic benefits using the UN Global Policy Model. Contrary to previous studies, their analysis showed minimal to negative economic growth, losses in employment and increases in inequality.<sup>1</sup> Even previous studies, like the ones by the Petersen Institute and World Bank, show very limited economic growth benefits of 0.5% over 15 years and 1.1% average by 2030 respectively, under unrealistic assumptions of full employment,

consistent income distribution, trade balance and fiscal position.<sup>2</sup>

Nobel Laureate in Economics, Professor Joseph Stiglitz notes that "...it will change the basic legal framework that governs society, shifting power to corporations..."<sup>3</sup>

Another Economics Nobel Laureate, Professor Paul Krugman who professes to be "only a lukewarm opponent"<sup>4</sup> (of the TPP) has this to say about free trade agreements:

"It's also true that much of the elite defence of globalisation is basically dishonest: false claims of inevitability, scare tactics (protectionism causes depressions!), vastly exaggerated claims for the benefits of trade liberalisation and the costs of protection, hand-waving away the large distributional effects that are what standard models actually predict."<sup>5</sup>

"... the basic principle was polluter pay... If you damaged the environment, then you have to pay. Now if you pass a regulation that restricts ability to pollute or does something about climate change, you could be sued and could pay billions of dollars."<sup>6</sup>

"And TPP is another modern trade-agreement-that-really-isn't, with the most important provisions involving intellectual property and dispute settlement. People inside the administration argue with me that the trade provisions are important, especially for some poor countries, and that the IP [Intellectual

Property] and DS [Dispute Settlement] stuff isn't as bad as portrayed; I grant that it's not a slam-dunk case. As I said, I'm only a lukewarm opponent."<sup>7</sup>

## What is at Stake?

The TPPA accords broad rights to foreign investors that are not available to domestic investors. There are several provisions of concern, the key one being the enforcement mechanism accorded to investors. ISDS allows a foreign investor to sue a national government (i) outside its national legal system at (ii) a tribunal with (iii) insufficient right of appeal. No other non-trade related international regime opens a government to private suits outside their national jurisdiction. Many of the decisions of the past under other FTAs or Bilateral Investment Agreements have often upheld the rights of the private investor at the expense of public interest in terms of environmental or health concerns. An UNCTAD study found that 70% of decisions in favour of investors as claimants were in relation to actions over the environment and other natural resources. The same study also noted that while ISDS has been around since the 1950s, there has been a substantial rise in ISDS cases from 2000, comprising 90% of the known 512 cases until 2012.<sup>8</sup>

A further aberration from the rule of law of the three already noted earlier, is that there is no reciprocity, as foreign investors cannot be sued under ISDS, by Governments or indeed citizens, unions, or civil-society groups who have no recourse under the agreement. Cases taken under the ISDS mechanism include challenges over<sup>9</sup> (i) tighter rules on mining and remediation rules,<sup>10</sup> (ii) bans on nuclear energy,<sup>11</sup> (iii) proposed ban of toxic chemicals contributing to air pollution and global warming,<sup>12</sup> (iv) restrictions on location of toxic waste facility in an ecological preserve.<sup>13</sup>

A recent UN report highlights the abuses of the ISDS mechanism and strongly advocates its abolishment on the grounds that it "encroaches on the regulatory space of States and suffers from fundamental flaws including lack of independence, transparency, accountability and predictability."

While acknowledging that free trade and investment agreements have a purpose, the report questions the need to accord foreign investors greater risk protection especially as capitalism and investments are underpinned by risk taking. Domestic investors are not accorded similar rights, putting them at a disadvantage by comparison. Another report, notes that most of the hundreds of ISDS cases under other trade agreements pertained to "the resource sector and disputes relating to public health or environment protection measures."<sup>14</sup>

Initially, investor rights involved protecting physical assets of foreign investors from being

expropriated through nationalisation exercises. This is known as direct expropriation. Today however, the reach of protection accorded extends to the realm of impact on expected value of the foreign investor of his/her investment. This is known as indirect expropriation and can be deemed to have occurred even if there has been no seizing of physical assets. An instance of indirect expropriation is where domestic laws disrupt the profits of a foreign investor. The TPPA adopts this latter, wider approach.

There is an attempt in the TPPA to limit the circumstances under which indirect expropriation can be deemed to have occurred in the context of protecting legitimate public welfare objectives (TPPA Investment Chapter, Annex 9B). This includes "the environment", and can be considered a carve-out of sorts. Unfortunately, the clause provides a qualifier that enables a challenge "in rare circumstances". Clause 9B reads as follows:

"Non-discriminatory regulatory actions by a Party that are designed and applied to protect legitimate public welfare objectives, such as public health, safety and the environment, do not constitute indirect expropriations, except in rare circumstances."

