

Small and Decentralized Water System

Lecture 1:

Philosophy of development: Man & Nature

Prof Zaini UJANG

zaini@utm.my

www.cheme.utm.my/staff/zaini



Presentation outline

- Why philosophy matters?
 - Dimension of development
 - Man
 - Nature
 - Man vs Nature
 - Man and Nature
-

Why philosophy matters?

Definition:

- The study of the fundamental nature of knowledge, reality and existence
- The study of the theoretical basis of a branch of knowledge or expertise

Why philosophy matters?

- Provide basis and foundation
- Guiding principles
- Deep in meaning
- Leading towards way of life
- Contribute to development
 - Physical
 - Intellectual
 - Spiritual
 - Social

Question 1

- Can man lives without water?
 - Why man needs water to live?
 - Do you want Coca Cola or tap water?
-

Dimensions of development

- Development?
 - An event constituting a new stage in changing situation
 - Develop? grow or cause to grow and become larger or more advanced; start to exist, experience or possess
 - The process of developing or being developed
- Dimensions
 - Physical
 - Intellectual
 - Spiritual
 - Social

Dimensions of development

- Physical
 - Infrastructure
 - Economic well being
 - Material gain
 - Intellectual
 - Intellectual
 - Knowledge
 - Wisdom
 - Social
 - Family
 - Neighborhood
 - Nation
 - Spiritual
 - Integrity
 - Meaning
 - Self actualization
-

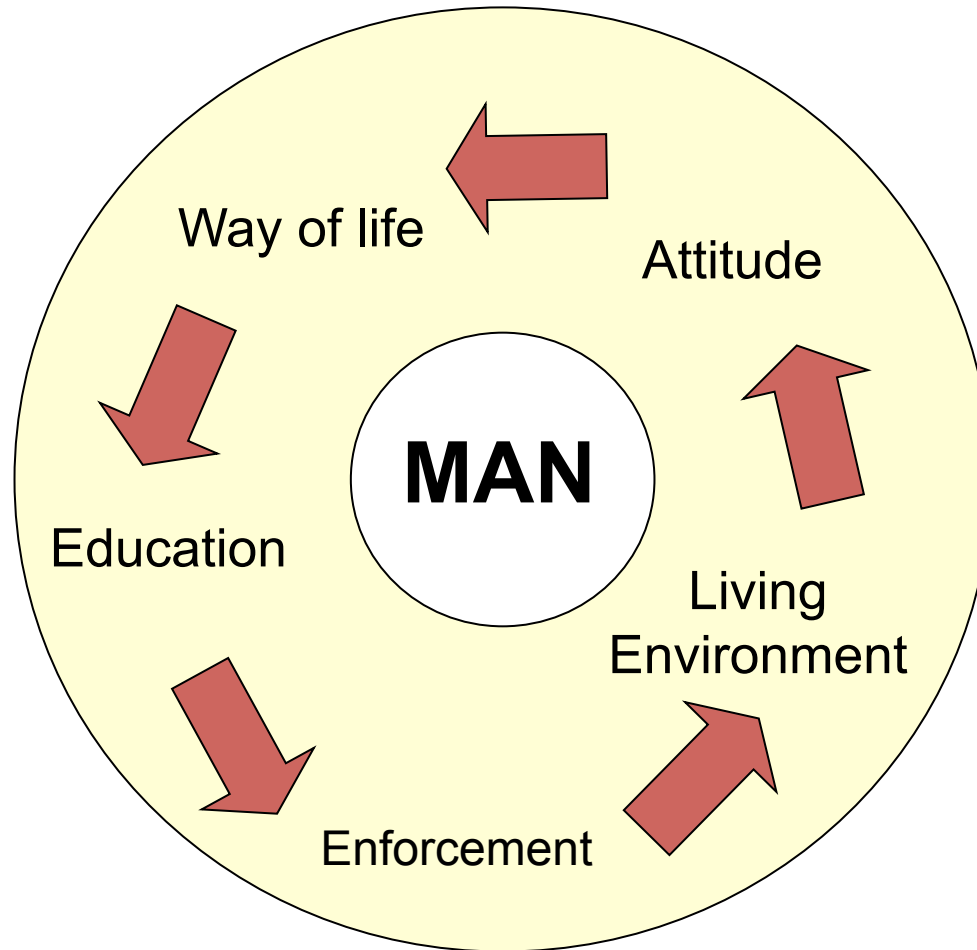
Man and its faculties

Faculties	Fulfillment, actualization
Mind	Reading, thinking, learning, discourse, etc.
Spiritual	God consciousness, meditation, reflection, etc.
Emotional	Society, parents, empathy, philanthropy, social responsibility, beauty, appreciation, etc.
Physical	Food, environment, sex, sport, etc.

Question 2

- Can man lives without development?

Process First Class Mentality



FCM vs TCM (Third Class Mentality)

	FCM	TCM
Attitudes	Part of us	None of us
Pollution	Sin	Opportunity
Pollution prevention	Collective responsibility	Responsibility of Government
Global warming	Disaster	??

Man / humankind?

Man = Human being in general; the human race

- **Why man exist?** Religion?
- **How man exist?** Science?
- **When man exist?** Religion / Science?
- **Where man exist?** Science
- **Life after this????**

WHAT IS THE MEANING OF BEING A MAN?

Man

- “Man becomes man only by intelligence, but he is man only by the heart”

Henri Frederic Amiel, Journal, April 7, 1851

- “Man, when perfected, is the best of animals, but, when separated from law and justice, he is the worst of all”

Aristotle, Politics (4th century B.C.)

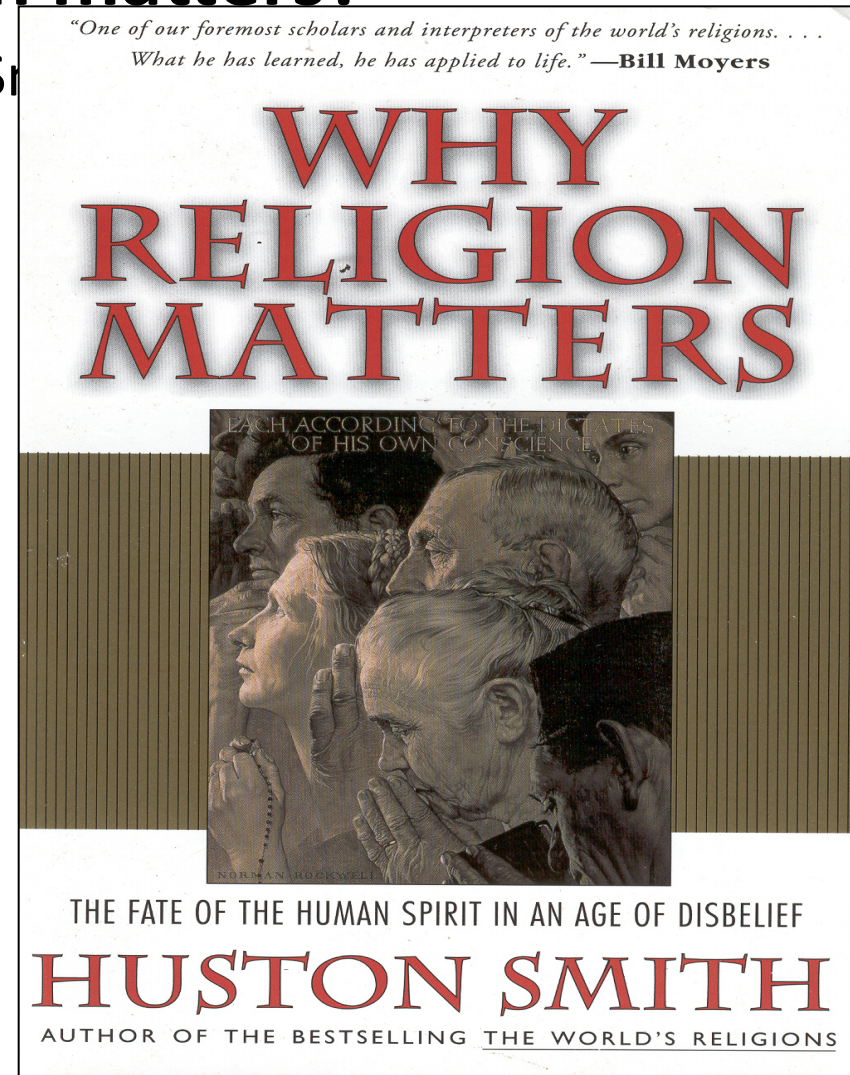
Man

- Many perspectives defining man:
 - Science
 - Philosophy
 - Religion
 - Abrahamic trigologies – Judaism, Christioanity, Islam
 - Non-Abrahamics – Hinduism, Buddhism etc

Why religion matters?

