

Sustainable City Planning: Emphasis On The Management of Environmentally Sensitive Areas (ESAs)



Presented by:

Halimaton Saadiah Hashim, Ph.D.

Principal Research Fellow,

**Institute for Environment and
Development (LESTARI)**

National University of Malaysia (UKM)



Scope of Presentation:

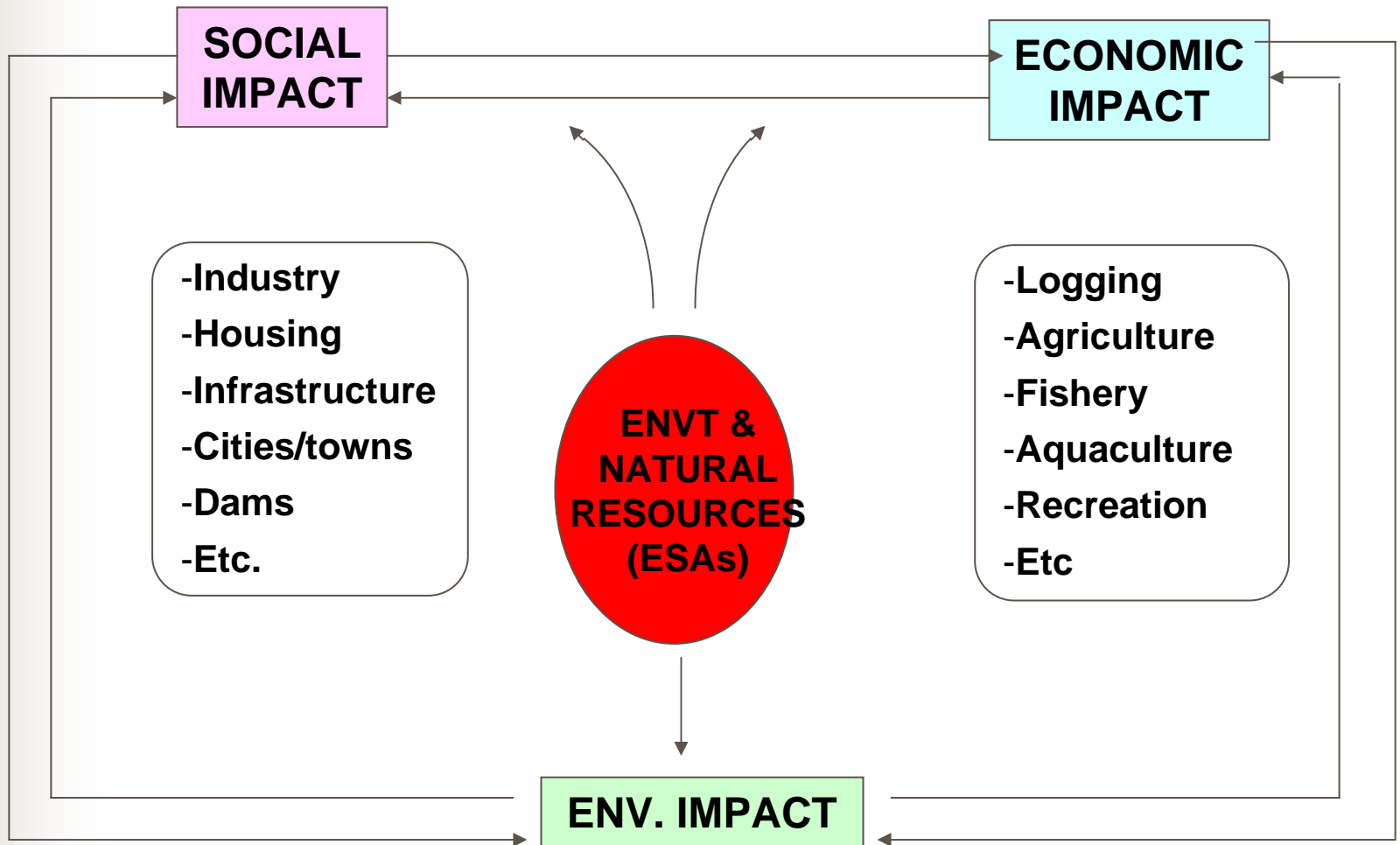
- 1. Introduction**
- 2. Definitions and concepts;**
- 3. Highlights from Selangor's ESAs Policy;**
- 4. ESAs and development:**
 - Principles
 - inventory
 - need for its integration into the planning process
- 5. Future challenges towards sustainability**
- 6. Conclusion**



