

KERATAN AKHBAR-AKHBAR TEMPATAN
TARIKH: 12 JANUARI 2015 (ISNIN)

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KERATAN AKHBAR
UTUSAN MALAYSIA (MEGA SAINS) : MUKA SURAT 4
TARIKH : 12 JANUARI 2015 (ISNIN)

sains

UMUR: 58 tahun
ALAMAT: UTM Razak School of Engineering and Advanced Technology, Universiti Teknologi Malaysia, Jalan Semarak, Kuala Lumpur.
JAWATAN: Ahli majlis Akademi Sains Malaysia (ASM) dan Presiden Persatuan Nanoteknologi Malaysia, Pengarah Gelanggang Kencana Sdn. Bhd. dan NanoCommerce Sdn. Bhd. Jawatankuasa Pemilihan Malaysia Toray Science Foundation, Ahli Majlis Penyelidikan Sains Negara, Panel Pemilihan Tokoh Anugerah Akademik Negara.



**BIODATA PROF. DATUK
DR. HALIMATON HAMDAN**

BIDANG KEPAKARAN: Zeolites dan teknologi bahan berstruktur nano.
AKADEMIK: Doktor falsafah (Kimia Fizik) dari Universiti Cambridge (United Kingdom)
PENYELIDIKAN: Sebanyak 26 penyelidikan telah dijayakan, menghasilkan lebih 100 penerbitan dan 22 paten.

ANUGERAH: Anugerah Merdeka Sains Teknologi dan Kesihatan 2009
PENYELIDIKAN SEMASA: Menerokai hibrid generasi baharu, mangkin heterogen kiral, bifungsi berfungsi, sistem penghantar ubat-ubatan, bahan nanostruktur, nanofiber and aerogel yang memfokus kepada peningkatan kecekapan dalam penghasilan tenaga hijau dan pembuatan bahan kimia nano.

Hala tuju teknologi nano

Penerimaan produk masih rendah, pelaburan sedikit

PROF. Datuk Dr. Halimaton Hamdan banyak memenangi anugerah dalam penyelidikan teknologi nano tetapi beliau masih belum berpuas hati. Kenapa? Ikuti luahan beliau.

Penerimaan dan komitmen industri dan masyarakat terhadap produk penyelidikan teknologi nano untuk penggunaan yang menyeluruh masih ketinggalan berbanding dengan sasaran negara untuk menjadi negara maju dalam masa terdekat. Pelaburan dalam penyelidikan dan pembangunan hasil produk tempatan sangat sedikit.

Apakah bidang kepakaran Datuk dan terangkan serba sedikit maksudnya.

Saya seorang ahli kimia dan menjurus dalam kimia fizik. Bidang kepakaran saya ialah bahan nanostruktur berasaskan silika seperti zeolite, bahan mesoliant dan aerogel.

Penyelidikan saya merangkumi sintesis dan pencirian bahan melalui proses hijau menggunakan sumber bahan buangan dan menerokai penggunaan bahan nano yang dihasilkan sebagai mangkin dalam industri minyak dan gas, bahan komposit, penebat dan penyerap dalam industri pembinaan, makanan, pencuci dan pemulihan air.

Berapa ramai agaknya jumlah kepakaran yang kita ada?

Bilangan kepakaran tempatan dalam pelbagai bidang nanoteknologi yang merentas sektor sentiasa meningkat. Buat masa ini kita ada sekitar 500 pakar dalam penyelidikan teknologi nano melebihi 1,000 saintis.

Apakah perkara paling membanggakan dan paling mengecewakan Datuk sejak

Siapa Mengapa?

Oleh LAUPA JUNUS
laupa.junus@utusan.com.my



penglibatan dalam penyelidikan bidang ini?

Melalui ilmu sains (kimia dan fizik) dan penyelidikan, saya dapat menyelesaikan masalah kitaran semula bahan buangan untuk menghasilkan bahan termaju melalui proses teknologi nano yang hijau dan penggunaannya dapat memberikan impak kepada rakyat dan ekonomi negara dalam jangka masa panjang.