Prof. Hutson Smith

- “... the East and the West are going through a single common crisis whose cause is the spiritual condition of the modern world”
- That condition is characterized by loss – the loss of religious certainties and of transcendence with its larger horizons”



Nature

- The phenomena of the physical world collectively, including plants, animals and the landscape, as opposed to humans or human creations

Concise Oxford Dictionary, Tenth Edition (1999)

Question 3

- Is the nature only limited to physical entity?

Environmental (physical) components

- Geosphere – solid earth, including soil, which supports most plant life
- Biosphere – living entities on Earth
- Hydrosphere – Earth's water
- Atmosphere – thin layer of gases that cover Earth's surface

Major issues on physical environmental management

- Global warming
- Protection of water resources
- Pollution of rivers, lakes, estuaries, seas
- Toxic and hazardous waste management
- Air pollution
- Deforestation and biodiversity
- Solid waste management, esp. on disposal system

The Historical Roots of Our Ecologic Crisis

Prof. Lynn White, Jr. (1967)

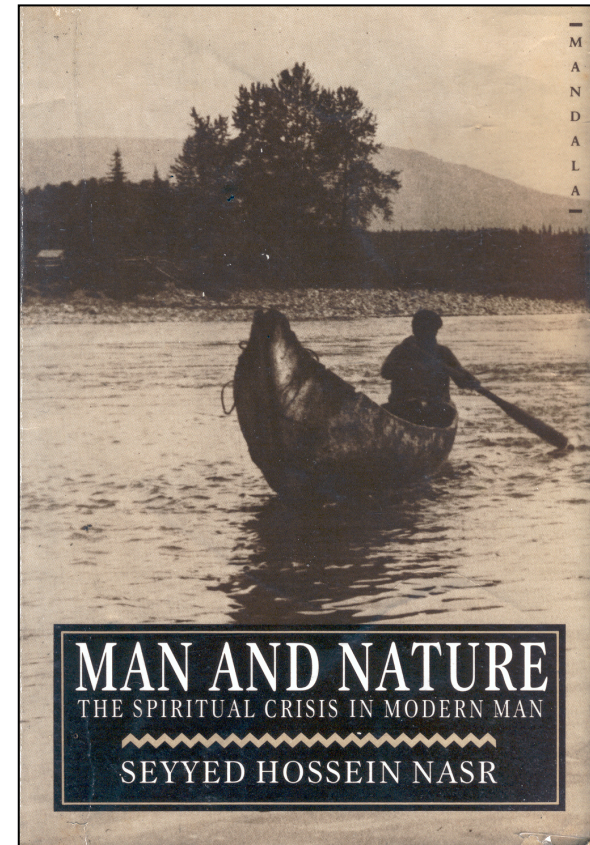
Science, vol. 155, no. 3767, pp 1203-1207

- “... our ecologic crisis is the product of an emerging, entirely novel, democratic culture”
- “Human ecology is deeply conditioned by beliefs about our nature and destiny – that is, by religion”
- “Formerly man had been part of nature; now he was the exploiter of nature”
- “... it is rooted in, and is defensible apart from, Judeo-Christian theology”
- “More science and more technology are not going to get us out of the present ecologic crisis until we find a new religion, or rethink our old one”



Environmental conservation (≠ environmental preservation)

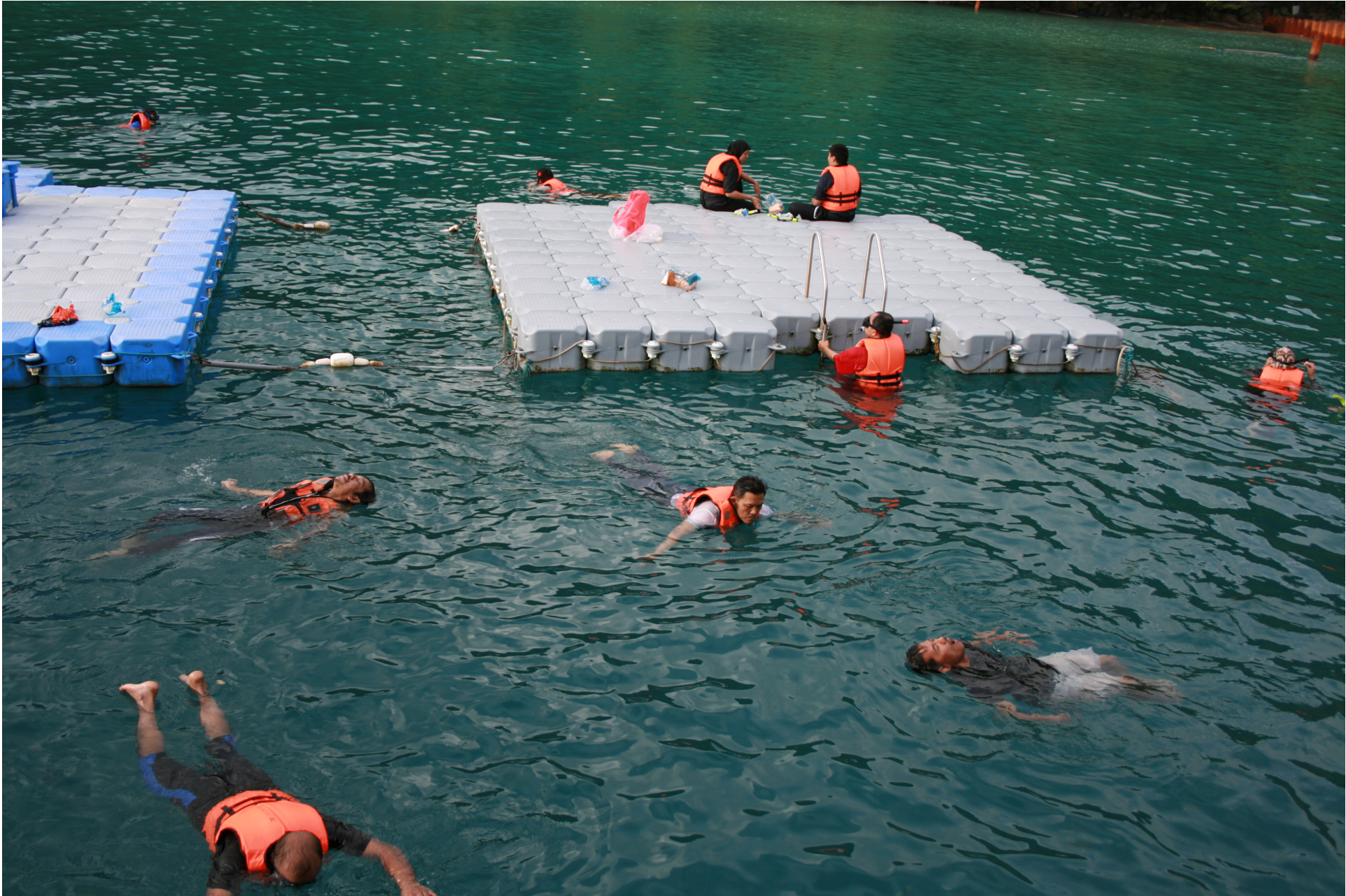
- Individual
- Community
- Institutional
- Systemic