The insertion of the qualifier in Annex 9B of the TPPA Investment Chapter is extremely worrying as measures to protect legitimate public welfare objectives should not be open at all to any form of challenge. This compromises national sovereignty and creates a regulatory chill for fear of multi-million/billion USD lawsuits. On the strength of an almost identical clause in the US Columbia Free Trade Agreement, a suit has been taken against the Colombian government for breach of mining rights in an area declared as a nature reserve. The claim is for USD 16.5 billion compensation for loss of future profits.<sup>16</sup>

There are other clauses both in the Investment Chapter and also in other chapters like the intellectual property chapter that relate to environmental governance and in many instances effectively infringe on domestic environmental policy space. This includes Article 9.16 that seeks to ensure that measures to protect public interests are consistent with provisions for investor rights in the rest of the Investment Chapter. As pointed out by Professor Gurdial Singh Nijar, this effectively negates the value of having this "safeguard" provision to protect public interest as any measures to do so will inevitably abridge the broad rights accorded to investors in the TPPA.

Finally, the Environment Chapter (Chapter 20) itself fails to provide countervailing provisions that can address these overriding concerns. In general, the Environment Chapter focuses on pollution control and some conservation measures. It is couched in language that promotes cooperation and capacity building.

In terms of enforceability, the Chapter is thus weak, as there are no clear binding obligations. This view is also shared by US NGOs<sup>17</sup> and even the US Trade and Environment Policy Advisory Committee.<sup>18</sup>

## Conclusion

Given the above, our policy makers should carefully reconsider the pros and cons of ratifying the TPPA. In the face of climate change and other existing threats to the basics that we need to survive - food, water, air, shelter - we can ill afford to bargain our ability to manage and govern our own environment in exchange for trading rights that pale in comparison. Decisions by trade tribunals like the World Trade Organisation's decision against India<sup>19</sup> on its solar programme which seeks to stimulate the domestic industry while meeting climate mitigation and sustainable development goals, provide little comfort that environmental rigours are firmly integrated within trading regimes.

In the event that Malaysia does indeed proceed to ratify the TPPA, measures to protect and safeguard against infringements of the policy space for environmental governance should be firmly secured beforehand. For in the final analysis, the trade-off is just not worth it.

*\*At the time this magazine went into print, President-elect of the United States, Donald Trump stated that he would withdraw from the TPPA on 'first day of office'. But there is an option according to MITI Minister II. Malaysia and the 10 other TPP countries can carry on without the US but it would require an amendment to the clause on Entry into Force.*

<sup>1</sup> Trading Down: Unemployment, Inequality and Other Risks of the Trans-Pacific Partnership Agreement (Jeronim Capaldo, Alex Izurieta, and Jomo Kwame Sundaram, January 2016). Global Development and Environment Institute working paper no. 16-01

<sup>2</sup> JK Sundaram. 1 June 2016. The Trans Pacific Shell Game. Accessed from <https://www.project-syndicate.org/commentary/trans-pacific-partnership-shell-game-by-jomo-kwame-sundaram-2016-06#comments> on 19/9/16.

<sup>3</sup> <http://www.cbc.ca/news/business/joseph-stiglitz-tpa-1.3515452>

<sup>4</sup> P Krugman. Clinton and CAFTA. New York Times. Accessed from <http://krugman.blogs.nytimes.com/2016/03/21/clinton-and-cafta/> on 19/9/16.

<sup>5</sup> <http://krugman.blogs.nytimes.com/2016/03/09/a-protectionist-moment/>

<sup>6</sup> <http://www.cbc.ca/news/business/joseph-stiglitz-tpa-1.3515452>

<sup>7</sup> <http://krugman.blogs.nytimes.com/2016/03/21/clinton-and-cafta/>

<sup>8</sup> UNCTAD study quoted in Bar TPPA Forum presentation on 13 December 2014.

<sup>9</sup> The cases have been extracted from the Malaysian Bar TPPA Forum presentation.

<sup>10</sup> Renco Vs Peru

<sup>11</sup> Vattenfall Vs Germany

<sup>12</sup> Ethyl Vs Canada

<sup>13</sup> Metalclad Vs Mexico

<sup>14</sup> Gus Van Harten. 2015

<sup>15</sup> REDD Monitor. 2016. How free trade agreements threaten to undermine conservation in Columbia. Accessed on 13 April 2016.

<sup>16</sup> TPPA: The New Age of Foreign Corporations. Professor Gurdial Singh Nijar. Faculty of Law, University of Malaya (2016)

<sup>17</sup> Sierra Club 2015. TPP Text Analysis: Environment Chapter Fails to Protect the Environment

<sup>18</sup> The US-Trans Pacific Partnership Agreement: The report of the Trade and Environment Policy Advisory Committee.

