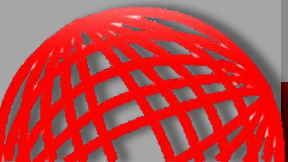




Technical Working Group Meeting 1/2019 -WATER SECTOR TRANSFORMATION

17 June 2019

**Ministry of
Economic
Affairs**

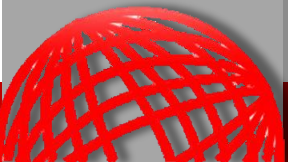




Outline

- 1 Introduction**
- 2 Highlights from IAPG Meeting 14 May 2019**
- 3 RMK12: Concepts, work plan and structure**
- 4 Output from FGD 1/2019**
- 5 Way forward**

**Ministry of
Economic
Affairs**



Introduction

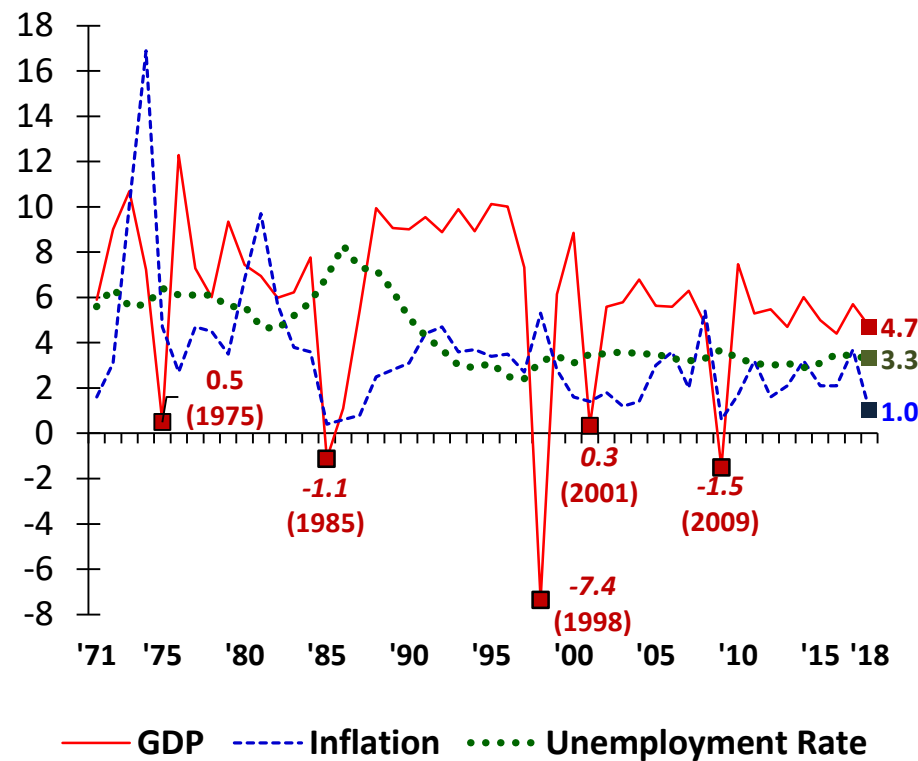
- *Surat Arahan Penyediaan Pelan Pembangunan Pasca 2020* by YBhg. Datuk Seri Dr. KSN: **16 April 2019**
- A Long-term Plan document is scheduled to be announced in **June 2020**
- The Twelfth Malaysia Plan, 2021-2025 document is expected to be tabled in Parliament in **October 2020**

Highlights from IAPG Meeting

- Looking inwards : A review of
 - Malaysia's current socioeconomic performance
 - Vision 2020 achievements
- Looking outwards : Who do we want to be by 2030?
 - Characteristics of happiest countries in the world
 - Policy support for enhancing happiness
- Mega trends
- Post-2020: Some Concepts

At a glance : Malaysia recorded rapid economic growth since the 1970s

Real GDP, Inflation (% p.a.),
Unemployment (%)



% p.a.	2017				2018				'19
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
GDP	5.5	5.6	6.1	5.7	5.3	4.5	4.4	4.7	4.5
	5.7				4.7				

At macro level, economic fundamentals remained intact ...

