

**IIASA-ASM WORKSHOP
HAZE AND BIOMASS BURNING IN ASIA – A SYSTEMS
PERSPECTIVE TO REVEAL OPPORTUNITIES WITH
BENEFITS FOR LONG-TERM TRANSFORMATIONS**

**ITB, Bandung , Indonesia,
4-5 October 2018**

**“A Solution-Oriented Focus to Provide Insights for Decision-Making”
By Prof Dato’ Ir Dr A. Bakar Jaafar**



4-5 October 2018 ITB

A-BakarJaafar@IIASA-ASM Workshop on
Biomass Burning



In searching for a solution ...

It ought to be driven by certain principles, for instance:

Principles 18 & 20 of The UN Declaration on the Human Environment of 1972

Principle 18

“Science and Technology, as part of their contribution to economic and social development, must be applied to the identification, avoidance and control of environmental risks and the solution of environmental problems for the common good of mankind.”

Principle 20

“Scientific research and development in the context of environmental problems, both national and multinational, must be promoted in all countries, especially the developing countries. In this connection, the free-flow of up-to-date scientific information and transfer of experience must be supported and assisted, to facilitate the solution of environmental problems; ...

... Principle 20 (continued)

“... environmental technologies should be made available to developing countries on terms which would encourage their wide dissemination without constituting an economic burden on the developing countries.”