<sup>19</sup> [https://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds456\\_e.htm](https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds456_e.htm)

## Source

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# Hala Tuju Forensik Alam Sekitar Di Malaysia

Dipetik dari Pelan Forensik Alam Sekitar (2015)

## Pendahuluan

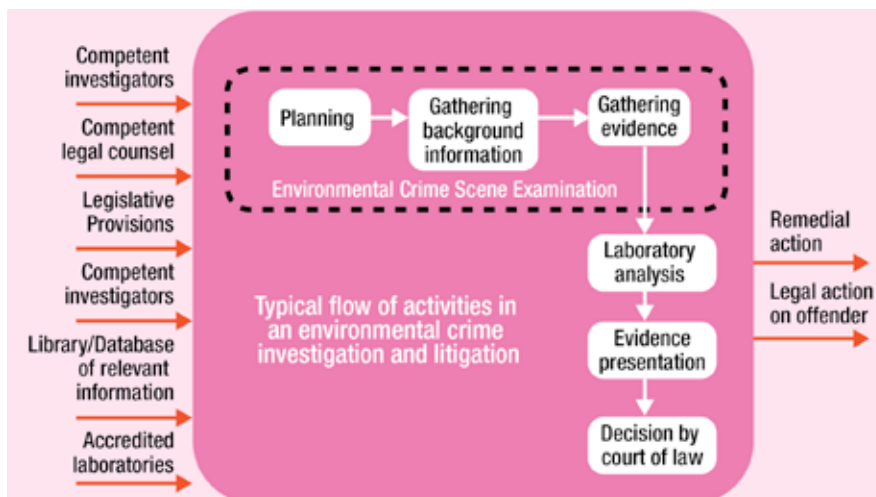
Kes pencemaran 'merkuri' yang berlaku di Kepulauan Minamata, Jepun pada tahun 1908 telah membuka mata dunia tentang betapa dasyatnya impak jenayah alam sekitar. Ianya bukan sahaja memberi impak kepada kualiti air tetapi turut memusnahkan hidupan laut dan menjejaskan kehidupan manusia. Di sebalik kejadian ini, satu perkara penting yang dipelajari oleh para penguatkuasa alam sekitar ialah tentang keperluan untuk melaksanakan penyiasatan secara forensik bagi menjejaki punca-punca pencemaran sebenar dan seterusnya mengenalpasti penjenayah yang melakukan kesalahan bagi tujuan pendakwaan.

Pada masa kini, kes-kes pencemaran alam sekitar di negara kita semakin bertambah serius. Antara kes-kes pencemaran tersebut ialah pencemaran sungai disebabkan oleh pembuangan haram sisa buangan terjadual, pelupusan secara haram sisa toksik di kawasan ladang, pembakaran terbuka yang berlaku tanpa diketahui punca, tanah tercemar disebabkan oleh tumpahan minyak dan bahan-bahan toksik dari sumber yang tidak dikenalpasti dan kes ikan mati di sungai dan pantai. Penyiasatan bagi menjejaki punca pencemaran dan mengenalpasti penjenayah yang melakukan kesalahan sangat kompleks dan rumit. Kaedah penyiasatan alam sekitar sedia ada sukar untuk mengenalpasti punca pencemaran yang berlaku.

## Takrifan Forensik Alam Sekitar

**Bagi mengatasi masalah ini kaedah penyiasatan secara forensik amat diperlukan. Forensik alam sekitar ditakrifkan sebagai penilaian secara saintifik dan sistematik terhadap maklumat fizikal, kimia, biologikal dan historikal bagi tujuan untuk menyediakan suatu kesimpulan secara saintifik dan perundangan tentang punca, sumber atau usia bahan pencemar yang dibebaskan ke persekitaran.**

Maklumat yang didapati daripada penyiasatan forensik alam sekitar diperolehi melalui persampelan, penganalisan di tapak (*in-situ* analysis) dan analisa makmal. Penyiasatan forensik alam sekitar memerlukan kepakaran dari pelbagai bidang. Ini termasuklah bidang kimia, fizikal, biologi, statistik, kejuruteraan, teknologi maklumat dan undang-undang. Secara ringkasnya, elemen-elemen yang diperlukan dalam sesuatu penyiasatan secara forensik boleh diilustrasikan seperti di Rajah 1.



Rajah 1. Elemen-elemen penting dalam penyiasatan forensik alam sekitar

## Perkembangan Forensik Alam Sekitar

Forensik Alam Sekitar merupakan suatu bidang semakin berkembang dalam bidang penyelidikan dan pembangunan. Terdapat jurnal penyelidikan yang membincangkan kes-kes forensik alam sekitar di seluruh dunia seperti *Environmental Forensic Journal*, *Forensic Science Journal* dan *Journal of Forensic Toxicology & Pharmacology*. Forensik alam sekitar turut diaplikasikan dalam penyiasatan kes-kes jenayah alam sekitar. Antara negara yang telah mengaplikasikan forensik alam sekitar dengan meluas ialah Amerika Syarikat melalui Agensi Perlindungan Alam Sekitar (USEPA). Bahagian khas yang dikenali sebagai *Office of Criminal Enforcement, Forensic and Training* diwujudkan di bawah USEPA dengan tujuan untuk mengendalikan kes-kes penyiasatan forensik, meliputi pengumpulan bukti, penganalisan secara forensik dan menyediakan bimbingan perundangan bagi tujuan pendakwaan kes-kes jenayah alam sekitar. Selain itu juga terdapat negara-negara lain yang mempunyai badan penguatkuasa alam sekitar yang mempunyai elemen forensik alam sekitar yang telah kukuh iaitu seperti Korea, Jepun, Australia dan Hong Kong.