- ✓ GDP growth for 1971-2018 was among the highest in the world
- ✓ Low and stable inflation rate, full employment since 1992
- ✓ Absolute poverty almost eradicated at 0.4% of households in 2016
- ✓ Still one of the top destinations for FDI
- ✓ Considered as a competitive nation : 25th ranking out of 140 nations in the Global Competitiveness Report, 2018

✓ **Malaysia, 1971-2018**

- Malaysia recorded **6.1%** in spite of facing 5 economic crises since 1970
- **Malaysia has been able to rebound quickly after each crisis due to its economic resilience**

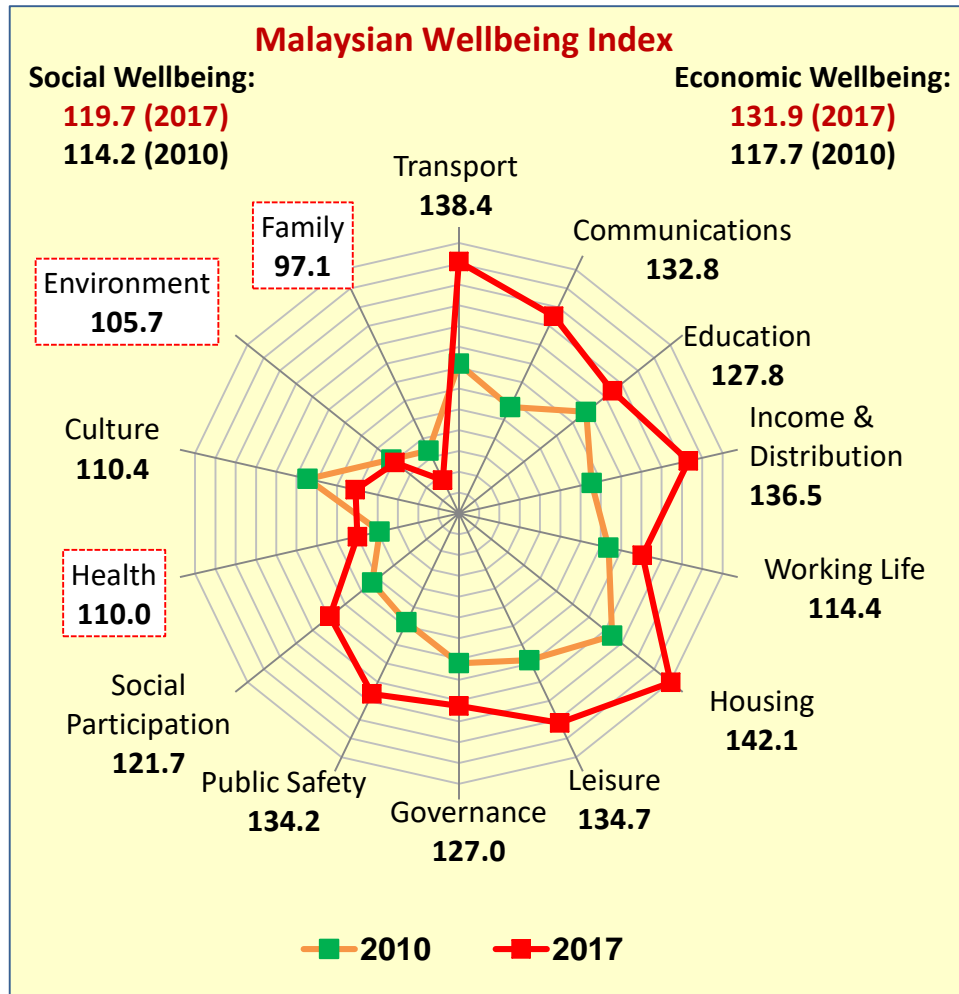
GDP, 1971-2018 (% p.a.)