Penerimaan dan komitmen industri dan masyarakat terhadap produk penyelidikan teknologi nano untuk penggunaan yang menyeluruh masih ketinggalan berbanding dengan sasaran negara untuk menjadi negara maju dalam masa terdekat. Pelaburan dalam penyelidikan dan pembangunan hasil produk tempatan sangat sedikit.

Apakah penyelidikan pernah dijalankan setakat ini?

Penyelidikan merangkumi menghasilkan bahan nano yang merupakan mangkin, penebat, penyerap dan sistem penghantar drug ubat-ubatan dalam industri minyak dan gas, tenaga boleh ubah, automotif, makanan, perubatan dan air.

Bolehkan dijelaskan kepentingan dan kegunaan bidang ini.

Bidang ini sangat luas kepentingan dan kegunaan

dalam kehidupan masyarakat. teknologi nano telah terbukti mampu meningkatkan ekonomi negara melalui impak penggunaannya dalam sektor bahan gunaan harian, pembinaan, tenaga, pertanian, pengangkutan dan perubatan.

Apakah Datuk berpuas hati dengan perkembangan teknologi tersebut.

Secara global, perkembangan teknologi ini sangat pesat dan mengeluarkan banyak hasil yang positif. Ilmu dalam bidang ini juga telah banyak meningkat yang terbukti daripada peningkatan mendadak dalam penerbitan jurnal dan penyelidikan.

Malaysia masih perlu meningkatkan sokongan dan penghayatan bidang ini.

Bagaimana cara mengembangkan lagi bidang tersebut dan siapa yang perlu memainkan peranan.

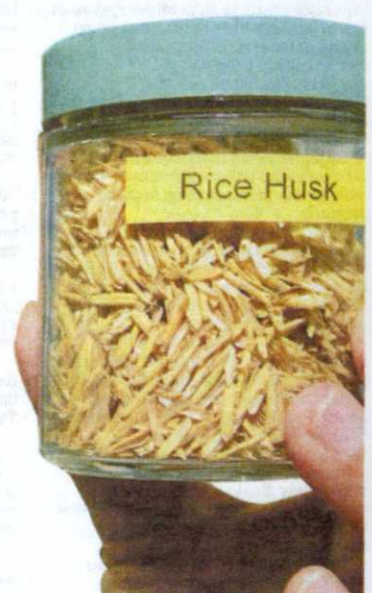
Pembuat polisi dan institusi berkenaan seperti kementerian, direktorat, persatuan dan penyedia kewangan harus meletakkan bidang ini sebagai bidang utama dalam perancangan ekonomi.

Saintis dan penyelidik membantu mengajar masyarakat tentang kepentingan bidang sains dalam kehidupan harian. Ilmu bidang ini hanya boleh berkembang melalui pendidikan sains yang dipupuk di sekolah.

Satu Konsortium Penyelidikan Sains Nanoteknologi Global (NanoMITe) telah dibentuk yang melibatkan lima universiti penyelidikan negara dan institusi pengajian tinggi terkemuka Amerika Syarikat yang menjalankan penyelidikan teknologi nano dalam lima program iaitu tenaga, perubatan, pertanian, sistem dan peranti serta persekitaran.



ANTARA penyelidikan Dr. Halimaton Hamdan iaitu sekam padi yang diproses menjadi maerogel.



PROVIDING SMES WITH MUCH- NEEDED FINANCING

BY ADRIAN WONG

When Malaysia Debt Ventures Bhd (MDV) started out in 2002 as a division of Malaysia Venture Capital Management Bhd (Mavcap), it was supposed to address a critical gap in the information and communications technology (ICT) funding ecosystem. At the time, the companies were mostly start-ups, fuelled by dreams of Silicon Valley but with very little real value to offer as collateral.

The government encouraged the growth of such companies by awarding contracts for so-called "flagship" platforms and applications, such as e-government, MyKad and telehealth. There was one problem though. Even if these companies managed to secure contracts, they were unable to act on them as the contracts were not considered good enough security by the banks. The venture capital fraternity, meanwhile, held back from investing because of a lack of exit opportunities in Malaysia.

At the time, Jiro Suzuki (who went

on to become the first head of Mavcap's debt ventures division) was a financial adviser for the flagship applications of Multimedia Development Corp (MDEC). Through his contacts in Japan, he heard that the Japanese government would be announcing an "e-Asian" initiative, setting aside US\$15 billion (RM52.5 billion) to narrow the digital divide between relatively backward Asian countries and their more technologically developed counterparts within Asia and the West.

