



2007 PRESIDENTIAL ADDRESS

Re-engineering an Engineering Institution

The Immediate Past President, Past Presidents, Deputy President, Vice-Presidents, Members of Council, and my fellow engineers.

1.0 INTRODUCTION

- 1.1 Those who seek office are placed there by the votes of the members they serve. And today that is a privilege that I share with the other newly-elected leaders of our beloved Institution. I am indeed very honoured to be elected to this very high office as President of our learned Institution, and I stand humbly before you at this Annual General Meeting to deliver my Presidential Address.
- 1.2 First of all, please allow me on your behalf, to put on record our gratitude to all the Past Presidents and Council Members for their untiring efforts and invaluable contributions to the advancement of our Institution. Their selfless dedication to the cause of the Institution have been instrumental in ensuring that our Institution remains relevant and respected by the public, our stakeholders and other professional associations, locally and abroad.
- 1.3 We have been blessed by God Almighty that Malaysia, with her strong economy and a stable government, has provided the framework and the necessary environment for her citizens to create greater opportunities for advances in science and technology. We the engineers can proudly say that we have played a key role as nation builders, contributing in no small part to making Malaysia what it is today.
- 1.4 Now, as we continue to help our nation move towards achieving developed nation status, we should ask the question: Where will our Institution and our Profession be in 2020? Fellow engineers, the choices we make together in the coming months will provide us with the answer to that question. Over the past half century we have been good stewards of our profession, but now we must add to these achievements. By making our contribution to the profession more selfless, flexible, and innovative, we will keep IEM relevant and make it the premier professional organisation pivotal to Malaysia achieving Vision 2020.
- 1.5 Over the next several months, on this issue and on other issues that may arise, let us do what we have always done, viz. "Do the Right Thing, then Do Things Right" i.e. to take a strategic approach to get our direction right and to give of our best, as we engineers continue to build a better place for our children's children and their children's children.

2.0 CHOICE OF TOPIC

- 2.1 The privilege of addressing members of the Institution brings with it a great responsibility and the difficult task of choosing a topic that is of interest to most, or that is addressing the concerns of our members, and at the same time, close to my heart.
- 2.2 The topics chosen [Annex 1] by my predecessors can be categorised into three broad areas. In the early days of the Institution, Presidential Addresses generally had a scientific and technical focus usually covering the area of expertise of the President of the day. We then entered a period when the Addresses touched on the Institution and the Profession, and the issues affecting them. In between we had some Presidents who utilised the Presidential Address as a medium to look at the "State of the Institution" or to lay out their manifesto on the way ahead.
- 2.3 I have thought hard about the choices available and I have settled for a combination of the latter two. I will look at what our Institution needs to do to remain relevant in an ever complex and changing world and with the challenges of globalisation, and at the same time I will share my thoughts on how we should move forward to realise the strategic intent. I will draw on the findings of the Review Committee set up under the direction of the 45th Annual General Meeting to review the IEM Organisational and Administrative Structure.
- 2.4 Thus, fellow engineers, the theme I have chosen for my Presidential Address is **"Re-engineering an Engineering Institution"**.

3.0 BACKGROUND

3.1 Before I proceed further, let us look at what we have done in the past to make IEM remain relevant and fulfil its functions and roles to its members, to the profession, to the community, to the nation, and to the region.

3.2 I started on this journey by looking back in time, for much has been done by my predecessors to provide our Institution with a vision and a mission. At the 45th Annual General Meeting, a resolution to conduct a general review of the Institution was passed. The IEM Council formed a Review Committee to undertake the task of obtaining feedback from key office bearers and members to identify existing and outstanding problems and issues, and make appropriate recommendations to the Council. I was chosen to head this Committee.

3.3 The Review of the IEM Organisational and Administrative Structure (IEM Review Committee Report, 2005) recaps the following:

3.3.1 **Vision:** The Institution of Engineers, Malaysia (IEM) aims to be the premier professional organisation pivotal to Malaysia achieving Vision 2020

3.3.2 **Mission:** To achieve the above vision :

1. IEM shall promote professional engineering practice in support of the socio-economic development objective of the nation.
2. IEM shall service the needs and interests of its members and the public, and uphold the social standing and image of the engineering profession.
3. IEM shall contribute towards nation building and shall strive to enhance society's consciousness of science and technology.