## Perkembangan Penyiasatan Secara Forensik di Malaysia

Dalam konteks Malaysia, kaedah penyiasatan secara forensik telah dilaksanakan oleh beberapa agensi seperti Polis DiRaja Malaysia (PDRM), Suruhanjaya Pencegahan Rasuah Malaysia (SPRM), Jabatan Kastam DiRaja Malaysia (KASTAM), Jabatan Bomba dan Penyelamat Malaysia (BOMBA), dan Jabatan Kerja Raya Malaysia (JKR). Walau bagaimanapun penyiasatan forensik yang dibuat oleh agensi-agensi tersebut adalah

terhad dalam skop dan bidang kuasa agensi masing-masing. Pihak PDRM dilihat merupakan suatu agensi yang mempunyai keupayaan penyiasatan forensik yang kukuh di Malaysia. Ia mempunyai bahagian forensik yang lengkap dan mempunyai sokongan makmal-makmal analisis forensik yang dapat membantu penyiasatan dan pendakwaan dengan lebih berkesan.

## Hala Tuju Forensik Alam Sekitar di Jabatan Alam Sekitar Malaysia

Mengambil kira keperluan dan kepentingan penyiasatan secara forensik, Jabatan Alam Sekitar Malaysia telah mengorak langkah dengan menubuhkan unit forensik alam sekitar di bawah Seksyen Peundangan dan Forensik, Bahagian Penguatkuasa Ibu Pejabat sejak tahun 2013. Penubuhan unit ini adalah untuk memulakan aktiviti latihan dan merancang langkah-langkah untuk menerapkan elemen forensik alam sekitar. Pada tahun 2014, seksyen ini telah mengadakan satu projek kajian iaitu Kajian Pembangunan dan Penerbitan Elemen Forensik Alam Sekitar dalam Penguatkuasaan. Kajian ini telah dijayakan bersama dengan pihak perunding yang dilantik iaitu SIRIM Berhad. Terdapat dua output utama dalam kajian ini iaitu :-

- 1 Pelan Pembangunan Forensik Jabatan Alam Sekitar Malaysia dan
- 2 Garis Panduan Forensik Alam Sekitar Dalam Penguatkuasaan

Pelan Pembangunan Forensik JAS adalah suatu pelan yang mengariskan matlamat, objektif dan pelan tindakan lima tahun untuk dilaksanakan oleh JAS bagi mengukuhkan dan menerapkan elemen forensik di Jabatan Alam Sekitar. Matlamat utama penerapan

elemen forensik alam sekitar di Jabatan Alam Sekitar adalah untuk mengurangkan jenayah alam sekitar yang berlaku di dalam negara dan merentasi sempadan dengan penerapan secara menyeluruh forensik alam sekitar dalam kerja-kerja penyiasatan. Pelan pembangunan forensik alam sekitar mempunyai enam objektif utama untuk dicapai :

- 1 Untuk mengukuhkan Akta Kualiti Alam Sekeliling (AKAS) 1974 dengan memasukan aplikasi forensik di dalam perundangan;
- 2 Untuk menubuhkan Bahagian Forensik Alam Sekitar di Ibu Pejabat JAS;
- 3 Untuk meningkatkan jumlah pegawai-pegawai JAS yang kompeten di dalam bidang forensik yang berkaitan dengan sains, teknologi, dan perundangan;
- 4 Untuk meningkatkan kemudahan persampelan dan alat-alat analisa di lapangan untuk digunakan;
- 5 Untuk mewujudkan makmal forensik alam sekitar di Jabatan Alam Sekitar Malaysia;
- 6 Untuk mewujudkan hubungan rasmi antara JAS dan institusi/ agensi dalam kerja-kerja pelaksanaan forensik alam sekitar di negara ini.

Setiap objektif yang disenaraikan mempunyai pelan tindakan yang telah dirancang untuk dilaksanakan dalam tempoh lima tahun. Garis panduan forensik alam sekitar dalam penguatkuasaan yang diterbitkan dalam kajian ini merupakan suatu dokumen yang menjadi panduan untuk digunakan oleh JAS dalam pelaksanaan penyiasatan forensik. Ia meliputi aspek penyiasatan di lapangan, garis panduan makmal forensik, kaedah statistik dan kajian kes-kes forensik alam sekitar. Garis panduan ini merupakan panduan kepada pegawai-pegawai JAS untuk melaksanakan penyiasatan secara forensik.