Suzuki applied for a loan under the aegis of MDEC even before the initiative was announced by then Japanese prime minister Yoshiro Mori. In February 2002, the Ministry of Finance signed an agreement with the Japan Bank for International Cooperation (JBIC) for a RM1.6 billion loan that would be channelled to Mavcap's debt ventures division.

In 2007, the ministry approved RM2.5 billion for MDV's second fund. It offered three types of funding — project-based loans, bank guarantees and export financing. The project-based loan, based on a secured contract from a stable company, was essentially a bridging loan — once the company secured a contract for an ICT project, it could bring the contract to MDV and apply for up to 85% financing.

Meanwhile, the bank guarantees allowed banks to participate in the financing of ICT companies. And with MDV guaranteeing the loans, the banks had virtually no risk. They eventually became familiar with the sector and started to finance such companies on their own.

The export financing scheme was aimed at customers that had secured overseas contracts. These firms could obtain financing by providing MDV with a letter of credit from their foreign client.

Now in its 12th year, MDV has disbursed RM8 billion in loans to 250 companies in the ICT and other high growth sectors. Its mandate now includes green technology and biotechnology start-ups as well. According to managing director and CEO Datuk Md Zubir Ansori Yahaya, MDV is uniquely positioned in the financing ecosystem.

"If you look at financing, there are various sources, such as banks, the stock market, venture capitalists (VC), grants, loans and other equities. We are part of the VC space, which is early-stage funding," he says. "If you go through a life cycle of a company from start-up to IPO, there are various stages, and different stages require different types of funding. This is where MDV positions itself — early-stage financing in the form of debt funding."

Md Zubir feels that the expansion of MDV's mandate by the government is a testament to its success. "By allowing us to include other sectors, it means that we have been successful in carrying out our mandate. We would not have expanded into biotechnology and green technology had our initial mandate not been successful."

In 2008, MDV raised another

RM1.5 billion from the domestic market via a sukuk offering. Companies that it has financed include Aquawalk Sdn Bhd, the owner and operator of Aquaria KLCC; MOL Global Pte Ltd, which is listed on the NASDAQ Stock Market; and Graphene Nanochem plc, which is listed on the London Stock Exchange's Alternative Investment Market.

"When these [start-up] companies came to MDV, their revenues were less than RM1 million or RM2 million. Today, their turnover has grown to RM15 million to RM30 million," says Md Zubir. "To us, these are success stories. These companies would not have been able to get funding had it not been for MDV's existence."

He attributes MDV's success to the approach it takes in financing companies. He points out that there was (and still is) a gap in funding biotechnology and green technology companies when these sectors were identified as priorities, as banks were (and still are) unwilling to take the risk. Banks typically lend to companies with an established track record, and this is something start-ups do not have.

"In our lending, we focus not so much on the gearing of a company, like the banks do ... but more on cash flow financing," he says. "We focus a lot on the cash flow and viability of the project, instead of the strength and track record of the company."

"Some of the things we look at are the strengths of the project team, who has awarded the contract and the technology it uses. For example, is it a new technology? Since we are all about financing technology, we have to be very clear on the kind of technology we fund. MDV's credit people take a lot of effort to understand the technology before it comes to us."

MDV products are typically project-based financing. "We package project financing in many products — contract financing, revolving project line and term loans. The workability of the project determines whether we fund it or not," says Md Zubir.

Like banks, MDV requires collateral for the financing it provides. But this does not have to be in the form of tangible assets. "The focus is not so much on tangible assets, but on soft collateral, like personal guarantees," Md Zubir says.

"Personal guarantees are the most important form of 'collateral' because we need commitment from the borrowers themselves. Then there are debentures, but sometimes when it comes to start-ups, the debentures are not worth a thing. All in all, we just want to make sure the [stakeholders] are committed to the project."

While some of MDV's lending programmes carry more risk than those offered by financial institutions, Md Zubir says it is important that it continues to help companies which otherwise would not be able to receive funding. For example, the Intellectual Property Financing Scheme was introduced by the government to promote innovation and enable companies to put up their intellectual property as collateral in exchange for funding.