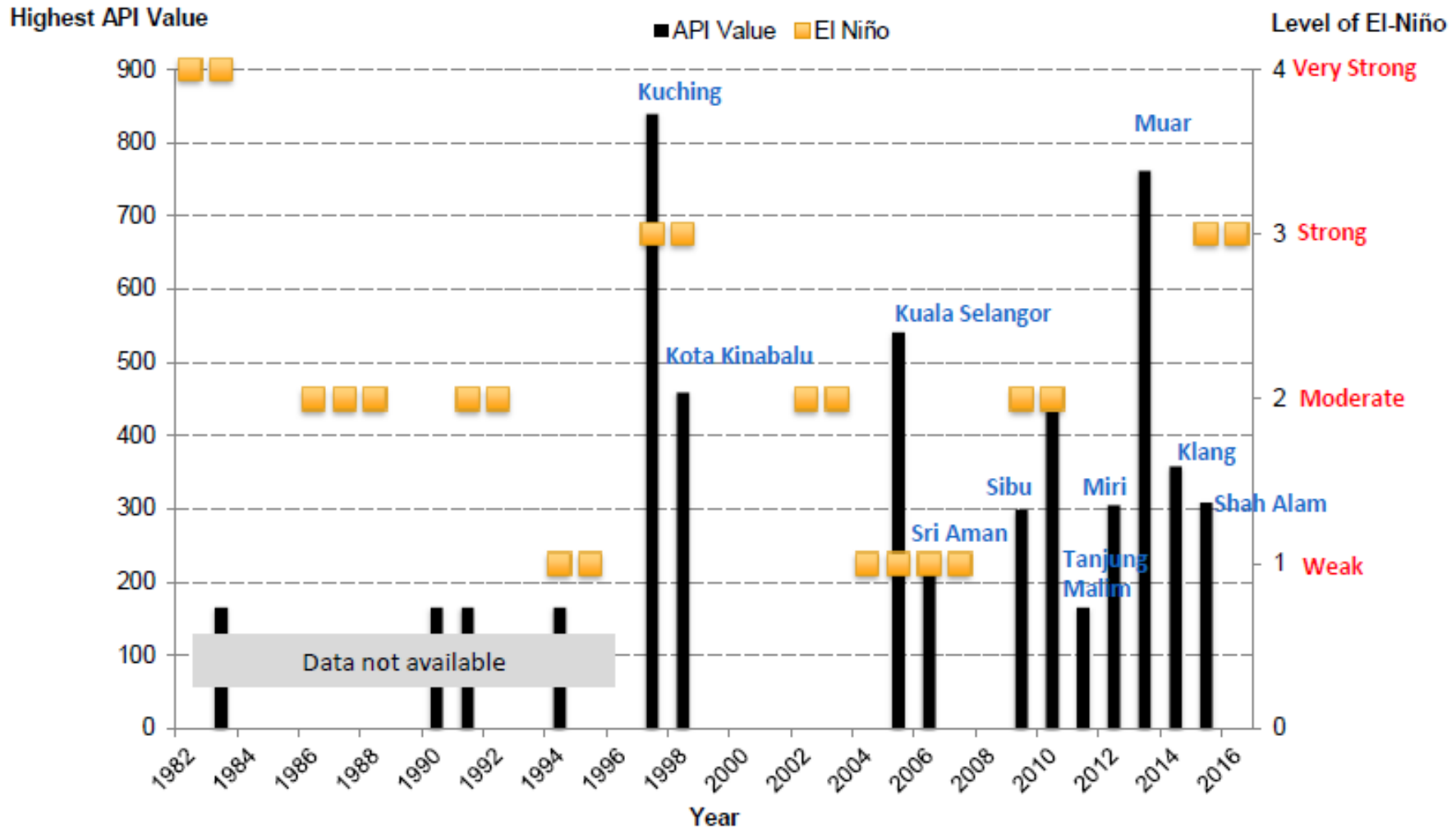
In short,

A comprehensive
assessment is
a pre-requisite to
an effective management

ASM Assessment

- The Haze episodes in the Region no longer explained by a single controlling factor i.e. the El-Nino Event; and
- There were other controlling factors, including the loss of ecological carrying capacity that usually sustained the traditional 'slash & burn' culture prior to growing seasons.

HISTORY OF HAZE IN MALAYSIA



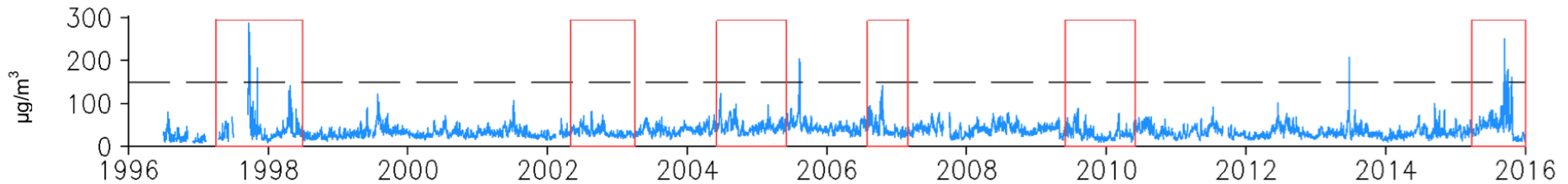
Note: All of this API is based on PM₁₀

In line with the measures made by developed countries, from noon of 16 August 2018, the API reading by Malaysia's Department of Environment (DoE) was upgraded to measure particles from 2.5 micron and below (PM_{2.5}).

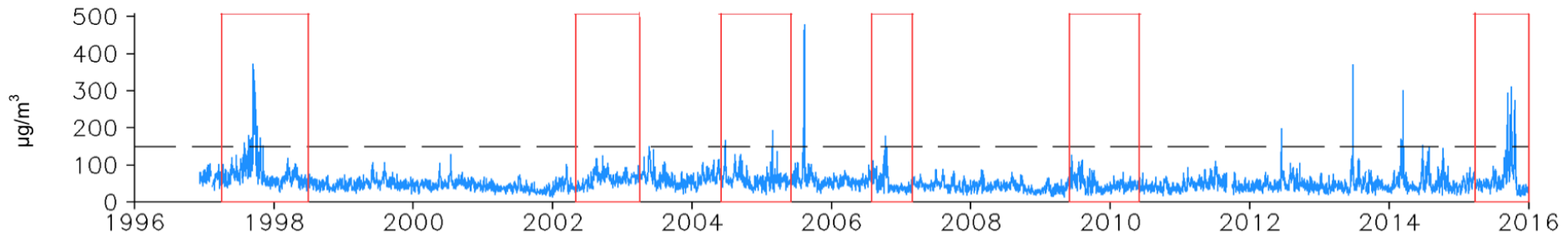
Trends of PM10 daily mean concentration (1996-2015)