## Kekuatan JAS yang Dikenalpasti

Dalam kajian pembangunan forensik alam sekitar yang telah dilaksanakan pada tahun 2015 didapati bahawa JAS mempunyai tiga kekuatan utama yang boleh dimanfaatkan untuk melaksanakan penyiasatan secara forensik.

**Kekuatan pertama** yang dikenalpasti ialah dari aspek perundangan Akta Kualiti Alam Sekeliling 1974. Di dalam akta ini terdapat sebanyak 14 seksyen dan 18 sub peraturan yang telah dikenalpasti boleh digunakan untuk siasatan dan pendakwaan secara forensik. JAS mempunyai kebolehan untuk mendapatkan bahan, analisa saintifik dan data alam sekitar sebagai perkara-perkara yang boleh dijadikan bukti kukuh dalam pendakwaan di Mahkamah. Keputusan analisa makmal dan keterangan saksi pakar adalah amat diperlukan untuk mengukuhkan serta membantu pendakwaan kes pencemaran alam sekitar. Walau bagaimanapun penambahbaikan terhadap perundangan

sedia ada juga akan dilaksanakan secara berterusan bagi mengukuhkan lagi perundangan sedia ada.

**Kekuatan kedua** yang dikenalpasti ialah dari aspek prosedur dan garis panduan yang sedia ada. JAS mempunyai banyak garis panduan yang telah disediakan untuk membantu para pegawai menjalankan penyiasatan dengan baik. Terdapat garis panduan yang mempunyai elemen siasatan secara forensik. Antaranya ialah prosedur bagi persampelan air, effluen dan persampelan buangan terjadual. Prosedur sedia ada ini boleh digunakan dalam penyiasatan secara forensik. Ia adalah menepati elemen siasatan forensik alam sekitar. Walau bagaimanapun aplikasi prosedur persampelan ini boleh dipertingkatkan lagi dengan menambah elemen jaminan kualiti (Quality Assurance) dan kawalan kualiti (Quality Control) yang diperlukan bagi menghasilkan analisis yang kukuh dan boleh dipertahankan di dalam perbicaraan mahkamah.

**Kekuatan ketiga** yang dikenalpasti yang terdapat di dalam JAS ialah dari aspek latar belakang akademik pegawai-pegawai JAS yang kebanyakannya terdiri dari bidang kejuruteraan dan sains. Dalam kajian pembangunan forensik alam sekitar yang dijalankan telah dikenalpasti bahawa terdapat lebih kurang sebanyak 800 kakitangan JAS yang terdiri dari golongan profesional dan teknikal. Daripada jumlah tersebut 40% adalah terdiri dari latar belakang dalam bidang kimia dan 60% selebihnya dalam bidang kejuruteraan dan yang lain dalam bidang sains. Latarbelakang akademik dalam bidang kejuruteraan dan sains adalah asas penting yang diperlukan untuk memahami dengan baik aspek siasatan secara forensik dan ini memudahkan proses latihan lanjutan dalam bidang forensik untuk dilaksanakan. Dalam masa yang sama aspek pembangunan 'subject matter expert' yang sedang diusahakan di dalam JAS juga adalah selari dengan objektif Pelan forensik Alam Sekitar ini.

Dengan adanya ketiga-tiga kekuatan yang disebutkan ini, pihak JAS dilihat sudah mempunyai asas-asas yang kukuh untuk melaksanakan siasatan secara forensik pada masa hadapan dengan baik.

## Kepentingan Aspek Latihan dalam Forensik Alam Sekitar

Salah satu faktor terpenting bagi menjayakan forensik alam sekitar seperti yang digariskan di dalam objektif Pelan Forensik Alam Sekitar ialah untuk mempertingkatkan kepakaran dalam kalangan pegawai JAS tentang aspek penyiasatan forensik. Dalam hal ini,

elemen latihan adalah sesuatu yang amat mustahak. Latihan yang diperlukan kepada pegawai JAS hendaklah melibatkan aspek teori dan praktikal. Latihan berbentuk amali seperti penyiasatan di lapangan adalah elemen penting yang perlu diberikan penekanan. Ini kerana sesuatu kes kejadian pencemaran memerlukan pengetahuan yang khusus tentang langkah-langkah yang perlu dilaksanakan untuk mengadakan penyiasatan dengan berkesan di tapak.