"If you want to become a high-income nation, intellectual property plays a very important role because it has high value," he says. "So, the government accepts some of the risk (50%) through the Credit Guarantee Corporation, while financial institutions such as MDV take the remaining 50%. Normal banks will not touch this."

MDV, however, is not immune to non-performing loans (NPL). According to Md Zubir, its current NPL rate stands at 15%. "Our gross NPL is currently 15%, but that is not high [for venture capitalists]," he explains.

"Unlike banks, we do not sell our

NPLs, even though we can easily do this. Nevertheless, we are targeting it to be below 10% by end-2015."

Technology companies need to be given time during their gestation period, he says. "If you give technology companies enough time, they will be able to pay their loans and be successful. If you're going to help small companies, you cannot take too strict a stance, because that defeats the whole purpose."

"The scheme has to be end-to-end, from where you start evaluating up to full recovery [repayment of funds]. However, we will only allow them time after a thorough reassessment of the project timeline and their ability to pay."

Like other financial institutions, MDV monitors projects and cash flow to ensure that borrowers are able to repay loans. Prior to disbursing funds, it also carries out stringent credit checks to make sure the directors and shareholders have clean backgrounds.

Md Zubir says MDV's biggest challenge is striking a balance between funding high-risk firms and being able to create successful companies. "These companies are weak, yet their projects are high-risk. So, the challenge is helping them to succeed."

"Being technology companies, the key thing is to make sure the technology is accepted by the marketplace. For example, most of the products of biotechnology companies require a very long gestation period and some effort to make sure that it is FDA-approved."

The FDA, or the Food and Drug Administration, is a federal agency under the US government's Department of Health and Human Services.

"Even then, when they compete, they have to compete in the global market, because Malaysia's is limited," he adds. "The challenge for companies is that they cannot focus solely on the domestic market. They have to strategise so that they can penetrate the global market. Otherwise, they cannot expand, and it will be difficult for us as well."

Md Zubir says MDV has not defaulted on any of its loans. "We are making the last payment to JBIC, and we have disbursed more than RM8 billion to more than 600 projects in the country. All these are high-tech projects, yet we are still able to maintain our position as a viable financier in the country."

In fact, according to him, MDV is one of the few government-linked companies (GLCs) to pay dividends to the government. "We have been [paying dividends to the government] for the last three years," he says. "How many GLCs do you know pay dividends to the government? That, to me, tells the whole story of how we well we have done."

Recent debates in Parliament, however, have placed MDV under scrutiny. In late November, the government tabled a parliamentary order paper to convert MDV's debt of RM400 million to the government into equity. This was instantly interpreted by some quarters as a move to wipe out the debt altogether.

Calling this debt-to-equity conversion a "bailout", PKR Member of Parliament Rafizi Ramli told Parliament that if MDV was profitable, there would be no problem repaying the debt and the government would not need to perform the conversion. He also said the government would have to service the debt it raised via bonds to lend to MDV in the first place.

In response, MDV issued a statement clarifying that the government's move was not intended to wipe out debt, but to "strengthen MDV's equity position in order to balance its current portfolio size and ensure that MDV has sufficient equity to support its future portfolio growth prudently."



Personal guarantees are the most important form of 'collateral' because we need commitment from the borrowers themselves. > **Md Zubir**



Adrian menunjukkan antara produk yang dijual di pusat sehati Bioshoppe.



BIOTECHCORP BUKA LEBIH BANYAK PUSAT SEHENTI BIOSHOPPE

» Usaha produk berstatus BioNexus tembusi ruang runcit lebih besar

Oleh Shahrizan Salian
shahrizan_salian@bh.com.my

Malaysian Biotechnology Corporation Sdn Bhd (BiotechCorp) akan membuka lebih banyak pusat jualan sehati Bioshoppe tahun ini, dalam usaha memasarkan produk keluaran syarikat berstatus BioNexus menerusi satu pusat jualan.

Idea konsep Bioshoppe yang dicetuskan pada BioMalaysia 2013 di Johor Bahru, mula diperkenalkan tahun lalu dengan cawangan pertama dibuka di IOI Mall Puchong pada Julai 2014 menerusi usaha sama dengan Nova Natural and Skincare (Nova).