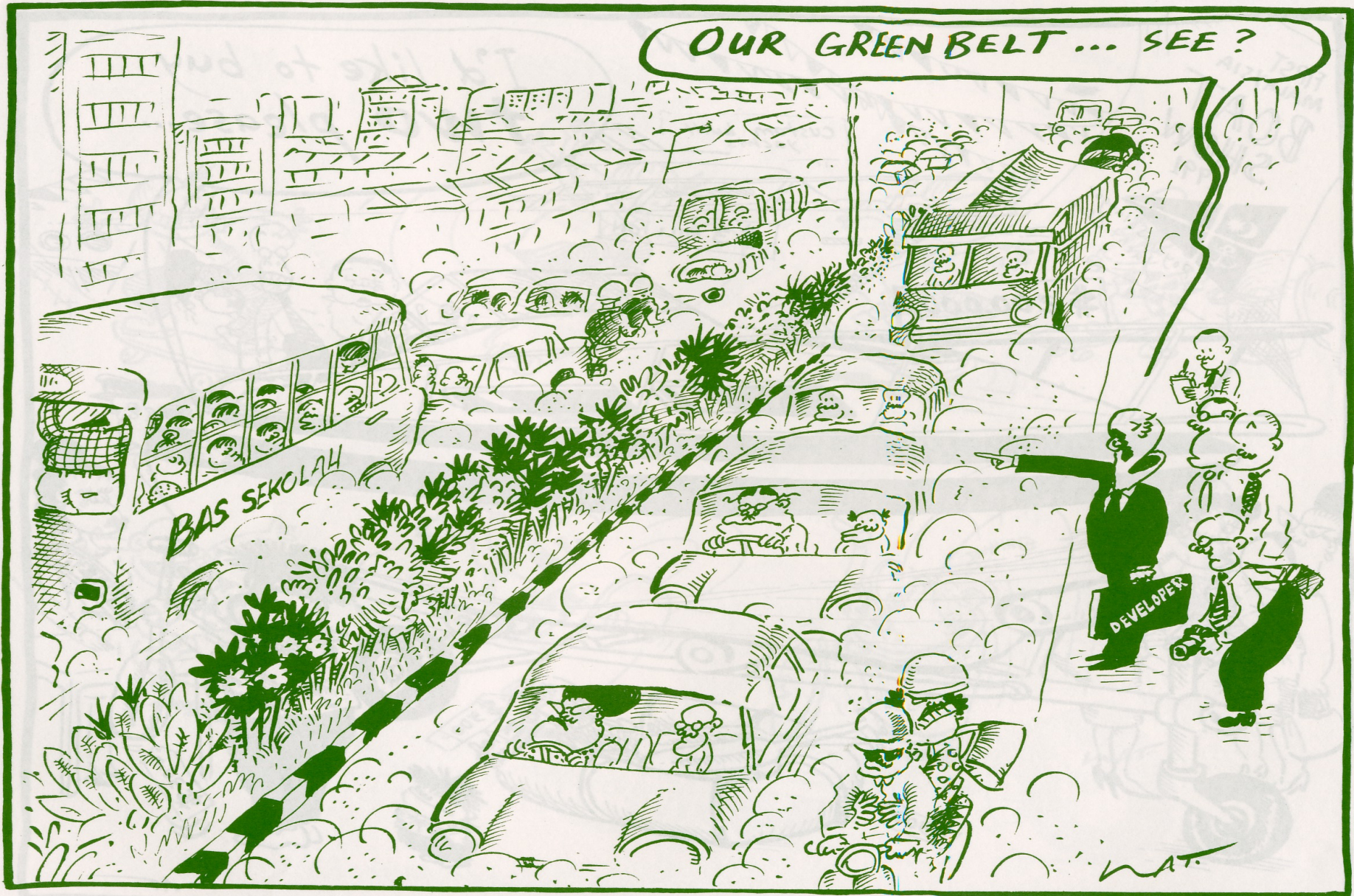
Question 4

Natural environ





OUR GREEN BELT ... SEE?



WAT



Reading 1

Lean, clean and mean

by Anne Schukat (Intelligent Life Summer 2004)



Lean, clean and mean

by Anne Schukat (Intelligent Life Summer 2004)

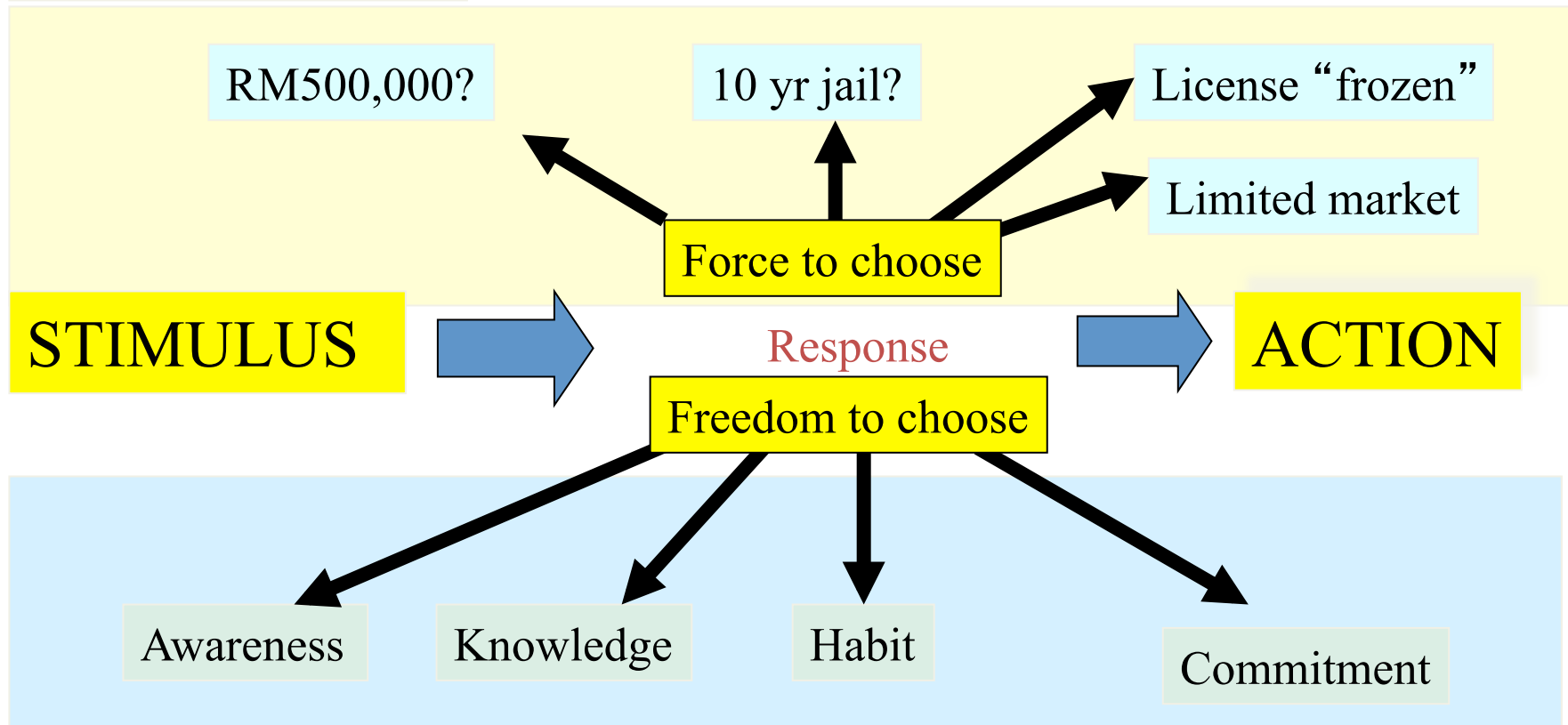
- New market for cheaper fuel consumption and cleaner car
- Volkswagen Lupo – consumes 3 litre/100 km
- Petrol – electric hybrid car
- Toyota Prius – 4.3 litre/100 km (5-door-family car; produce no PM, half conventional fuel consumption)
- Hydrogen cars (the cleanest car) won't compete with hybrids for a long time
- “Hydrogen economy” to come
- Governments have little role