Introduction...

- **Basic principle of sustainable city planning:**
 - Ensure that the use of land & its resources can be sustained for generations to come.
- **Main reason for societies to collapse:**
 - Self-destruction of resource base especially soils that support agriculture.
- **Identification and management of ESAs is important for seeking balanced development based on sustainable development concept.**

DEVELOPMENT IMPACT ON THE ENVIRONMENT AND SOCIO ECONOMY



Definitions and concepts of ESAs





ESAs at international level...

- **Initially evolved from the need to protect an area or a fragile ecosystem that was sensitive to the interference of man from the negative impacts of development.**
- **The development of ESA concept fulfilled the sectoral demands related to the agriculture, forestry and park management sectors, e.g.:**
 - **U.K. : certain environments of national interest – areas that were threatened by agriculture;**
 - **U.S.: for the purpose of protecting special natural environments**



ESAs in Malaysia...

1. As 'CRITICAL AREAS' in the National Conservation Strategy (1993);

- Undisturbed habitats
- Important for soil stabilization
- Important for support of human activities and environmental functions
- Of biological, historical and geological value, current and future.
- The concept is yet to be implemented, thus its effectiveness cannot be assessed.

cont...



ESAs in Malaysia...

2. DOE's guidelines for ESAs for the EIAs (1993):

- Areas that require special attention to ensure that the scientific, economic and aesthetic values is not threatened
- Fulfills the needs of environmental protection
- The extent of areas is wide and yet the number of items is limited, thus difficult to be utilised



ESAs in Malaysia...

- 3. FTCPD's ESAs through the land use planning perspective:**
 - 10 categories of ESAs (1998)
 - Generic guidelines for the management of sectoral ESAs (2005)
 - A widened scope and a recommended consultation process by state and local authorities in the identification and prioritization of ESAs.

Selangor's ESAs...





Recognising the importance of ESAs...

- **In 1998/9 the Selangor State Government:**
 - Identified ESAs;
 - Formed an ESA Policy;
 - Formally brought environmental considerations into the mainstream of economic and social policy; and
 - Reemphasized the importance of integrating the management of ESAs in land use planning (sustainable city planning).



Selangor's ESAs...

- **Sectoral ESAs (1998)**
- **Full use of Integrated ESAs by 2005**
- **ESA Policy (launched 5th June 1999)**
- **Managing ESAs:**
 - **ESAs in Development Plans**
 - **ESAs in the Planning Permission Process**



Selangor's Sectoral ESAs...