Naib Presiden Kanan Bahagian Pembangunan BioNexus BiotechCorp, Adrian Abdul Ghani, berkata pada masa ini ada kira-kira 200 unit simpanan stok (SKU) daripada 35 syarikat BioNexus dijual oleh Bioshoppe.

Katanya, Bioshoppe diperkenalkan sele-

pas menyedari sebahagian besar syarikat terbabit dalam subsektor farmaseutikal dan berkaitan, berdepan kesukaran mendapatkan ruang jualan runcit di pasar raya hiper, farmasi serta rangkaian utama lain.

Katanya, ia berikutan pelbagai yuran yang perlu dibayar syarikat terbabit untuk memasuki ruang runcit sedemikian, sekali gus menyukarkan mereka yang kebanyakannya bersaiz kecil.

"Syarikat berkenaan memerlukan ruang serta inkubator (untuk memasarkan produk), maka Bioshoppe menyediakan peluang kepada mereka untuk menjual produk. Ini membolehkan produk itu dikenali dan seterusnya mempersiapkan syarikat terbabit untuk memasuki ruang runcit yang lebih besar.

Komersialkan produk

"Usaha ini perlu dilakukan supaya semua usaha serta pelaburan untuk penyelidikan dan pembangunan (R&D) tidak disia-siakan berikutan terdapat isu apabila syarikat hanya mengkomersialkan produk, tetapi tidak dapat dipasarkan," katanya dalam temubual bersama BH di Kuala Lumpur, minggu lalu.

Antara produk dijual di Bioshoppe termasuk kosmetik, nutraseutikal, penjagaan badan dan pertanian, minuman kesihatan, makanan tambahan herba dan baja bera-

saskan bio.

Adrian berkata, sebagai sebuah inkubator bagi syarikat BioNexus, BiotechCorp turut memberikan sokongan dari segi penjenamaan dan pembungkusan produk menerusi pelbagai program bantuan yang disediakan.

"Kami mahu membina juara jenama tempatan dengan produk yang berpotensi untuk eksport. BiotechCorp menyediakan bantuan kewangan menerusi Dana Pengkomersialan Bioteknologi (BCF).

Syarikat memohon bantuan

"Dana gabungan antara geran dan pinjaman mudah ini membolehkan syarikat memohon bantuan sehingga maksimum RM3 juta bagi mengembang dan mengkomersialkan produk," katanya.

Beliau berkata, beberapa kerajaan negeri juga sudah menyatakan minat untuk membuka cawangan Bioshoppe, termasuk Kedah dan Johor.

Katanya, cawangan pertama Bioshoppe di Alor Setar dijadual dibuka hujung bulan ini, manakala perbincangan bersama kerajaan Johor sedang dimuktamadkan dengan lokasinya sedang diteliti.

BiotechCorp juga, sedang dalam peringkat perbincangan terakhir bersama Perbadanan Nasional Bhd (PNS) dalam usaha membangunkan konsep francais Bioshoppe.

Pahang, Sarawak, Johor dijangka bakal berdepan dengan fenomena hujan monsun

Siap sedia hadapi banjir sekali lagi

Oleh NORAINI HASSAN BASRI
noraini.hassan@kosmo.com.my

KUALA LUMPUR - Negeri Pahang, Sarawak dan Johor perlu bersiap sedia berdepan dengan situasi banjir sekali lagi apabila episod hujan monsun dijangka melanda tiga negeri tersebut bermula semalam hingga 13 Januari ini.

Hujan monsun merupakan fenomena hujan berterusan selama beberapa hari akibat perubahan iklim Monsun Timur Laut yang bermula pada bulan November 2014 hingga Mac 2015.

Ia berlaku apabila angin sejuk dan kering yang datang dari kawasan Siberia bertemu dengan angin dari Barat Pasifik yang lembap dan panas.

Jurucakap Jabatan Meteorologi Malaysia ketika dihubungi *Kosmo!* menjelaskan, pada ketika itu, angin

kencang dengan kelajuan 50 hingga 60 kilometer sejam dan laut bergelora dengan ombak mencapai ketinggian sehingga 4.5 meter akan berlaku di ketiga-tiga perairan negeri terbabit.