3.3.3 **Strategic Plan:** To achieve the Mission, a strategic plan was prepared and launched in 1997. Under the Plan, five strategic thrusts have been formulated to constitute the framework for the Institution's future operations:

1. To advance and disseminate knowledge
2. To achieve and maintain high professional competence
3. To communicate and contribute on matters pertaining to engineering practice and environment.
4. To enhance awareness and encourage member participation
5. To manage efficiently and effectively the physical, financial and human resources.

3.4 From the feedbacks gathered in the course of the review, thirteen (13) issues have been identified. They are summarised as follows:

3.4.1 *IEM needs to refocus and review its strategic intent*

- Should IEM continue to pursue and promote its role as a learned society or that of a commercial / business entity?

3.4.2 *IEM needs to prescribe to its Vision and Mission*

- Operational action plans needed to achieve its Vision and Mission
- Many members are not aware of the long-term strategic plan of IEM
- There is a need to revisit the Strategic Plan to determine whether the goals set have been achieved or are still relevant today

3.4.3 *Constitution and By-laws*

- The Constitution and By-laws were first written almost 50 years ago during the inception of IEM (1959) and has remained largely the same albeit with minor amendments done from time to time
- With changes in both the size of its membership (15,000 presently) and the secretariat, there is a need to review the whole Constitution, and the roles of the Secretariat and Office Bearers
- Role of Council (regulatory or administrative?)
- Need to appoint full time professional management – roles of President, Honorary Secretary and Honorary Treasurer need to be reviewed

3.4.4 *Conflicting roles of the IEM and BEM*

- Members and public still unclear of respective roles of IEM and BEM
- BEM as a regulatory body, IEM as a learned society
- BEM has given mandate to IEM to conduct BEM's CPD and PDP courses
- IEM and BEM need to work together in harmonious co-existence

3.4.5 Multi-disciplinary

- Is IEM catering sufficiently to the needs of the various disciplines of engineering under its umbrella?
- Should the other disciplines break away from the IEM to form their own respective organisations?

3.4.6 Image and standing of engineers in society

- The image and standing of engineers in society have been severely eroded over the years
- Setting up a Hall of Fame to highlight the achievements and contributions of Engineers
- IEM to promote more active programme to promote standing and image of engineering profession to government agencies and society

3.4.7 The ideals and what the IEM stands for have not been relayed to the younger generation of graduates and students

- Many young graduates and students are not aware of the ideals and achievements of IEM

3.4.8 Relevance of the IEM to younger engineers

- Young engineers are not keen to join IEM (only 4,791 {15 %} of the 33,695 graduates registered with the BEM have joined IEM)
- IEM needs to ensure resource centres are well equipped
- IEM needs to reassess whether its activities meet the expectations of young engineers

3.4.9 Membership -- the process to join the Institution should be made easier

- Procedure to become member of IEM to be promoted more effectively so that potential members are aware of the basic requirements
- The basic entry requirements should be made known to all engineering undergraduates, starting with those from local universities

3.4.10 IEM meetings are too long

- Lengthy meetings discourage volunteers from serving in committees
- Council takes too long to make decisions
- Council is too large and cumbersome; presently having 68 council members plus two (2) observers (graduate and student representatives)

Current composition of Council is as follows:

No.	Position	Number	Remarks
1	President	1	
2	Deputy President	1	
3	Immediate Past President	1	
4	Past Presidents	9	
5	Vice Presidents	7	
6	Honorary Secretary	1	
7	Honorary Treasurer	1	
8	Ordinary Council Members	33	
9	Branch Representatives	11	
10	Co-Opted Members	3	3 Corporate Members nominated by President, appointed by the council.
11	Graduate and Student Rep.	2	(Observers)
	Total	70	

3.4.11 Administration of the IEM

- Secretariat strength of 5 in 1959 has grown to 30 to cope with the increase of membership, without a review of its structure, job function and general set-up
- Administration is too bureaucratic

- Senior staff are not empowered in decision making and operational matters
- Office layout of the Secretariat needs to be reviewed due to critical lack of space for working areas as well as storage areas for documents
- Secretariat staff needs to be more customer-friendly and service oriented towards its customers (members)
- There is a perception that IEM decision making and management processes are too centralised
- Multi-layered decision making process from Sub-Committee level to Council

3.4.12 Training centre is not operating as a business entity

- Supposed to operate as a business entity
- There are complaints of last minute changes or cancellations of courses with little notice to participants or co-organiser
- Some courses offered are duplications of what IEM provides

3.4.13 Standard of publications can be improved

- Plagiarism should be avoided in all IEM publications
- Need for the standard of materials published in the Bulletin to be of international standard.