Philosophy on change

- In-out paradigm (proactive model)
- Out-in paradigm (reactive model)

Reactive Model



Proactive Model



© Minda Lestari

- Minda = mind
- Lestari = Sustainability
- **Minda Lestari?**
- The state of mind and spiritual development when environmental consciousness reaches the highest level; when emotional intelligence is fully developed with environmental sensitivity; and when habit are in accordance with environmental friendly practices

Alam sekitar mesti diurus dengan telus 24/5/06 BH



**Minda
Lestari**

Bersama

Prof Dr Zaini Ujang

KEDUDUKAN dan reputasi Malaysia yang tinggi dalam soal pengurusan alam sekitar mula mendapat perhatian dan cuba diteladani kebanyakan negara membangun lain.

Hal ini semakin ketara selepas Forum Ekonomi Dunia di Davos, Switzerland. Ja-

nuar
kedu
lan F
belak
Repu
dan
zerla
land

(79) dan China (94).

Dari segi implikasinya, EPI 2006 membolehkan penanda aras dilakukan antara negara untuk membandingkan kesan pelaksanaan pelbagai inisiatif dan dasar dalam pengawalan pencemaran dan pengurusan sumber asli. Keputusan EPI ini juga membolehkan lebih banyak inisiatif dikemukakan dalam kerangka dasar yang mantap untuk dilaksanakan atau untuk diteladani negara lain, khususnya dalam konteks matlamat pembangunan alaf baru (MDG).

Tidak dinafikan Malaysia sering dikritik, dari dalam dan luar negara dalam isu berkaitan pemusnahan hutan tropika. Namun,

banyak dasar dan inisiatif yang proaktif seperti Dasar Hutan Negara dan penanaman semula hutan yang sudah dilakukan sehingga menaikkan semula nama dan imej baru yang selari dengan pelestarian alam sekitar.

Ia juga ketara dalam pengurusan sumber air dengan dasar yang proaktif dan efektif dalam konteks perkhidmatan bekalan air dan pemetungan.

Sehubungan itu, saya diundang sebagai profesor tamu di Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia, minggu lalu untuk memberi siri kuliah tamu yang

matan pemetungan. Ia juga turut memabatkan dua unsur penting iaitu model kewangan dan teknologi.

Ia begitu menarik untuk diketahui kerana dalam EPI 2006, tahap pencapaian Malaysia dalam bekalan air bersih ialah 95 peratus dan 96 peratus bagi kemudahan sanitasi berbanding 78 dan 52 peratus di Indonesia.

Selain itu, siri kuliah itu juga bertujuan memperkenalkan buku terbaru saya yang terbit di London kira-kira dua bulan lalu, berjudul *Municipal Wastewater Management for Developing Countries* yang diusahakan bersama Profesor Mogens Henze dari Universiti Teknikal Denmark.

Sepanjang berada di Surabaya, saya sering diajukan dengan pelbagai persoalan yang senada, iaitu: Apa formula Malaysia sehingga bisa melaksanakan apa yang dirancang? Apa pengalaman Malaysia dalam menjana model kewangan yang mantap, sehingga kos infrastruktur dan perkhidmatan pemetungan boleh dimajukan dengan sebahagian besar pembiayaan ditampung pihak swasta?

Saya cuba menjawab pelbagai persoalan itu. Saya juga cuba menjelaskan bahawa Malaysia berjaya membina kerangka, polisi dan sistem yang baik menerusi proses pe-

lama lebih empat hari, akhirnya saya mendengar pelbagai pandangan tulus dan 'luar biasa' daripada pelbagai pihak termasuk daripada staf agensi penguat kuasa. Isu utamanya – menurut mereka dengan suara berbisik-bisik – bukanlah kelemahan dari segi kemahiran atau pembiayaan.

Isu utama ialah urus tadbir yang tidak telus dan kurang daya saing. Ia ditambah dengan motivasi yang tidak begitu menyeluruh di kalangan pekerja dengan pendapatan rasmi yang jauh lebih rendah daripada keperluan.

Hal sama sering kita dengar bukan saia di

Environmental crisis is a result of the nature of development approach and delivery system

n.
p,
li-
ai
ah
n-
n-
in

nyelesaikan permasalahan dihadapi bersama, bukan dengan saluran demonstrasi.

Memang banyak persoalan lain ditimbulkan, seperti keupayaan menyaring teknologi asing untuk disesuaikan dengan iklim tempatan dan mutu operasi serta tahap penyelenggaraan. Persoalan ini menjadi hangat dibicarakan kerana banyak teknologi dan kemudahan termoden dalam bidang pemetungan tidak bertahan lama kerana tidak diselenggara dengan betul. Ia juga berkemungkinan, menurut mereka, disebabkan teknologi yang diimport secara 'paksa' digunakan kerana mematuhi syarat pembiayaan dari luar negara.

Namun, selepas berbincang dengan se-

Perkins dalam bukunya, *Confesión of an Economic Hit Man*.

Seminggu berada di Surabaya menambah keyakinan saya bahawa isu alam sekitar bukan sekadar masalah berkaitan perundangan, teknologi dan kewangan. Ia turut berkait langsung dengan tadbir urus yang cekap, tahap dan kualiti hidup, serta kestabilan politik. Seorang pensyarah di Surabaya berkata, isu alam sekitar itu tuntas (komprehensif) dan hanya bisa ditangani secara tuntas pak!

Penulis ialah Pengarah Institut Pengurusan Alam Sekitar & Sumber Air (IPASA) di Universiti Teknologi Malaysia dan Naib Presiden Persatuan Air Antarabangsa.

8 Eco-principles[©] for Minda Lestari

Pro-active / Eco-active	Private victory
Clear objective	
Priority setting	
Win-Win and Eco-business	Public victory
Synergy	
Action oriented	
Sustainability	Greatness, excellence
Eco-profit	