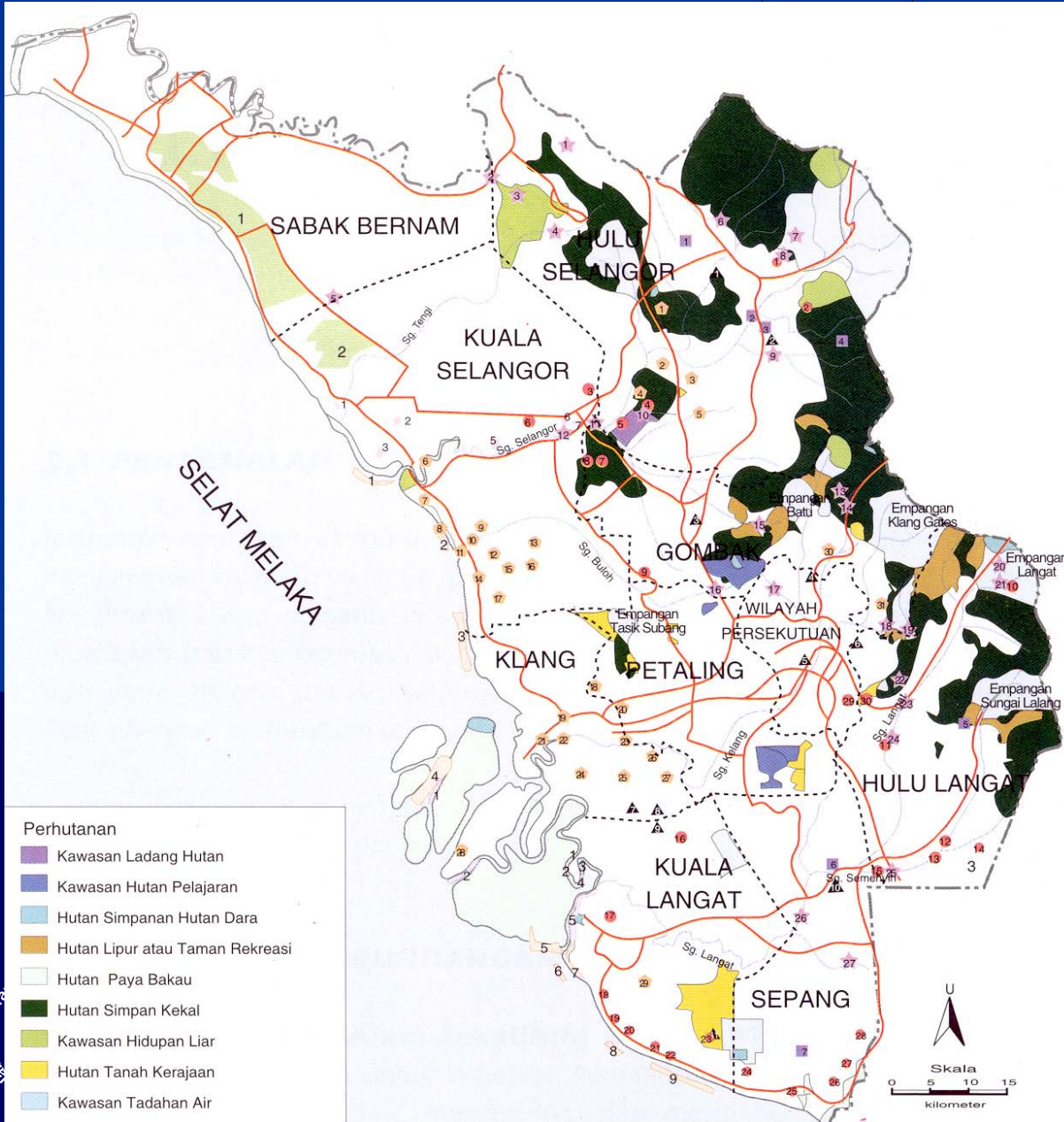
National-level ESAs

- Biological diversity
- Highlands and steep slopes
- Catchment areas
- Wildlife protection
- Rivers
- Wetlands
- Coastal margins
- Permanent reserves
- Geological and landscape heritage
- Cultural and architectural heritage

Additional ESAs

- *Mining & quarrying areas*
- *Ex-mining areas*
- *Areas with potential mineral resources*
- *Waste disposal sites*
- *Aquaculture*
- *Important marine resources*
- *Agriculture*