- World: 3.1
- Advance: 2.6
- Developing: 2.9
- Emerging market: 4.8

Source : IHS

... but social wellbeing is lagging behind economic wellbeing

Deteriorating social wellbeing, particularly for family institution, health and environment



• Family

- Aggravating factors include increased divorce rates, domestic violence and juvenile crimes, aggravated by increasing household debt level

• Health

- Improved life expectancy, declining maternal mortality rate and stagnating non-communicable disease cases
- But affected by increased infant mortality rate and unhealthy modern lifestyle brought by stress, poor eating habits, smoking and physical inactivity

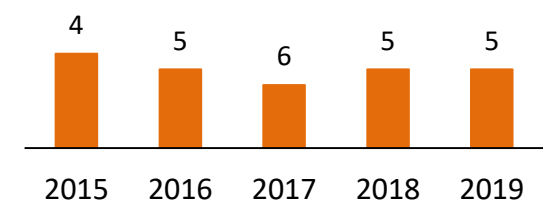
• Environment

- Deteriorated mainly due to fall in air pollution index, water quality index, while quantity of scheduled waste generated increased

Source : Malaysian Wellbeing Index, MEA

International Standing : The Good ...

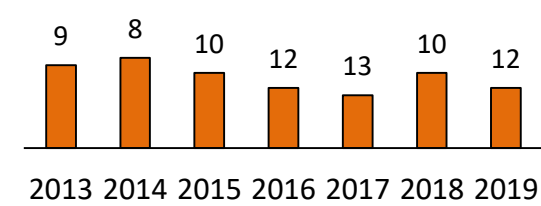
5th best retirement destination in the world...



- **International Living 2019** : Malaysia is ranked 5th in the world for best place to retire based on four aspects - finance, health, lifestyle and governance
- 2019 : Healthcare in Malaysia is ranked No. 1 based on its world-class healthcare services and sophisticated infrastructure

Source: International Living

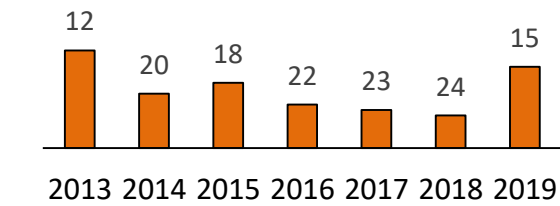
12th most powerful passport in the world...



- **Henly Passport Index 2019** : Malaysia is ranked as the 12th most powerful passport in the world out of 226 countries
- Malaysians can travel visa-free to 179 countries while only 47 other countries require a visa to enter the country

Source: Henley & Partners

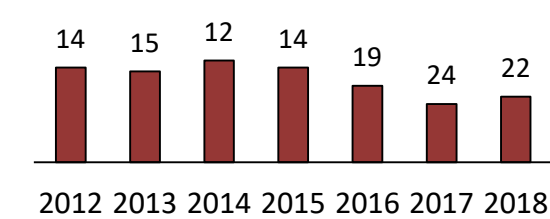
Among the easiest place to do business in Asia...



- **Doing Business 2019** : Malaysia improved its rank to 15th out of 190 countries, with being among the top 5 ranked in three indicators - protecting minority investors, construction permits and getting electricity
- Areas for improvement needed in 'starting business' including procedures, time, cost and minimum capital paid to start a limited liability company in the country

Source: World Bank

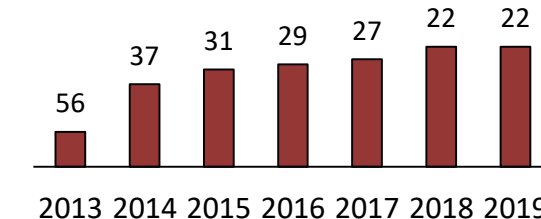
Malaysia's competitiveness remains resilient...