Eco-Quadrant for Minda Lestari

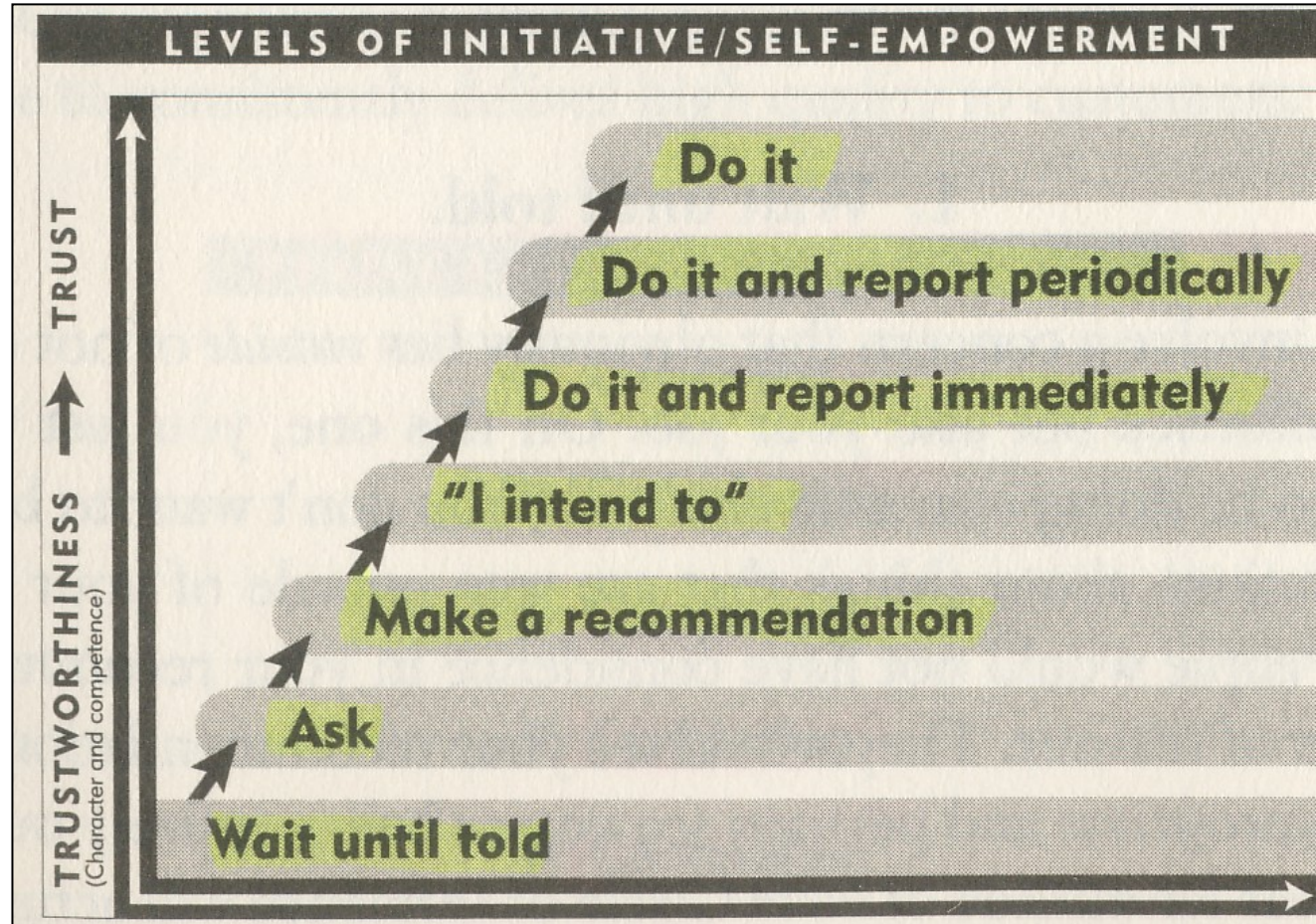
Philosophy

QUADRANT 1 Action based on external drive	QUADRANT 3 Action based on internal (>60%) & external drive
QUADRANT 2 Action based on external (>60%) & internal drive	QUADRANT 4 Action based on internal drive

Eco-Quadrant for Minda Lestari

Philosophy

<p>QUADRANT 1 Law, guidelines, profit margins</p>	<p>QUADRANT 3 Social obligation and branding</p>
<p>QUADRANT 2 Law and reputation</p>	<p>QUADRANT 4 Overall quality and greatness</p>





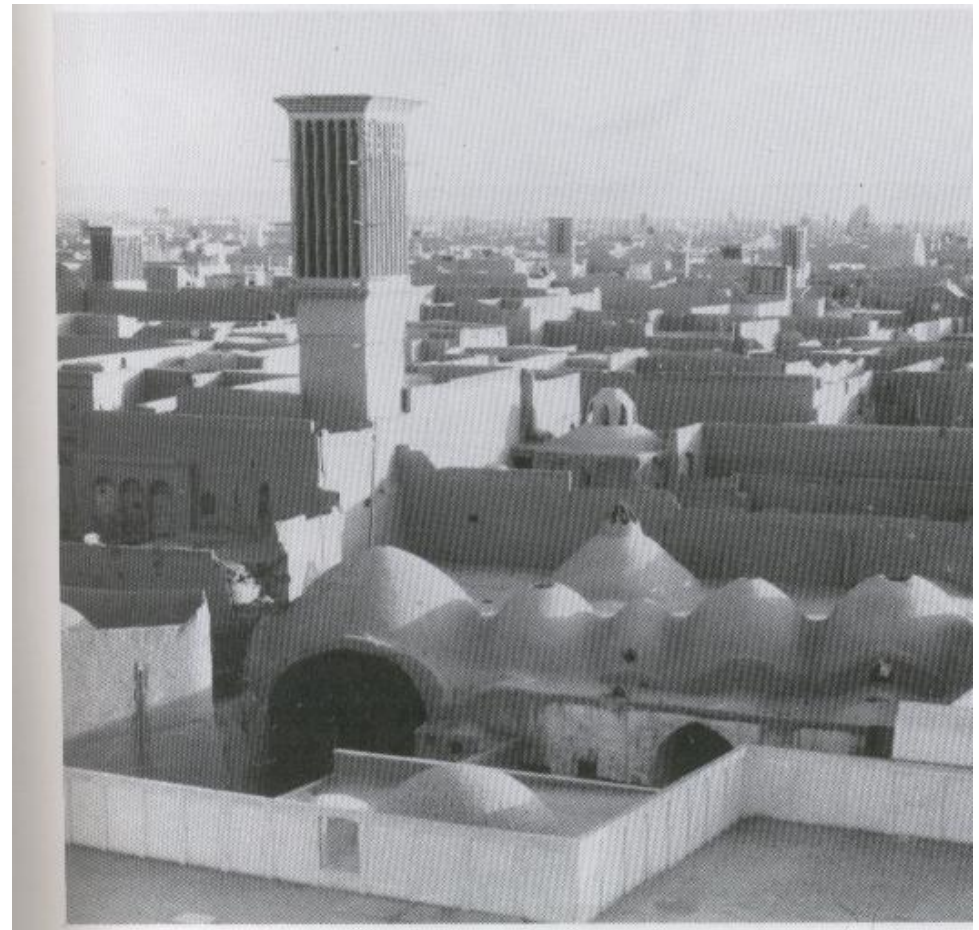
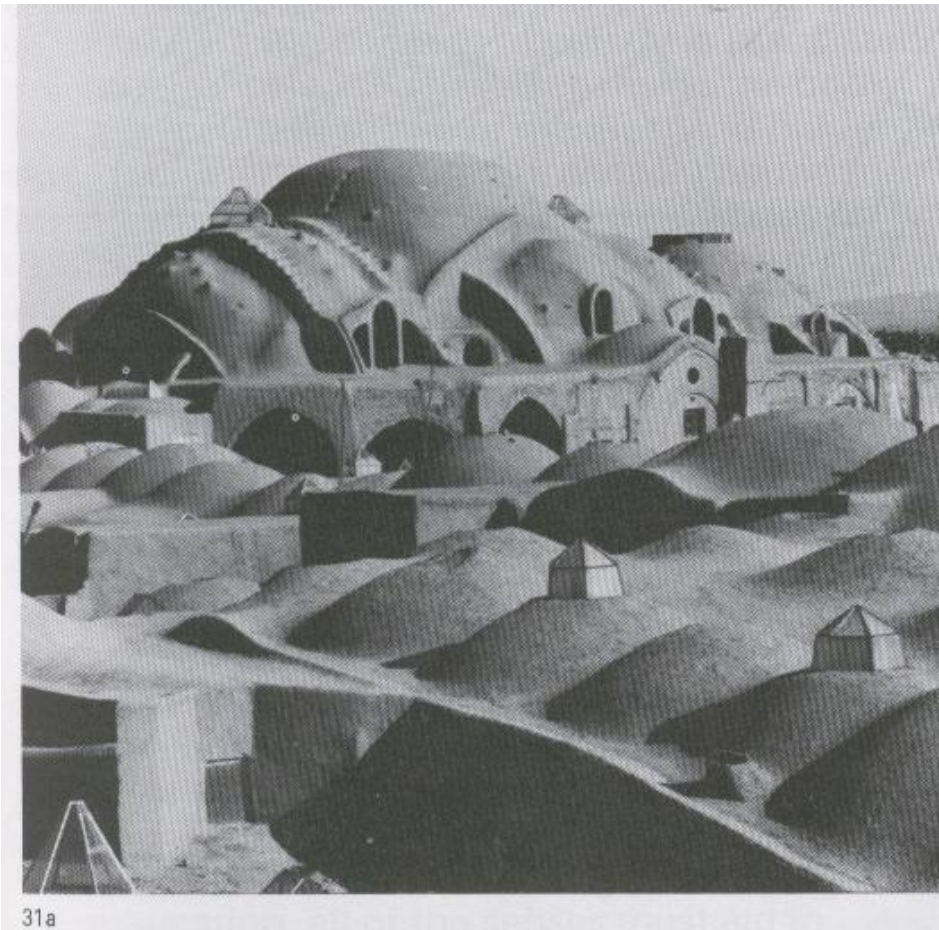
PLEASE
RECYCLE!