Di samping itu, aspek latihan analisa bahan pencemar secara *in situ* juga perlu dimasukkan di dalam modul latihan yang dijalankan. Ini adalah penting kerana, sebelum siasatan lanjutan perlu dilaksanakan, pegawai penyiasat di lapangan perlu mengenalpasti sifat bahan pencemar yang dijumpai. Hal ini boleh membantu penyiasatan dengan baik dengan merancang aktiviti persampelan secara sistematik serta menentukan zon impak pencemaran. Dalam aspek persampelan dan penganalisan secara *in situ*, ianya memerlukan penggunaan peralatan-peralatan terkini yang boleh membantu kerja-kerja penyiasatan pegawai JAS. Penggunaan peralatan seperti Drone, Hand-held X-ray fluorescent (XRF) analyser, Hand-held spectrometers, Portables GC MSD Systems dan Handheld Refractrometers dapat membantu pegawai penyiasat mengenalpasti ciri-ciri bahan pencemar dengan pantas sebelum siasatan lanjutan dapat dilaksanakan. Bagi menjayakan pelaksanaan latihan forensik alam sekitar dengan berkesan kerjasama dengan agensi dan institusi yang mempunyai kepakaran dalam bidang forensik adalah amat diperlukan.

## Kesimpulan

Bagi merealisasikan hasrat untuk menjayakan matlamat utama forensik alam sekitar di Jabatan Alam Sekitar ia memerlukan komitmen yang serius dari semua pihak ini termasuklah pihak pengurusan tertinggi sehinggalah ke peringkat pelaksana. Dengan adanya inisiatif yang dijalankan oleh JAS untuk melengkapkan kaedah penyiasatan dengan elemen forensik, ia sudah pasti akan meningkatkan lagi kualiti penyiasatan-terutama sekali dalam aspek menjejaki punca-punca pencemaran serta mengenalpasti penjenayah alam sekitar dengan lebih berkesan.

### Source

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# Green Industry Initiatives

## Demonstration Premises for the Rice Mill Sector

The Green Industry is defined as a continuous application of integrated environmental prevention strategies to processes, products and services which are designed to increase the efficiency of the operation and reduce risks to humans and the environment. The Cleaner Production concept (CP) is one of the Green Industry initiatives that can be undertaken by industry to achieve the status of a Green Industry.

The main objectives of the Cleaner Production Demonstration Project are to establish a role model premise that implements CP and functions as a real example of CP implementation to other SMEs. The objectives of the program involve several sectors, processes and technology such as environment, safety and health and equipment used in the industrial processes.

### Jabi Rice Mill Sdn Bhd

A well-established local company in the rice milling industry.  
 Founded on 6 July 1992.  
 Operates in Lot 346, Jalan Kebun 500, Pokok Sena, Alor Setar, Kedah.  
 Full Time Employees: 22

### Activities at the premises involved:

- Planning & discussion
- Team formation
- Audit preparation
- Training & promotion
- Conducting audits
- Generating CP options
- Prioritising CP options
- Research & collection of technical data
- CP options implementation, monitoring and evaluation
- CP implementation and documentation

The project has been successful in identifying 94 Green Industry Practice options for all categories. Some of these options have been implemented by the factory with help and guidance from the DOE and SIRIM Berhad which served as the consultant for project implementation. Among the options that have been implemented include training and the implementation of 5S, safety and health training, the use of personal protective equipment (PPE), wall transparency, upgrading of the 'Rumah Habuk', and new equipment and new technology installation of pre-cleaner, auto-huller and husk separator.



Malaysia, as a developing country, is very much dependent on industries as the main sector that contributes to economic growth. In a move towards achieving sustainable development as outlined in the 10th Malaysia Plan, the Department of Environment (DOE) has taken initiatives to increase the capacity of Small and Medium Enterprises (SMEs) in environmental pollution control and prevention. DOE's initiatives are targeted at SMEs as they form the backbone of the nation's economy. "In terms of numbers, according to the Economic Census 2011, SMEs accounted for 97.3% or 645,136 of total business establishments in 2010 and according to the Department of Statistics Malaysia (DOSM) and SME Corp, Malaysia, SME contribution to GDP increased from 29.6% in 2005 to 36.3% in 2015; SMEs also contributed 65.5% to employment and 17.6% to total exports of the country. This inevitably makes them one of the major contributors to environmental pollution in Malaysia." ([www.smecorp.gov.my/index.php/en/about/sme-corp-Malaysia](http://www.smecorp.gov.my/index.php/en/about/sme-corp-Malaysia))

### The objectives of the program:

- To increase the implementation of CP practices in SME activities
- To increase productivity and minimise operation costs
- To reduce energy and resources consumption
- To minimise waste generation
- To avoid or minimise risk to human and environment
- To support government initiatives in reducing carbon emission
- To address climate change and global warming issues

Under this initiative, DOE will give priority towards the SMEs to implement the Green Industry initiative so as to improve the status of the Green Industry in Malaysia. This will also help to prepare the SMEs in facing greater challenges such as the green economy, green procurement, green labelling and a reduction in Greenhouse Gas Emissions (GHG). Since 2009, DOE has developed three demonstration premises under the Green Industry initiative.

In 2015, Jabi Rice Mill Sendirian Berhad was selected by DOE to showcase the implementation of Cleaner Production in a Malaysian company. This mill is envisaged to serve as a Green Industry practice role model to all the rice mill premises in Malaysia.