- **World Competitiveness 2018** : Malaysia ranked at 22nd spot with improved scores under economic performance, business and government efficiency
- The infrastructure factor declined for the 4th consecutive year due to lack of improvements in basic infrastructure, technological infrastructure and scientific infrastructure

Source: Institute for Management Development

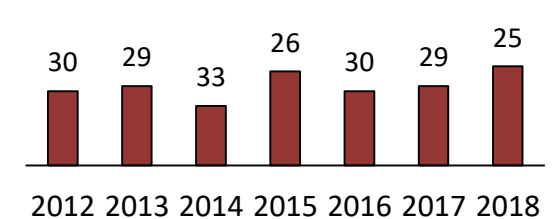
Resource management on capital, goods and investment are improving...



- **Index of Economic Freedom 2019** : Malaysia maintained its rank at 22nd spot, based on improvements in judicial effectiveness, government spending and fiscal health - also outscored the regional and world averages
- Further improvements are required in regulatory efficiency aspects for labor, monetary and trade

Source: The Heritage Foundation

Still considered among the most peaceful countries in the region...

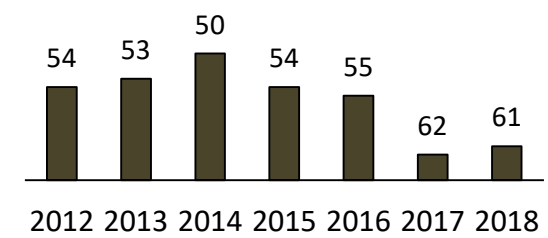


- **Global Peace Index 2018** : Malaysia is 25th out of 163 countries, and remained top 5 regionally and top 30 globally since 2015
- Malaysia's performance has improved in 'ongoing domestic and international conflict' and 'societal safety and security'.
- The 'militarisation' dimension declined, noted by the increase of imported weapons

Source: Institute of Economy and Peace

International Standing : ... the Bad and the Ugly

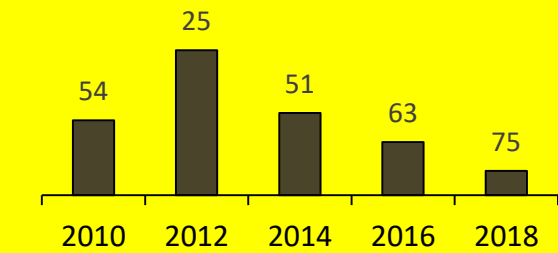
Perceived corruption is worsening ...



- **TI Corruption Perception Index 2018** : Malaysia is ranked at 61 out of 180 countries
- Performance **deteriorated since 2015 due to negative perceptions towards the government** from the public, investors and business community

Source: Transparency International

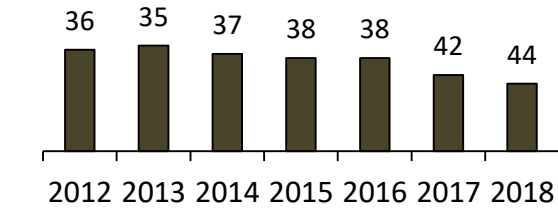
Ranked poorly in terms of environmental management ...



- **Yale Environmental Performance Index 2018** : Malaysia is at 75 out of 180 countries.
- **Malaysia's performance worsened since 2014** due to lower scores in the climate and energy, air pollution and forests pillars

Source: Yale University

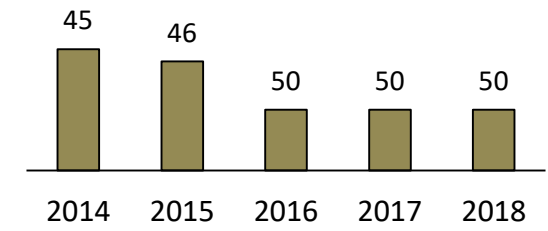
Deterioration in personal freedom, governance, and education ...