G.A.T.

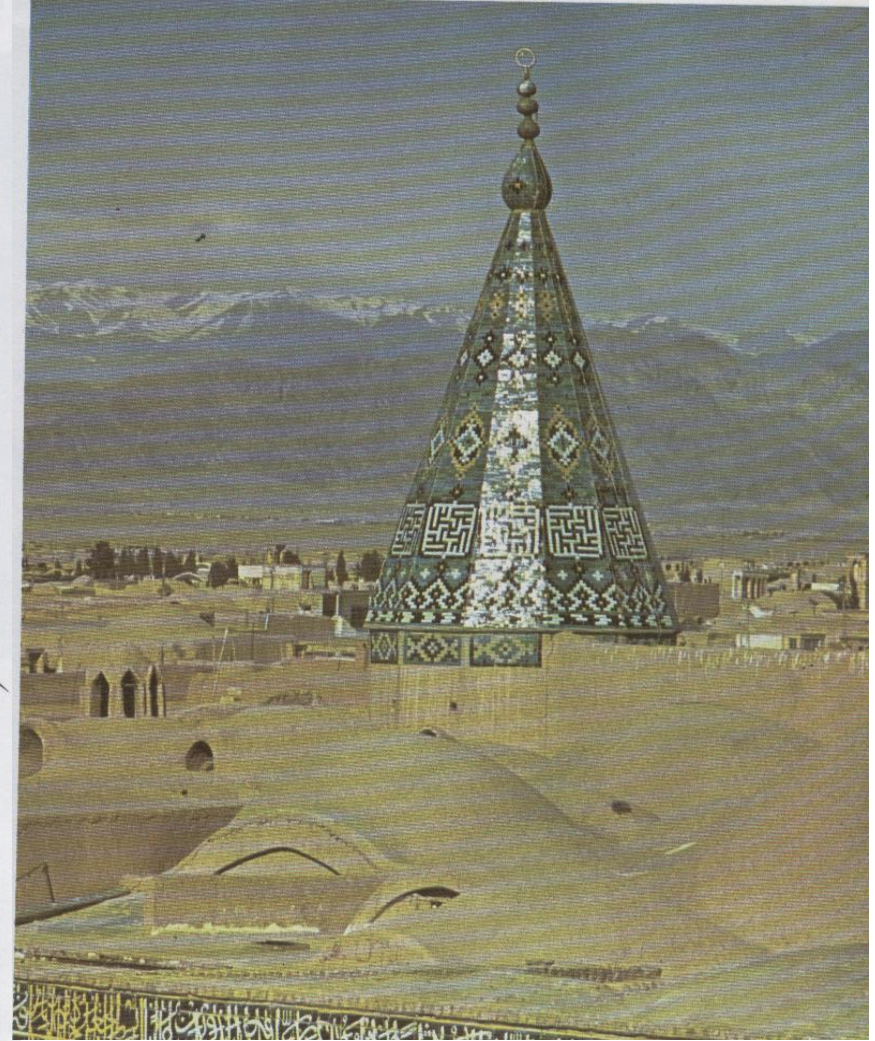
Question 5

- Why sound philosophy is not the guiding principles despite its importance within modern society?