With the success of the project, the mill is now in a position to brand its environmentally friendly rice-based products. Second it will be exposed to vast opportunities to explore the market for “greener” products within and outside the country

In conclusion, this project has taken the initiative to help enterprises in the rice mill sector in Malaysia to implement Green Industry practices which are beneficial in terms of cost savings while ensuring sustainable development. The project has been successful and the emergence of the Jabi Rice Mill Factory as a Cleaner Production mill will serve as the benchmark for other rice milling enterprises throughout Malaysia to examine the effectiveness of Green Industry practice implementation. Achieving good environmental management is significant in terms of a reduction in dust emission and environmental pollution. The results of the effectiveness of this project can also be combined with a saving of approximately 18,415kWh/month for machinery and electrical usage or an equivalent to a carbon emission reduction of 12.7 tons of carbon dioxide per month. This is equivalent to preventing an emission of 152 tons of carbon dioxide in a year.

DOE will continue to promote awareness of Green Industry practices (Cleaner Production concept) among other industries, academics and government agencies through the Partnership Program and Dissemination of Information on Green Industry. The Green Industry initiatives also include the publication of reference materials such as brochures, posters, guidelines, books and bulletins that will help increase understanding and awareness of Green Industry practices. Towards this objective, DOE has produced the ‘Garis Panduan Pelaksanaan Amalan Industri Hijau, Sektor Pengilangan Beras’ (2015). The publication of this guideline



should assist the enterprises in the rice milling sector to implement green industry practices at their premises in a systematic

manner. Ultimately the long term goal is to minimise the impact of rice milling activities on the environment.



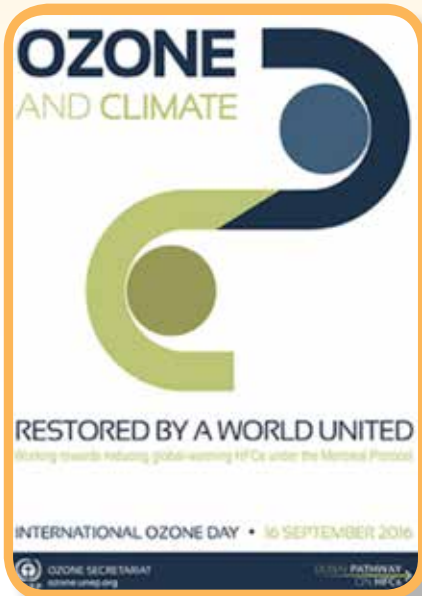
Source

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# International Ozone Day 2016

## “Ozone and Climate: Restored by a World United”

The proclamation of 16 September as the International Ozone Day for the Preservation of the Ozone Layer by the United Nations General Assembly commemorates the date of the signing of the Montreal Protocol on Substances that Deplete the Ozone Layer on 16th September 1987.



International Ozone Day theme Logo 2016

This year's International Ozone Day theme, “Ozone and Climate: Restored by a World United” acknowledges the collective efforts of the parties to the Vienna Convention and Montreal Protocol towards the protection of the ozone layer over the past three decades



e-CSTP online system launching ceremony by Dato Sri Dr. Haji Wan Junaidi bin Tuanku Jaaffar

as well as supports the global commitment towards combating climate change effects.

but has also contributed significantly to global efforts in addressing climate change issues.

The phase-out plan for controlling the use of ozone depleting substances such as chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HCFC) as well as the related reductions has not only helped protect the ozone layer for future generations,

On 29th September 2016, Malaysia celebrated International Ozone Day which was launched by The Honorable Minister of Natural Resources and Environment, Dato Sri Dr. Haji Wan Junaidi bin Tuanku Jaaffar at a leading hotel in Subang. The event was attended by almost 300 people who hailed from industries, educational institutes, the government sector and the public.



Address by the Hon. Minister of Natural Resources and Environment, Dato Sri Dr. Haji Wan Junaidi bin Tuanku Jaaffar on International Ozone Day, 2016

The highlight of the event was the launching of the online system of the Certified Service Technician Program, also known as e-CSTP system. This system has been developed to manage the administration of the Certified Service Technician Program (CSTP) which is essential for all air-conditioning service technicians. This system also has mobile apps that can be used by the public to identify those service technicians that have been certified by the Department of Environment (DOE).

In this ceremony, six industry players were awarded the Ozone Depleting Substance (ODS) mini reclamation project. They were Radiant Electrical Electronic Enterprise (Penang), Texcarrier Industries Sdn. Bhd. (Johor), Westech Chemical Sdn. Bhd. (Selangor), Aurora Chemicals Sdn. Bhd. (Selangor), Kuching Air Conditioning, Refrigeration & Electrical



Group photo of the VIPs with the mini reclamation projects and the newly appointed ATC representatives.

Works (Sarawak) and High-Tech Industries Sdn. Bhd. (Sabah). The objective of this project is to recover or reclaim the used refrigerant and clean it to achieve 99% purity thus eventually reducing the importation of virgin refrigerants.