Trends of Particulate Matter & El-Nino Event

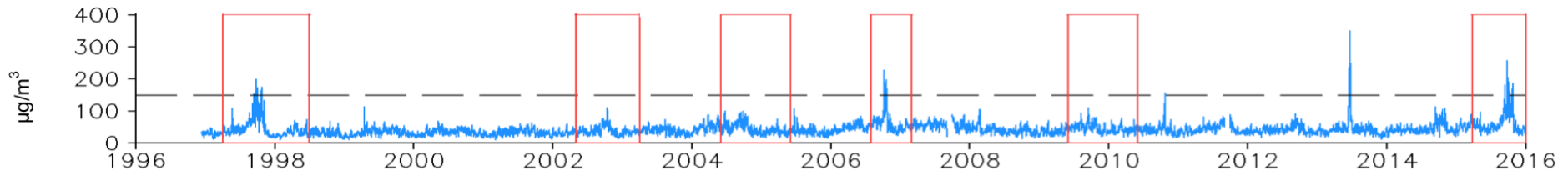
a) Background: Jerantut



b) Central: Petaling Jaya



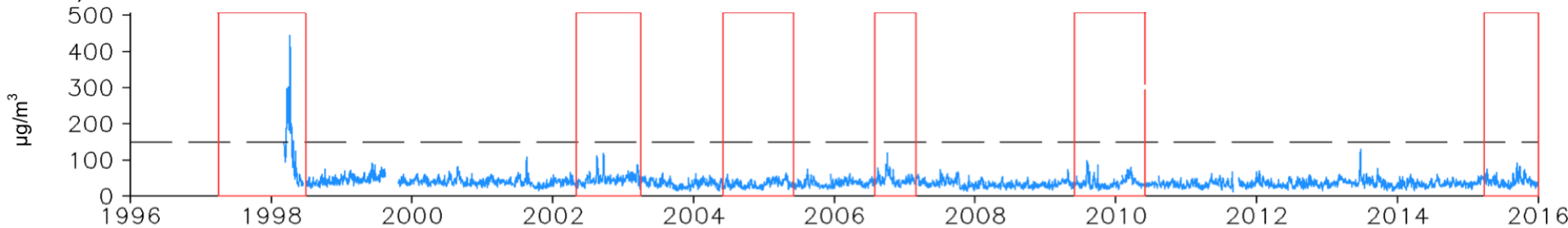
c) South: Johor Bahru



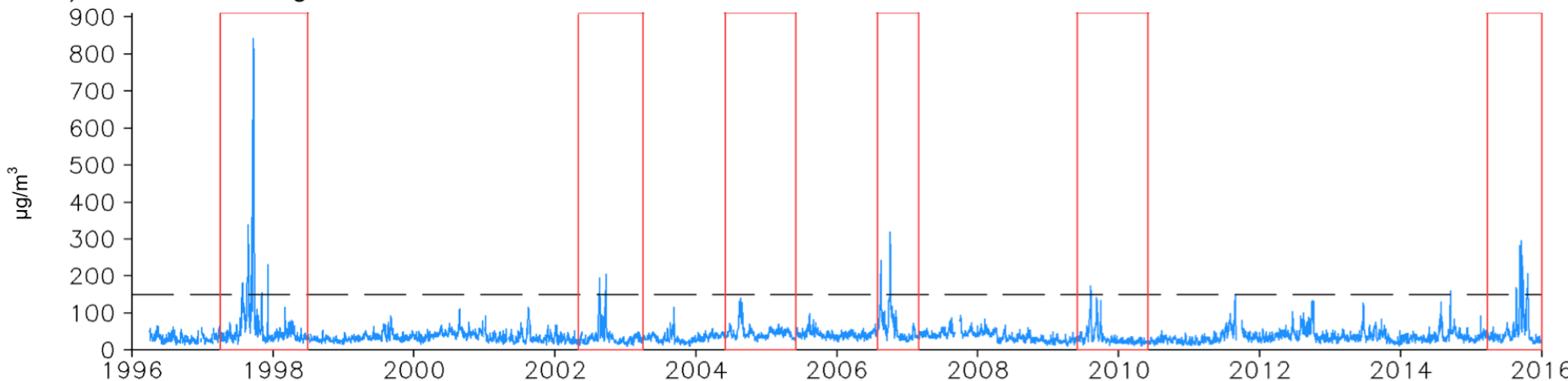
Trends of PM10 daily mean concentration (1996-2015)

Trends of Particulate Matter & El-Nino Event

e) Sabah: Kota Kinabalu



f) Sarawak: Kuching



Proposed Responses

- Public-private investments ought to be promoted in the conversion of the slashed materials from land clearing & other sources to bio-fuels or energy, and to purchase such materials that are otherwise would be burned; and
- Peat areas are to be managed, as such they would not catch fire, by ensuring high water table, and by re-channelling flood waters into such areas.