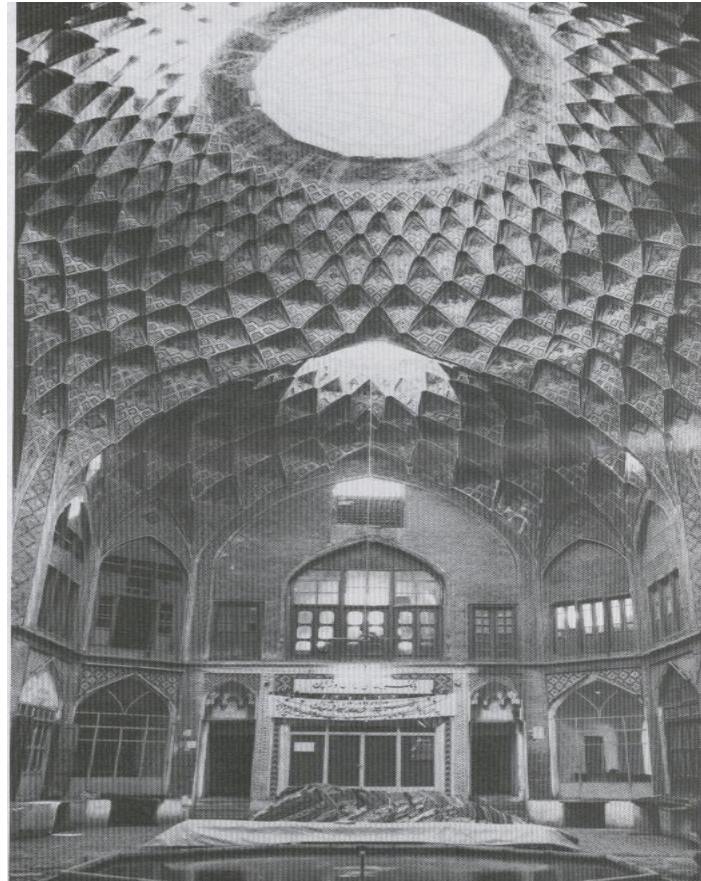
Shape, materials, style, symbolism

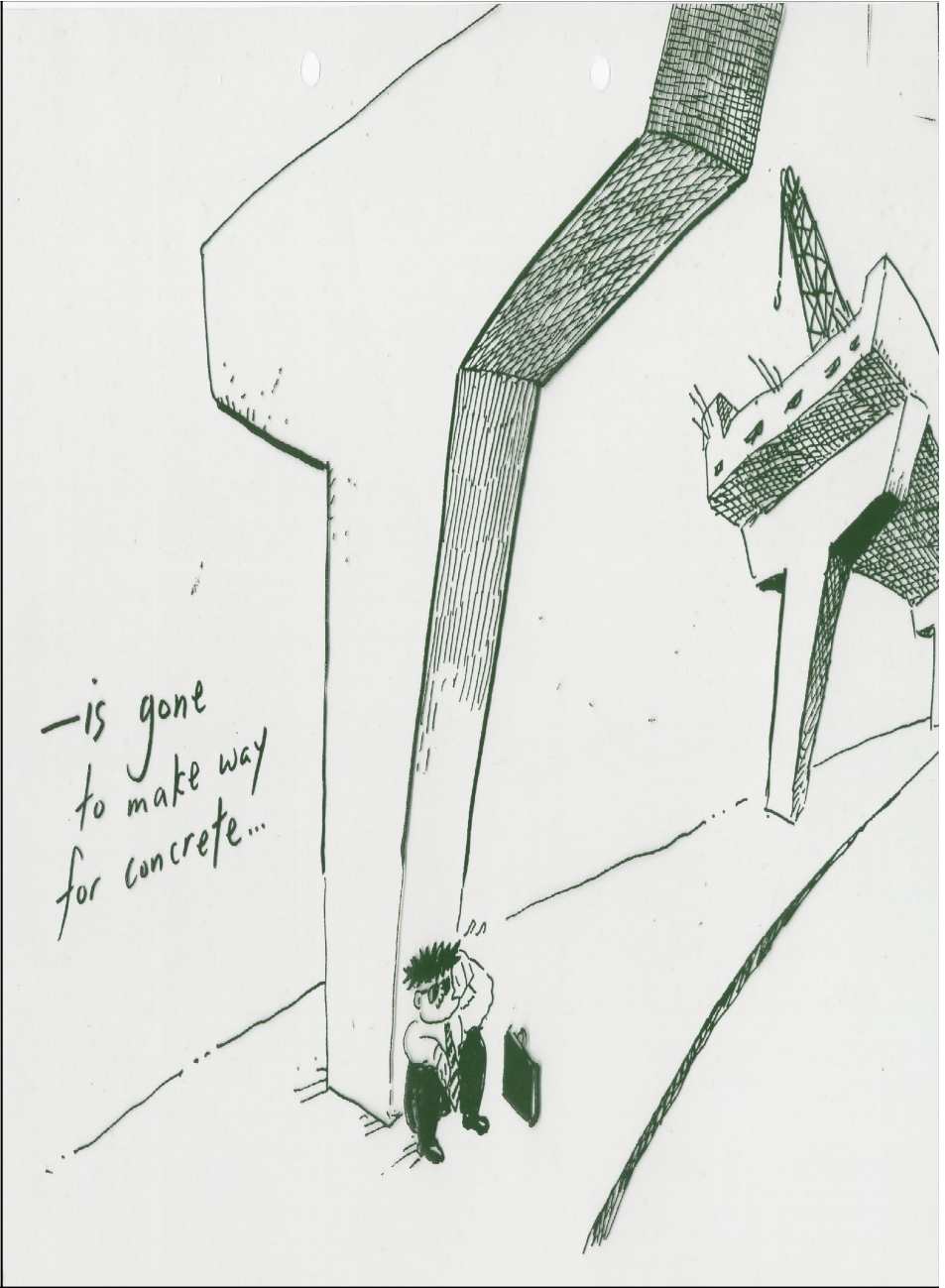
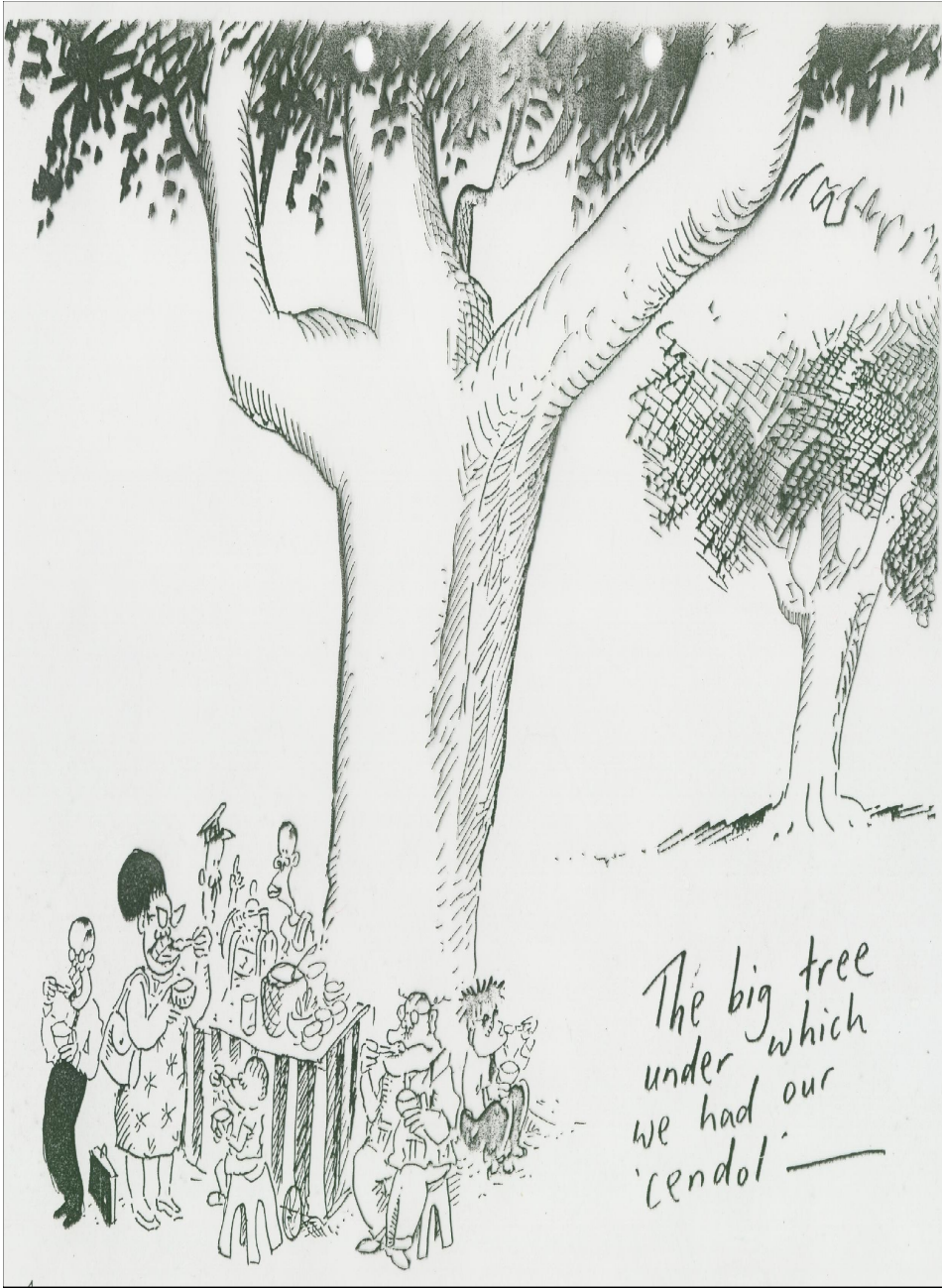