- **The Legatum Prosperity Index 2018** : Malaysia is ranked 44 out of 149 countries
- **Scored lower in personal freedom, governance, education, business environment**

Source: Legatum Institute

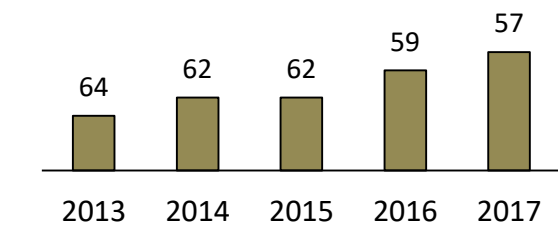
Economic progress has come at the cost of social progress ...



- **Social Progress Index 2018** : Malaysia has shown little progress in the social aspect and **remains stagnated at 50th position since 2016**
- Areas to improve include aspects on personal freedom, access to advance education, personal rights and inclusiveness.

Source: Social Progress Imperative

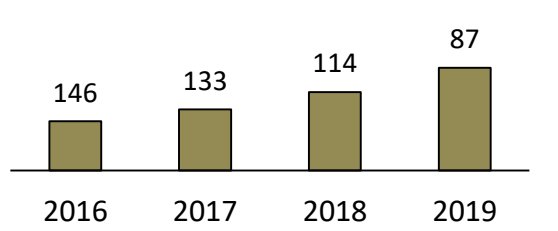
Human development is not progressing as it should be ...



- **UNDP Human Development Index 2018** : Malaysia is ranked at 57 out of 189 countries.
- Although Malaysia's performance has progressed since 2015 with most components continuing to rise (such as life expectancy at birth and GNI per capital), **Malaysia's score is still below the world average**

Source: UNDP

University ranking is not at par with regional best performers ...



- **QS World University Rankings 2019** : Malaysia's top higher education institute (UM) is **still below Asia's best performer**, National University of Singapore at 11th place in 2019
- The ranking was attributed by lower scores in indicators under academic reputation, employer reputation and citations per faculty

Source: QS World University Rankings

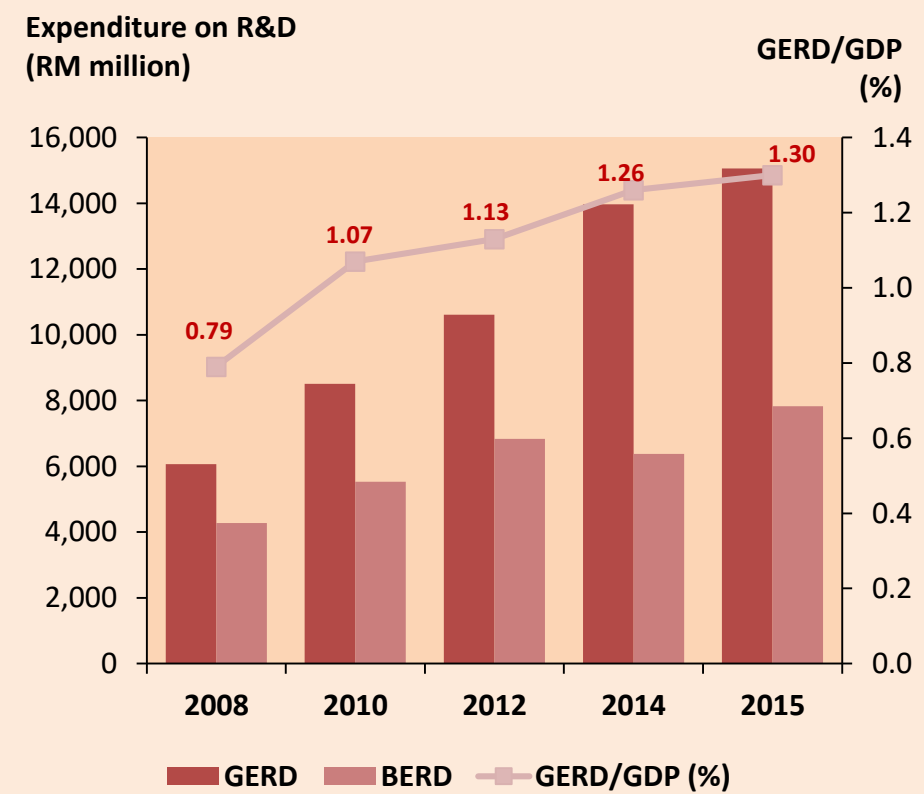
Moving towards a knowledge-based economy : Significant progress made in knowledge ecosystems for certain industries, but **many still lag behind industries in more developed countries**