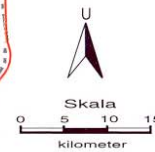
LOKASI KSAS SELANGOR



- Kawasan Padang Ragut
- Sangkar air payau
- 1 Hulu Bemam, Hulu Selangor
- 2 Sungai Jong, Kering
- 3 Sungai Jong, Kering
- 4 Sungai Tamu, Hulu Selangor
- 5 Ulu Semenyih, Hulu Langat
- 6 Sungai Chua, Hulu Langat
- 7 Hulu Teris, Sepang
- Benih kerang
- 1 Kuala Sg. Selangor
- 2 Banjar Selatan
- 3 Pantai Remis- Sg. Serdang
- 4 P. Tengah- P. Klang
- 5-7 Kuala Sungai Langat
- 8 Tanjung Gabung
- 9 Tanjung Sepat
- Kawasan air payau
- 1-5 Sungai Langat
- Ternakan ikan air tawar
- 1-5' Kuala Selangor
- Kawasan tanaman padi
- 1 Sabak Bemam
- 2 Tanjung Karang
- Kawasan potensi akuakultur
- 1 P. Klang
- 2 Selat Lumut
- Sungai
- Jalanraya Utama
- Sempadan Daerah

- ★ Takat Pengambilan Air
- | | | |
|-------------------|----------------------|----------------------------|
| 1 Sg. Selisik | 19 Ampang Intake | ▲ Kawasan Pra Sejarah |
| 2 Sg. Bemam | 20 Sg. Lolo | 1 Kg. Jawa, Kering |
| 3 Sg. Dusun | 21 Sg. Pangsoon | 2 Rasa, Hulu Selangor |
| 4 Sg. Tenggi | 22 Sg. Serai | 3 Rawang, Gombak |
| 5 Parit JPS | 23 Sg. Langat | 4 Setapak, Gombak |
| 6 Sg. Inki | 24 Sg. Langat | 5 Kuala Lumpur |
| 7 Sg. Gerachi | 25 Sg. Semenyih | 6 Ampang |
| 8 Sg. Kubu | 26 Sg. Langat | 7 Klang |
| 9 Sg. Batang Kali | 27 Sg. Labu | 8 Klang |
| 10 Sg. Darah | | 9 Teluk Panglima Garang |
| 11 Sg. Selangor | | 10 Dengkil-Jenderam |
| 12 Sg. Selangor | | 11 Batu, Kuala Langat |
| 13 Sg. Rumpit | ■ Kawasan Bersejarah | ● Kawasan Ternakan Khinzir |
| 14 Sg. Gombak | 1-5 Hulu Selangor | 1,2,4,5 Hulu Selangor |
| 15 Sg. Kanching | 6-17 Kuala Selangor | 3,6 Kuala Selangor |
| 16 Sg. Buloh | 18-27 Klang | 7-9 Gombak |
| 17 Sg. Keroh | 28-29 Kuala Langat | 10-15 Hulu Langat |
| 18 Sg. Kongsii | 30-31 Gombak | 16-23 Kuala Langat |
| | | 24-28 Sepang |

- Perhutanan
- Kawasan Ladang Hutan
 - Kawasan Hutan Pelajaran
 - Hutan Simpanan Hutan Dara
 - Hutan Lipur atau Taman Rekreasi
 - Hutan Paya Bakau
 - Hutan Simpan Kekal
 - Kawasan Hidupan Liar
 - Hutan Tanah Kerajaan
 - Kawasan Tadahan Air





Integrated ESAs...

- to resolve the issue of overlapping sectoral ESAs
- to identify the degree of sensitivity within the ESAs
- to encompass conservation, optimum resource use & societal well-being
- To operationalise sustainable development



Integrated ESAs...