3.5 Having the problems and issues identified, the Review Committee proposed that the following areas should be reviewed:

- IEM Vision and Mission
- Constitution and By-laws
- Method Statements of ISO 9000 certification
- Ownership of responsibilities vis-à-vis empowerment
- The role and organisational structure of the Secretariat

3.6 The first task in the re-engineering process would be to out-source a review of the areas proposed in the previous paragraph. Having the issues identified, and with the Vision, Mission and the Strategic Plan in place, the challenge then will be to put into perspective these concerns or issues into a strategic map.

4. STRATEGIC PLANNING - DOING THE RIGHT THING

4.1 I am pleased to note that the IEM has been reviewing its strategic planning on a regularly basis, viz. in 1995, 2002 and 2005. Since a strategic plan is a 'living' document, it is imperative that this document be put through review and revision regularly. As a management tool for organising the present on the basis of the projections of the desired future, a strategic plan is a road map to lead us from where we are now to where we would like to be in the near future.

4.2 A strategic map is a game plan which consists of members' and stakeholders' perspective, financial or budget perspective, internal business process perspective, and learning and growth perspective. It is useful to prioritise and initiate solutions or plan of actions and to determine the time frame for action and the champions of these initiatives. This way, hopefully we will be able to find ways to resolve issues from one perspective without losing track of the other perspectives.

4.3 However, strategic planning does not try to make future decisions. Whilst a part of strategic planning is anticipating the future environment, the decisions are made in the present. Strategic planning is thus, not a substitute for the exercise of judgment by leadership.

5. RE-ENGINEERING

5.1 As we attempt to transform IEM to remain relevant now and in the future, we have to turn to a variety of improvement initiatives, such as re-engineering. Re-engineering can be defined as "The fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed." - [Hammer and Champy, 1993]

5.2 The National Academy of Public Administration (NAPA) has recasted this definition for government, which is applicable to a learned institution like ours :

"Government business process re-engineering is a radical improvement approach that critically examines, rethinks, and redesigns mission product and service processes within a political environment. It achieves dramatic mission performance gains from multiple customer and stakeholder perspectives. It is a key part of a process management approach for optimal performance that continually evaluates, adjusts or removes processes." - [NAPA, 1995]

5.3 In any re-engineering approach, there are a number of transitional activities that must take place. These include:

Classical	Re-engineering
Paper-driven	Electronic-based
Hierarchical	Networked
Power by hoarding information	Power by sharing information
Appropriations funding	Leveraged-cost funding
Stand-alone	Virtual and digital
Compliance-oriented	Performance-oriented
Control-oriented	Benchmark-oriented
Sole resident experts	Teams by talent
Stovepipe organisations	Honeycombed organisations
Oversight agencies	Coaching agencies
Single agency projects	Cooperative projects
Information-limited environment	Information unlimited environment
Delayed access	Instant access
Slow response	Prompt response
Data entered more than once	Data entered once
Technology-fearful	Technology-savvy
Business as usual	Routinely improving
Decisions pushed to top of the agency	Decisions pushed to the customer transaction
People do processing; limited time for critical thinking	People do critical thinking; smart technology does processing

[Ref: *Government Business Process Re-engineering (BPR) Readiness Assessment Guide, General Services Administration (GSA), 1996*]

5.4 Considering some of the activities listed above, it would be fair to say that IEM has already begun on the journey of re-engineering, albeit in its early stages. What is needed now is to vigorously pursue the process to ultimate success. Whether successful or otherwise, the benefits and rewards of these improvement programmes (re-engineering) are many and they include:

- enabling revolutionary improvements in our business processes as measured by quality and customer service
- eliminating waste, unnecessary management overheads, and obsolete or inefficient processes
- producing often significant reductions in cost and cycle times
- empowering employees

5.5 However, the early re-engineering and other improvement programmes were often fragmented and may not be well linked to IEM's vision, mission and overall strategy. Hence, for us to manage our strategies that have been set out earlier, the use of measurement focus of a certain strategic management system will help us to accomplish critical management processes, i.e.:

- Clarify and translate vision, mission and strategy
- Communicate and link strategic objectives and measures
- Plan, set targets, and align strategic initiatives
- Enhance strategic feedback and learning

5.6 Such a system will not only allow us to identify the expected outcomes of the actions taken, it will determine the champion and the accountability of the person or party involved, as well as the time frame to accomplish a specific action or initiative. What is generally missing from most strategic plans are the targets which one should be aiming for. The expected outcomes need to be measured and

compared with the set targets, called key performance indicators (KPI's). With the help of fellow engineers and members of the Institution, I hope that appropriate KPI's can be determined for our Institution, so that the outcomes can be used to communicate and inform members of the action accomplishments. These KPI's may be in the form of quantitative or qualitative measures.

5.7 A typical example of a strategic planning which IEM can use to review its own strategic plan is that produced by the Department of Irrigation and Drainage (DID), Malaysia. The DID strategic planning document is built through a process that translates its strategic aspirations, goals and objectives into action. The process [Figure 1] is guided by three main questions:

- Where are we now? » SWOT and Stakeholders Analysis
- Where do we want to be? » Vision, Mission and Values
- How do we get there? » Key Strategies and Action

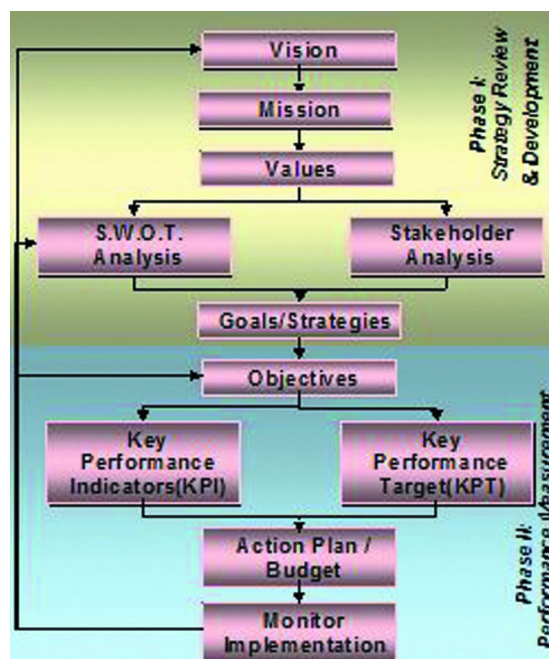


Figure 1

5.8 Hence in general, the strategic planning framework is guided and sustained by a set of guiding principles which act as success factors for the planning, implementation and monitoring activities, as illustrated below :

<p>Objective</p>	<p>The objectives of this plan are to:</p> <ul style="list-style-type: none"> • Effectively communicate responsibilities and strategic direction for the Institution • Provide a planning framework to implement higher-level plans and strategic objectives. • Form the basis for more detailed subordinate strategic business plans and budgets • Show those outside the Institution what it is doing and where it is going <p>Give the basis for monitoring how well the Institution performs as an organisation to manage and deliver its objective and mandate.</p>	<p>Direction</p>	<p>The strategic plan sets out the direction for the Institution over the next few years. It provides the compass by which we can all ensure we are steering the same course, on the same track, with the same goal. This plan has to be developed by the CEO and his leadership team. But, it is not only their plan - it is the Institution's plan. Leaders and managers at all levels must take on board the direction it provides. It must be used to shape the plans and daily activities so that all are focused on the same goals.</p>
-------------------------	--	-------------------------	---

<p>Leadership</p>	<p>If the Institution is to be a credible and effective organisation of the future, its effective leadership and management are critical. How well we do our role over the next few decades depends on decisions made today. This document outlines our strategy. It states our mission and our vision for ourselves. It sets the measures we need to plot our progress, if the Institution is to remain relevant—both nationally and internationally</p> <p><i>We need to plan a course forward. Without a plan, we have no common route along which we can move. With a plan, we become united by a common purpose—and motivated by a shared set of values.</i></p>	<p>Measurement</p>	<p>The success of this plan will be measured by our effectiveness in five to ten years.</p> <p>The plan aims to deliver:</p> <ul style="list-style-type: none"> • Better management systems and processes • Better managed, led and trained people • An appropriate infrastructure, and • An overall organisational structure which integrates well internally and work well with all key stakeholders.
<p>Scope</p>	<p>This plan is the roadmap from which all other planning documents within the Institution will grow. It aims to ensure that plans at all levels within the Institution are aligned with our agreed strategic actions. It provides the overarching strategies to achieve the Institution's vision and to carry out its mission.</p>		