Another important event in this ceremony was the appointment of ten new Authorised Training Centres (ATC). The ATC were entrusted with the responsibility of organising the Certified Service Technician Program (CSTP) for air-conditioning service technicians.

The observance of International Ozone Day concluded with the Hon. Minister of Natural Resources and Environment giving a Press Conference on the importance of International Ozone Day.

In conjunction with International Ozone Day, DOE had set up booths on awareness programs that it had carried out. It had also invited several companies to set up exhibition booths in order to create awareness on new alternative technologies related to servicing air-conditioners.

In conclusion, the Ozone Day celebration held this year not only attracted the target groups of service technicians from the various related industries but also students in the related refrigerant servicing field to acknowledge the importance of protecting the ozone layer and its co-benefits in climate change mitigation. DOE's efforts in showcasing available alternative technology and the importance of good ODS servicing to reduce the global impact on ozone depletion is an important step towards climate change mitigation.



Dato Sri Dr. Haji Wan Junaid at the press conference on the importance of International Ozone Day,



Booth visit by the Hon. Minister of National Resources and Environment, Dato Sri Dr. Haji Wan Junaid bin Tuanku Jaafar

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## Majlis Menandatangani Pembelian Mesin Kitar Semula untuk Buangan Elektrik dan Elektronik dari Isi Rumah, Telefon Bimbit, Barangan Komputer dan Perolehan Semula Klorofluorokarbon yang Pertama di Malaysia

Majlis Menandatangani Pembelian Mesin Kitar Semula untuk Buangan Elektrik dan Elektronik dari Isi Rumah, Telefon Bimbit, Barangan Komputer dan Perolehan Semula Klorofluorokarbon yang Pertama di Malaysia antara Shan Poornam Metals Sdn Bhd dan ANDRITZ MeWa telah diadakan pada 18 Julai 2016 di Bilik Mutiara, Wisma Sumber Asli, Kementerian Sumber Asli dan Alam Sekitar, Putrajaya. Pembelian mesin kitar semula ini adalah bertepatan dengan hala tuju Kementerian untuk meningkatkan keberkesanan pengurusan bahan buangan terjadual daripada isi rumah.

Selain daripada itu, ia dapat meningkatkan pematuhan negara terhadap Montreal Protocol melalui Akta Kualiti Alam Sekeliling 1974 di bawah Peraturan Kualiti Alam Sekeliling (Pengurusan Refrigeran) 1999 di mana aktiviti pelepasan gas klorofluorokarbon ke alam sekeliling adalah merupakan satu kesalahan di bawah Peraturan tersebut.

*Pertukaran Dokumen di antara Shan Poornam Metals Sdn Bhd dan ANDRITZ MeWa*



*Sidang media Menandatangani Pembelian Mesin Kitar Semula untuk Buangan Elektrik dan Elektronik dari Isi Rumah, Telefon Bimbit, Barangan Komputer dan Perolehan Semula Klorofluorokarbon*

## Majlis Menandatangani Memorandum Persefahaman (MOU) dalam Pelaksanaan Program Kesedaran Alam Sekitar antara Jabatan Alam Sekitar (JAS) dan DNC Asiatic Holdings Berhad



*Sesi Menandatangani Dokumen Memorandum Persefahaman (MOU) dalam Pelaksanaan Program Kesedaran Alam Sekitar antara JAS dan DNC Asiatic Holdings Berhad*



*Penyerahan "mock" kunci sebagai tanda simbolik kepada sumbangan 3 biji motor keluaran Demak untuk Pelancaran Hari Alam Sekitar Negara (HASN) peringkat kebangsaan*

Majlis menandatangani Memorandum Persefahaman (MOU) kerjasama dalam Pelaksanaan Program Kesedaran Alam Sekitar antara Jabatan Alam Sekitar (JAS) dan DNC Asiatic Holdings Berhad telah diadakan pada 26 Julai 2016 di Kilang Demak di Olak Lempit, Banting, Selangor bersempena dengan perasmian kilang tersebut.

Dengan termeterai MOU antara JAS dan Alam Flora akan terlibat jumlah MOU JAS di seluruh Malaysia sebanyak 247 organisasi yang terdiri daripada agensi kerajaan, Institusi Pengajian Tinggi (IPT), Syarikat Berkaitan Kerajaan (GLC), Syarikat Multinasional (MNC), Syarikat Swasta, Hypermarket, Syarikat Utiliti dan Servis Serta Pertubuhan Bukan Kerajaan (NGO).

Selepas menandatangani dokumen ini, pihak DNC Asiatic Holdings Berhad telah menyerahkan "mock" kunci sebagai tanda simbolik kepada sumbangan tiga biji motor keluaran Demak untuk Pelancaran Hari Alam Sekitar Negara (HASN) peringkat Kebangsaan bagi tahun 2016 yang akan diadakan pada 22 Oktober 2016 di Kuching, Sarawak.

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