- **ESAs with HERITAGE value:**
 - Culture, History and archaeology
 - Biological diversity
 - Geology and landscape
- **ESAs with HAZARDOUS RISKS value:**
 - Highlands
 - Rivers and lakes
 - Coastal areas
 - Wetlands
- **ESAs with LIFE SUPPORT value:**
 - Clean water
 - Basic food
 - Material
 - Space requirement

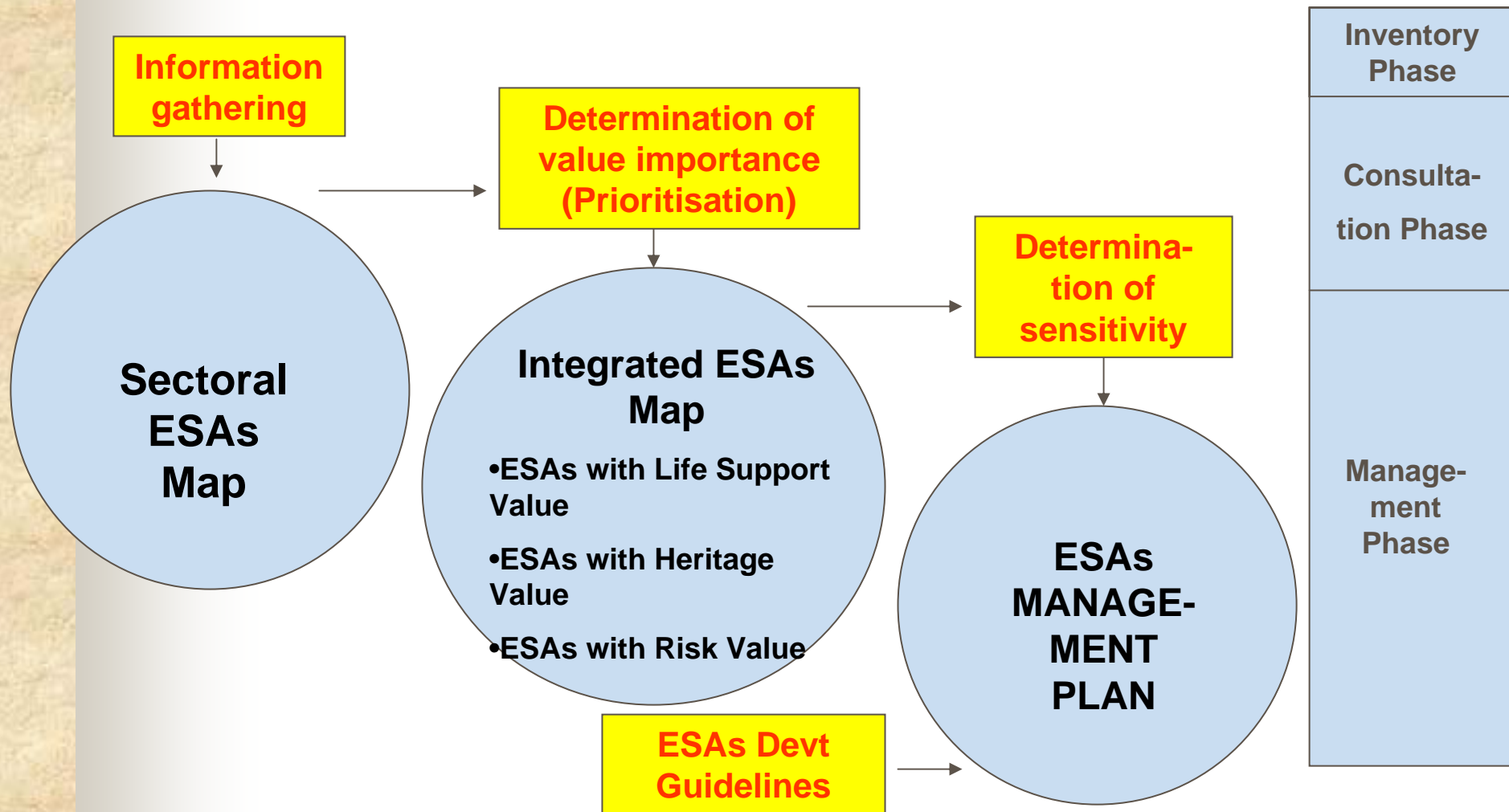
Jadual 7.4: Matriks Hubungkait KSAS Bersepadu dan KSAS Sektoral