6. IMPLEMENTATION - DOING THINGS RIGHT

- 6.1 We start the re-engineering process by “*Doing the Right Thing*” to get our direction right and initiate the implementation phase by “*Doing Things Right*” to get it done in the best possible way. I would like to share with all of you what DID has done with respect to “*Doing Things Right*”. **Annex 2** illustrates the strategic planning framework showing typical strategies and action plans for one of DID's core business or focus areas.
- 6.2 The issues or concerns gathered from the study by the Review Committee can, likewise, be organised into focus areas, and their respective strategies formulated. As this exercise need extensive input and active participation from all members to make the strategic plan as OURS, it would be necessary to bring all stakeholders together in a workshop session.
- 6.3 I know that none of these actions would be easy. But we have to move ahead with courage and honesty, because our members' interest and profession are more important than anything else. I will work with members of the Council to find the most effective combination of actions. I will listen to anyone who has a good idea to offer. We must, however, be guided by some basic principles. We must make our strategic plan practically sound and the actions workable, and we must do it sooner rather than later, and not leave that task for another day.

7. CONCLUSION

- 7.1 My fellow engineers, ladies and gentlemen. To successfully re-engineer our Institution requires from us – a willingness to tolerate change and to withstand the uncertainties that change can generate. I humbly urge each and everyone of you to commit and contribute significantly for the benefit of our Institution and to make IEM the premier professional organisation pivotal to Malaysia achieving Vision 2020. The journey will not be easy but the satisfaction upon achieving it will far outstrip the hardships we have to undergo. Truly, the rewards at the end of the journey will benefit our Institution, and satisfy the needs and requirements of society and the nation.
- 7.2 In closing, I take this opportunity to once again, thank all of you from the bottom of my heart, for the trust you have placed in me and the incoming Council and I hope for your continued support and cooperation during my term as the President of The Institution of Engineers, Malaysia. ■