Keadaan itu ujannya, cukup untuk menyebabkan berlakunya banjir terutama di kawasan berkedudukan rendah.



SHAHARUDDIN

Sehubungan itu, penduduk di daerah Pekan, Rompin dan Kuantan di Pahang diminta mengambil langkah berjaga-jaga dan perlu berpindah awal jika keadaan memerlukan.

"Begitu juga penduduk di bahagian Kuching, Sarawak, Sri Aman, Betong, Sarikei, Sibu, Mukah, Bintulu termasuk Miri di Sarawak serta penghuni di Johor Timur," katanya.

Sementara itu, **Pakar Kaji Cuaca dan Perubahan Iklim, Pusat Sosial, Pembangunan dan Persekitaran,**

Fakulti Sains Sosial dan Kemanusiaan, Universiti Kebangsaan Malaysia, Prof. Datuk Dr. Shaharuddin Ahmad berkata, hujan monsun yang berlaku pada kali ini lebih tertumpu di bahagian selatan berbanding sebelum ini di Pantai Timur.

Pun begitu, Shaharuddin berkata, banjir yang dijangka melanda di Pahang, Sarawak dan Johor itu tidak sehebat seperti yang berlaku Kelantan baru-baru ini.

"Namun, jika hujan berpanjangan dalam tempoh yang lama, penduduk di kawasan rendah perlu bersiap sedia berdepan dengan bencana banjir sekali lagi," katanya.

Sebelum ini, Timbalan Perdana Menteri, Tan Sri Muhyiddin Yassin berkata, banjir yang melanda Kelantan, Terengganu, Pahang, Perlis, Perak, Kedah, Negeri Sembilan dan Johor telah melibatkan lebih 250,000 mangsa dengan anggaran kerugian lebih RM800 juta.

Ramalan angin kencang, laut bergelora hingga Sabtu

Kuala Lumpur: Angin kencang dan keadaan laut bergelora di perairan Kelantan, Terengganu, Pahang, Johor Timur, Sarawak, Sabah dan Labuan ketika ini dijangka berterusan hingga Sabtu ini.

Jabatan Meteorologi Malaysia dalam kenyataannya semalam berkata, keadaan angin timur laut, yang bertiup selaju 50-60 km/jam dengan ombak hingga setinggi 4.5 meter itu, berbahaya kepada semua aktiviti perkapalan dan pantai, termasuk perkhidmatan feri dan penangkapan ikan.

Jabatan itu juga berkata, paras laut di kawasan pesisir Kelantan, Terengganu, Pahang dan Johor Timur berkemungkinan meningkat hingga 17 Januari.

"Sementara itu, ribut petir di perairan Pahang, Johor Timur dan Sarawak (Mukah, Bintulu dan Miri) dijangka berterusan hingga tengah hari ini," katanya.

Jabatan itu juga mengeluarkan amaran bahawa angin kencang dan keadaan laut yang bergelora di perairan Condore, Reef North, Layang-Layang dan Palawan serta di perairan Samui, Tioman, Bunguran, Reef South, Kuching, Labuan dan Sulu akan berterusan hingga 17 Januari.

Keadaan ini berbahaya kepada semua aktiviti perkapalan dan pantai, termasuk pekerja di pelantar minyak, kegiatan penangkapan ikan dan perkhidmatan feri, kata kenyataan itu. - BERNAMA

Strong winds, rough seas in 7 states

KUALA LUMPUR: The Malaysian Meteorological Department yesterday forecasted strong winds and rough seas over waters off Kelantan, Terengganu, Pahang, east Johor, Sarawak, Sabah and the Federal Territory of Labuan.

The inclement weather will continue until Saturday.

The department also issued a

second-category warning of strong winds and rough seas for the affected areas, on its website.

It said there would be strong northeasterly winds of between 50kph and 60kph and waves of up to 4.5m at affected areas.

It also predicted that coastal areas in Kelantan, Terengganu, Pahang

and east Johor would be vulnerable to a rise in sea levels, lasting until Saturday.

The department said there would be monsoonal rain, accompanied by strong winds, in Pahang, Johor and Sarawak until tomorrow.

It also issued a yellow-stage heavy rain advisory yesterday.