	KSAS (WARISAN)	Sejarah & Arkeologi	Kepelbagaian Geologi	Geologi & Landskap	KSAS (RISIKO BENCANA)	Tanah Tinggi	Sungai & Tasik	Pesisiran	Tanah Lembap (Bencah)	KSAS (SOKONGAN HIDUP)	Air Bersih	Makanan Asas	Tenaga & Bahan Binaan	Keperluan Ruang (?)
PERHUTANAN														
Hutan Simpan Dara			■	●		●		●	●					
Hutan Kawasan Tadahan			■	●		●		●	●		■			
Hutan Tanah Tinggi			■	●		■					■			
Hutan Paya			■	●					■		●			
Hutan Simpanan Kekal Lain			■	●		●		●	●		●			●
PERIKANAN														
Perikanan Air Tawar						●	●	●				■		
Perikanan Pesisiran							●	●				■		
PERTANIAN/PENTERNAKAN														
Kawasan Padi								●			●	■		●
Kawasan Sayuran & Buahhan						●					●	■		
Ladang Khinzir							■				●			
Kaw. Padang Ragut											●	■		
HIDUPAN LIAR														
Rizab Hidupan Liar			■	●		●	●	●	●					●
PESISIRAN														
Pantai			●	●				■	■			●	●	●
Sungai & Tasik			●	●				■	■		●	●	●	●
Pulau			●	●				■	■			●	●	●
MINERAL & BATUAN														
Pasir & Kerikil						●	●	●			●		■	
Agregat Batuan						●					●		■	
Lempung & Tanah							●	●			●		■	
JASAD AIR														
Empangan Bekalan Air			●				■				■			●
Sungai			●	●			■				■	●	●	●
Tasik & Kolam			●	●			■				■	●	●	●
SEJARAH & ANTIKUITI														
Kawasan Bersejarah		■				●		●	●					
Monumen & Tugu		■				●		●	●					
TAMAN REKREASI														
Taman Rekreasi			●	●	●									■
KHAZANAH GEOLOGI														
Batuan Unik / Unggul			●	■		●								
Kaw. Bekas Lombong			●	■			●							●
Mata Air Panas			●	■				●	●					●
Air Terjun			●	■			●							●
Bukit / Gunung (?)			●	■		●								●

■ FUNGSI UTAMA

● FUNGSI SEKUNDER / SAMPINGAN

SELANGOR'S INTEGRATED ESA'S MANAGEMENT APPROACH





The Selangor ESA Policy, launched on 5th June 1999...

- 1. Use Sectoral ESAs for 3-5 years (after 1999)**
 - 2. Use Integrated ESAs by 2005**
 - 3. ESAs to be gazetted for controlled devt, buffer zones & for environmental conservation**
 - 4. Development Coordination Committee for ESAs**
 - 5. The Committee decides on the development**
 - 6. Devt proposal decisions based on EIAs**
 - 7. Legislations will be reviewed and strengthened**
- cont...**



The Selangor ESA Policy, launched on 5th June 1999...

- 8. Govt machinery to be aware & appreciate ESAs for sustainable development**
- 9. Educational & training programme**
- 10. Use of GIS**
- 11. Information technology information programme to coordinate & update database**
- 12. State govt to coordinate inter-local auth areas**
- 13. Management of ESAs strengthened through R&D**
- 14. Govt machinery supports the role of ESAs in the context of life support systems, heritage conservation & risk of hazards**



Development principles in ESAs...

- **A useful spatial planning tool at state and local levels i.e. in development plans**
- **A decision-making tool in development control:**
- **All ESAs are areas of controlled development**
- **Development in and around ESAs shall not endanger lives, result in loss of property or harm the health of local communities**
- **Development in and around ESAs should enhance the socio-economic and environmental sustainability of that area**

ESAs DEGREES OF SENSITIVITY

DEGREES OF SENSITIVITY AND MANAGEMENT ACTIONS

Degree of Sensitivity	Description	Management Strategy	Management Actions
HIGH SENSITIVITY (CATEGORY 1)	ESA functions to protect its heritage value, life support system and hazardous risks or a combination of these functions. A change in its original status will destroy its ability to protect its main values.	Protection Rehabilitation Conservation	No development except for research and eco-tourism.