Annex 1: Topic and subject matter of previous Presidential Addresses

Year	President	Topic	Matters
1977	Ir. Tan Sri Mahfoz bin Khalid	Roads in the Service to the Nation	Road development
1981	Ir. T.T. Cheam	Engineering Education and Training	Engineering curricula; Graduate training; Engineering status
1982	Ir. Tan Sri Datuk Haji Mohd Hassan bin Abdul Wahab	Prospects on Data Communications	Need for data communications; digital prospects
1983	Ir. Tan Sri Datuk Haji Mohd Hassan bin Abdul Wahab	The Catch-Phrase: Transfer of Technology	Methods of transfer; absorption; present situation
1984	Dato' Engr. Pang Leong Hoon	Water as a National Problem	Awareness; Water problems (flooding, pollution, drought); Strategies for water resources management
1985	Dato' Engr. Pang Leong Hoon	The Role of Hydrology in Water Resources Assessment	Importance of hydrology; History and expansion of hydrological activities; Hydrological programmes;
1988	Academician Dato' Engr. Lee Yee Cheong	The Way Ahead	Membership development; Improvement of service to members; Unemployment of engineers; Policing of Professional Code of Practice; Becoming the engineering centre for Malaysia; Consolidation of ASEAN ties
1989	Academician Dato' Engr. Lee Yee Cheong	Strategic Planning and the IEM	External environment for IEM; Internal situation of IEM; Goals of IEM; Elements of IEM's Strategic Plan
1990	Ir. Dato' Mustafa bin Ahmad	Privatisation and the Malaysian Engineering Profession	Prospects for Malaysian engineering profession
1991	Ir. Dato' Mustafa bin Ahmad	Engineer as Entrepreneur	Characteristics of entrepreneur, IEM Award for Contribution to Engineering in Malaysia
1992	Ir. P.E. Chong	My Vision and Mission	Services to members; Rapport with the public sector and the Board of Engineers, Malaysia (BEM); Close relationship with the mass media;
1993	Ir. Abdul Rashid bin Ahmad	Professionalism and Vision 2020	Gain respect and trust of the public;
1994	Ir. Abdul Rashid bin Ahmad	Sustainable Development – The Challenge	Sustainable development and the environment; Role of engineering profession
1995	Ir. Dr Ting Wen Hui	The IEM as an Institution	Development of IEM since 1959; Unity; Reforms; Volunteerism
1996	Ir. Dr Ting Wen Hui	The Foundations for an Advanced Technological Driven Society	Public awareness of role of engineers; Public esteem and recognition; Education and training; R&D
1997	Ir. Hj. Mohd Mazlan Baharuddin	Our Destiny	Strength of IEM; Improvement; Support from members
1998	Ir. Hj. Mohd Mazlan bin Baharuddin	Engineers Role for a Better Malaysia	Role; Problems of professional engineers (communication skills, management skills, economics appreciation, narrowness of views); Role of IEM
1999	Dato' Ir. Dr. Haji Ahmad Zaidee bin Laidin	Key Issues of Engineering Education for 2020 and the Borderless World	Development of competent manpower (Malaysia Boleh); 60-40 ratio of students in science and technology to non-science; career change; lifelong education; minimise impact of the borderless world on the engineering profession.
2000	Dato' Ir. Dr Haji Ahmad Zaidee bin Laidin		"New economy" (k-economy); Information and Communications Technology (ICT)
2001	Ir. Dr Gue See Sew	Reinventing the Image of Engineers	Engineering education; Continuing professional development; Code of ethics; Working with media; Contributions to society
2002	Ir. Dr Gue See Sew	Engineering Excellence Through R&D, Innovation and Training	Innovate to generate; Image and education; Empowerment through education
2003	Ir. Prof. Abang Abdullah bin Abang Ali	Engineering, The Misunderstood Profession: for Reinventing the Profession	Interact with science and technology; Multi-A Case discipline activities; Master generic skills
2004	Ir. Prof. Abang Abdullah bin Abang Ali	The Global Engineer: In Search of International Excellence	Borderless marketplace; Essentials of the profession; Capacity building
2005	Ir. Prof. Dr Ow Chee Sheng	Meeting Realistic Challenges and Maintaining Benchmarks	Local and regional initiatives; Rating of Engineering Faculties; Regional Registers
2006	Ir. Prof. Dr Ow Chee Sheng	IEM and its Mega Issues	Future role of IEM; Empowerment and delegation; Council effectiveness and governance; Products and services to meet Membership/Society needs; Volunteerism; Status of the Action Plan

Annex 2

Focus Areas #2: Clean, living and vibrant rivers				
Goal: To develop and implement IRBM Plan for every river basin for a holistic and sustainable development				
Strategies	Action	Expected Outcomes	Owner	Expected Timeframe
2.1.To focus on implementing river conservancy programme	2.1.1 Identify, plan, design and carry out river conservancy works such as: <ul style="list-style-type: none"> • Desilting, • River corridor landscaping, • River bank protection works 	<ul style="list-style-type: none"> • Improvement in river flow. and carrying capacity. • Enhancement of river regime. • Bringing natures back to river in terms of “clean, living and vibrant river”. • Improvement in river erosion control. • Expected worldwide best practices in river protection. 	Pengarah Sungai	28 nos by 2009
2.2.To promote the use of non-structural measures in river management	2.2.1 To prepare blueprint for IRBM (The blueprint will be based on two pilot projects i.e. Sungai Selangor and Sungai Kedah, which are due to be completed by July 2007)	<ul style="list-style-type: none"> • Completion of blueprint. The framework to be used for river basin management and enhancement. The existing blueprint which include strategic planning to lessen flood damage, river conservation and management, conveyance and storage, water transfers, navigation and river transports, river corridor development, environment management, land use, water resource, catchments area and aquatic life. 	Pengarah Sungai	4 th Q of 2007
	2.2.2 Establish database for river total loading capacity	<ul style="list-style-type: none"> • Established river total loading capacity database 	JPS	4 rivers by 2 nd Q 2009
2.3 To promote the use of non-structural measures in river management	2.3.1 Carry out Master Plan IRBM study for river basin based on priority area	<ul style="list-style-type: none"> • 10 main basin studies completed. Comprehensive program for an implementation of IRBM. 	Pengarah Sungai	2 nd Q 2010
	2.3.2 Prepare and implement specific IRBM Plan	<ul style="list-style-type: none"> • More effective water resources management. • 1 State 1 River Program (14 rivers) 	Pengarah Sungai	3 rd Q 2010