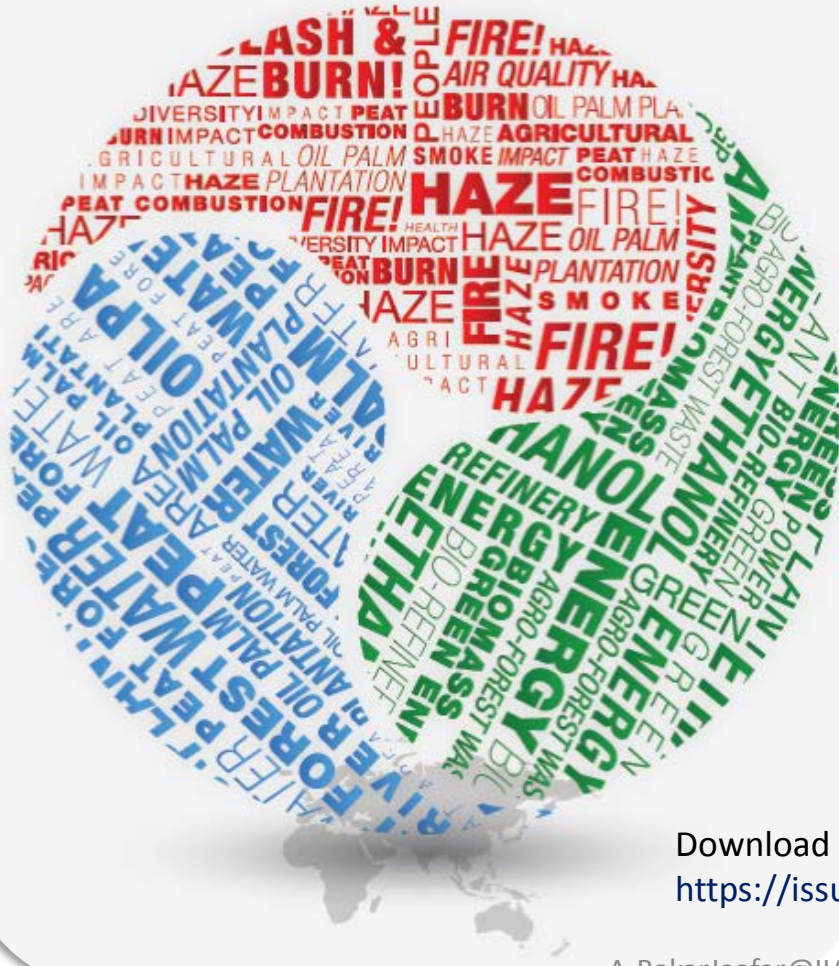
Particular Presentations

- The said Assessment would be touched at this Workshop in their respective presentations by Prof Dr Mohd Talib Latif, & Prof Dr Fredolin Tangang; and
- The proposed responses by Prof Dr Haslenda Hashim, and Dr Lulie Meiling

THE ASM REPORT ON HAZE

ASM Local & Transboundary Haze Study

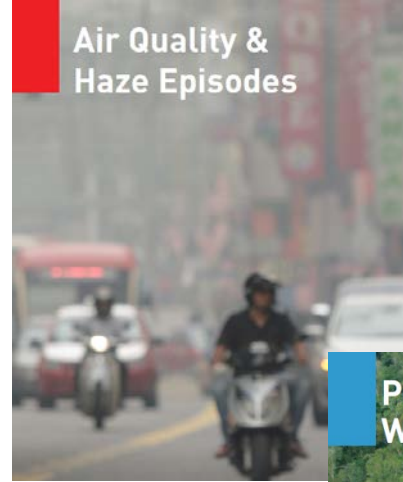
HAZE: Help Action toward Zero Emissions



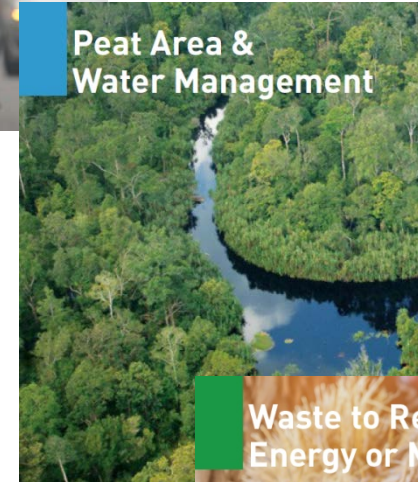
Download now:

https://issuu.com/asmpub/docs/haze_report

Air Quality &
Haze Episodes



Peat Area &
Water Management



Waste to Resources:
Energy or Materials



Facilitating Factors to Promote Investments in the Conversion of Slashed Materials into Biofuels or Energy

- Certainty in the supply of slashed materials;
- Planned areas to be land-cleared;
- Localised collection, sales & purchase, & logistics;
- Selection of appropriate technologies, size of operations, business, and required investments; and
- The necessary conduct of techno-economic feasibility studies in the said planned areas, prior to investments by both public-private entities

Facilitating Factors in Promoting Public & Private Investments in Managing Flood Waters and Water Table in Developed & Underdeveloped Peat Areas

- The hydrology and geo-hydrology of the peat areas to be established;
- Channeling and re-channelling of flood waters into developed and disturbed peat areas; and
- Financing the management of water-table maintenance by plantation companies, smallholders, and other stakeholders.

CONCLUSION

- One of the root causes of the transboundary haze is **no longer** the 'traditional' annual slash and burn practices in our both in Malaysia and neighbouring country to clear the undergrowth and vegetation to plant crops.
- The haze episode peaks during the southwest monsoon period, therefore **no open burning to be allowed** during the months of June to September.
- All local anthropogenic sources are to be reduced during the haze episodes.
- Economic return is probably a great motivator for **moving away from traditional methods of land clearing by open burning** which does not yield any economic benefits. Hence more awareness, investments, incentives, co-ordination, co-operation and enforcement should be in place.

***SLASH YOU MAY, BURN NOT, & EARN
INCOME FROM THE SLASHED MATERIAL***