ESAs DEGREES OF SENSITIVITY

DEGREES OF SENSITIVITY AND MANAGEMENT ACTIONS

Degree of Sensitivity	Description	Management Strategy	Management Actions
MEDIUM SENSITIVITY (CATEGORY 2)	ESA functions to protect its heritage value, life support system and hazardous risks or a combination of these functions. A controlled change still enables it to protect its integrity.	Conservation	Only low impact devt which does not change its integrity is allowed. This includes temporary facilities, selective logging and low impact tourism. Impact studies to include EIA, ES, SIA, etc.

ESAs DEGREES OF SENSITIVITY

DEGREES OF SENSITIVITY AND MANAGEMENT ACTIONS

Degree of Sensitivity	Description	Management Strategy	Management Actions
LOW SENSITIVITY (CATEGORY 3)	ESA functions to protect its heritage value, life support system and hazardous risks or a combination of these functions. Controlled development based on its functions and within its carrying capacity can still protect its integrity.	Conservation and Controlled Development	Controlled development with stringent conditions. Types and density of development are controlled based on the site. Applications must be accompanied with EIA or ES in the Development Proposal Report.



Current progress in Selangor...

- 1. Completed inventory and development guidelines of Integrated ESAs of the highlands (<50 meters above sea level) except the isolated hills**
- 2. Completed detailed inventory and development guidelines of the highlands in 2 local authorities**
- 3. On-going: detailed inventory of the highlands for 4 local authorities**
- 4. Planning: Integrated ESAs inventory and development guidelines for the rest of Selangor to be completed by 2007/8 (*late...but better than never...!*)**



The Challenges...

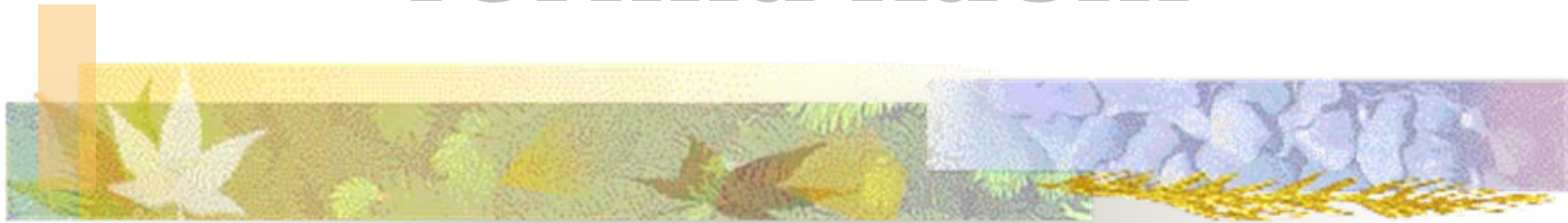
- 1.** To convince decision-makers on the need for complete inventory of Integrated ESAs for devt planning and devt control (*and to provide the budget!*)
- 2.** To have sectoral resource managers identify ESAs on a routine basis
- 3.** To increase awareness of everybody involved in the planning & devt process
- 4.** Local authorities to undertake full inventory and gazettelement of ESAs
- 5.** The development of a consultation process in identifying and prioritising ESAs



Concluding remarks

- **Integrated ESA defines an area containing various ecosystems that play an important role in ensuring the well-being of the environment and society, which could be threatened by development**
- **An Integrated ESA is categorised based on the perspective of its value and its function in the overall ecosystem**
- **Integrated ESA allows for the best possible land use for a given area by taking into account environmental, resource base and socio-economic factors**

Terima Kasih



Thank You