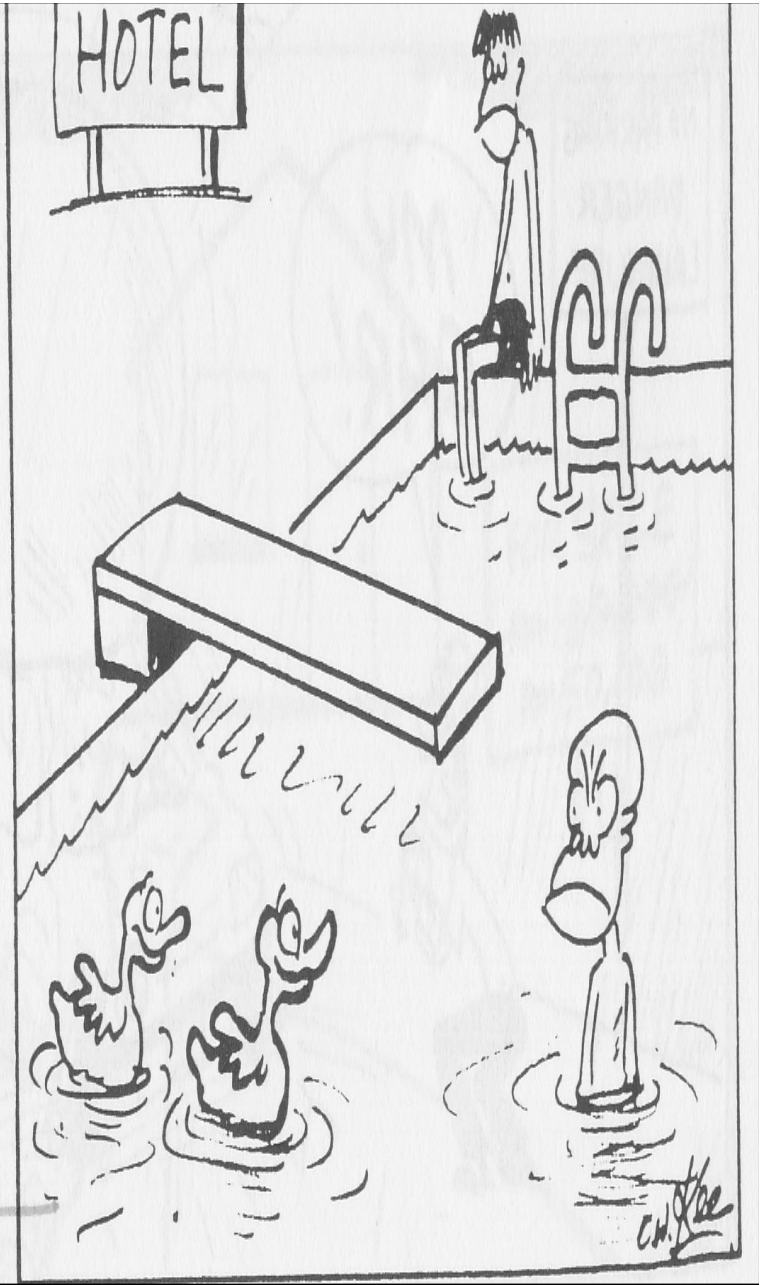
Shape, materials, style, symbolism



Shape, materials, style, symbolism









Question 6

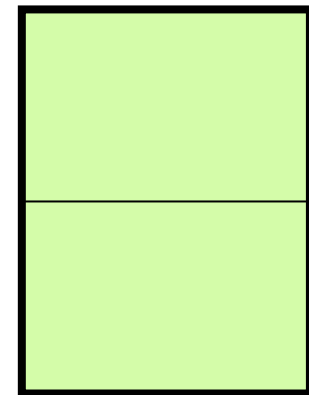
- Is modern society less concern towards environmental management compared to traditional society?

Question 7

What is your preference?

- A conventional farming products at the price of \$5 per kg, or
- An organic farming products at the price of \$7 per kg?

Result



What can I contribute as professor, father and citizen of Malaysia?

- my self?
- my family?
- my residential / community?
- my organization?
- my country?
- my world?

NEW SUNDAY TIMES Focus OCTOBER 24, 2004 7

A Malaysian water icon

He was chosen as the International Water Association's vice-president last month and, at 39, is one of the youngest to sit on the respected body. KOH LAY CHIN speaks to Prof Dr Zaini Ujang, the first Malaysian elected into the association, about safe water, his role in the IWA and his hopes for the local water industry.

HE couldn't stand the smell of petroleum. Prof Dr Zaini Ujang, a long-time water researcher, started off as a chemical engineer in the petroleum industry but even a whiff of the substance sickened him.

The nasal quandary inevitably led him to switch to environmental sciences and soon enough, water issues became his baby.

He says water is so inextricably linked to the common man, and this is why he is understandably excited about the recently launched Bonn Charter, which is all about providing safe drinking water.

The deceptively simple-looking 17-page document was launched by the International Water Association (IWA) in Marrakech, Morocco on Sept 22, and is particularly noteworthy to developing countries like Malaysia, which Zaini now unofficially represents in the international body.

The document took three years and many international conferences to debate and formulate, he said, and was the hard work of senior water industry professionals, research institutions and industry players worldwide.

"It is a document to specify the functions of various stakeholders in the water industry. We must have some sort of clear responsibility for the government. What should they do? Are they the suppliers? If so, they must also be responsible for many issues that concern consumers such as the quality of water."

Currently, many governments say water quality is not their business, that it is the responsibility of water suppliers, which they say should be corporatised or semi-corporatised.

At the moment, Zaini says, a country like Malaysia has the supplier, the regulator and the government in "one single basket, which is unfair for the consumer."

The Bonn Charter makes recommendations as to what the government's interest should be, with a clause stating that a government should "create an independent system or systems of residential water quality regulation that is credible

and proportionate".

"Say, for example, a government has a big interest in the financial side of suppliers. The government cannot prosecute them for inefficiencies because it will then be prosecuting itself."

The clause means they should not take part in the business, but if it does then there must be a rule for it, such as doing it through investment arms or other instruments."

Zaini, Universiti Teknologi Malaysia's lecturer at the Institute of Environmental and Water Resource Management, also emphasises the need for a water safety plan.

But how can countries come up with the huge costs necessary to ensure the whole management system is properly maintained and safe for consumers?

Sustainable tariffs, Zaini said, were a good way and had worked for many developed countries.

Denmark, for example, levies a green tax on its consumers, which means they pay more for water if they use beyond the amount needed for basic necessities.

Consumers there pay a bit, but they also enjoy very good quality of water, waste less and are also helping to protect their water resources as the money collected is sufficient to maintain the entire system extremely well.

Zaini said, the IWA and MWA (the Malaysian Water Association) are trying to incorporate the Bonn Charter in Malaysia's exercise to form a new water management and services policy.

There have been workshops organised by the IWA on the issue and it will table findings and feedback at a special hearing to be held by the Energy, Water and Communications Ministry at month-end.

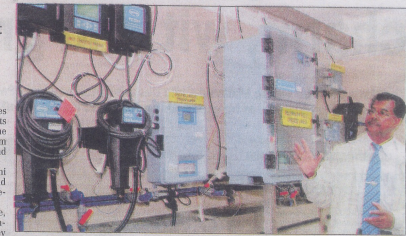
But other than promoting the implementation of the Bonn Charter, Zaini has other goals in his position as the new IWA vice-president.

He wants to put Malaysian water professionals in the international sphere.

There should be a plan, as described in World Health Organisation guidelines, to ensure that water is safe along the pipeline, that the whole system from catchment to consumers, meets safety standards. For now, you cannot sue providers if water is bad lower down the distribution line.

Zaini Ujang

*For further details, please refer to the Contest Form in Metro Ahead.



SAFETY TESTS: Assessment of water safety is only done at the treatment plant. Though it may leave the plant clean and safe, it may reach consumers as brown or dirty water after going through the distribution line.

"In a big organisation like IWA, we have icons in water like Michael Rouse (outgoing IWA president), but we actually have many young professionals who are very capable from developing countries like Malaysia. We want these people to inherit the knowledge from these icons and speak out on issues about water in these countries. We are talking about business opportunities

worth billions and 90 per cent of it is from developing countries because the developed ones have already full-grown water industries."

■ laych@nst.com.my

Harian METRO

SUSUN & MENANG

CONTEST

10 Kancils

10 Weeks

10 Winners

Wanna win? Get your copy of Harian Metro, everyday, From Aug 30, 2004. Don't miss out!

Thank you
Terima kasih
Tak!