Key challenges

- Institutions to develop knowledge are not well coordinated
- Weak linkages between key stakeholders
- Low level of basic skills development
- Shortage of talented staff
- A major brain-drain problem
- Over dependence on foreign technology
- Low adoption of technology

Source: Report on Knowledge Content in Key Economic Sectors in Malaysia

Malaysia's R&D has increased gradually but is still below the level commensurate with its development level



Source: National Survey of R&D 2016

Vision 2020 : To be developed in our own mould - economically, politically, socially, spiritually, psychologically and culturally

Challenges	Rating	Assessment
Establishment of a United Malaysian Nation made up of one Bangsa Malaysia	Low	Evolving very slowly and remain challenging, especially when divisive politics and race-based policies continue to prevail
Creation of a psychologically liberated, secure and developed Malaysian society	Moderate	With a sizeable educated middle class comprising various ethnic groups, there is partial fulfilment of this goal
Fostering and development of a mature democratic society	Low	Increasing calls for greater decentralization and devolution of power to the state and local authorities
Establishment of a moral and ethical society	Moderate	Perceptions of the achievement of this hard-to-measure aspiration are highly variable and mixed
Establishment of a matured, liberal and tolerant society	Low	General perception that ethnic relations have deteriorated in part due to polarization caused by religious extremism and intolerance
Establishment of a scientific and progressive society	Low	Low R&D level and inadequate pool of scientists, engineers, researchers and technologists
Establishment of a fully caring society	Low	Yet to reach a scale or sophistication that suggests a fully caring society and caring culture
Development of an economically just society	Moderate	Income distribution has recorded significant gains over the decades since the implementation of race-based affirmative policies
Establishment of a prosperous society	Moderate	An upper-middle-income country with a well-diversified economy

Source: Prof. Dr. Yeah Kim Leng, Director of Economic Studies Programme at the Jeffrey Cheah Institute on Southeast Asia, Jan 2018

Wellbeing of the *rakyat* needs to be improved in parallel with economic wellbeing ..

1. Internationally, it is also observed that the benefits of economic growth is not equally shared:

- IMF data (2018) shows that global income per capita is very high at \$17,500 per person, but considerable unhappiness remains due to inequality in the distribution of global income – this coincides with the recent wave of populism around the world
- **Global market economy is good at producing wealth, but not at sharing it fairly or protecting the environment from vicious greed**

2. Enhanced wellbeing is commonly associated with the level of happiness

- Many important tools for assessing multi-dimensional individual wellbeing have been developed around the world, such as self-report surveys, as well as the use of big data (via advancements in AI and machine learning)
- With the publication of the annual World Happiness Report (WHR) by the United Nations Sustainable Development Solutions Network, **countries can now be ranked in terms of the level of happiness of its citizens**

Source: [Global Happiness and Wellbeing Policy Report 2019](#)

Characteristics of the happiest countries ..

- **The happiest countries are not necessarily the richest**
 - The US has doubled its per capita income in the past 40 years, but its ranking has fallen from 13th in 2016 to 19th in 2019
- **Top three happiest countries are Finland, Norway and Denmark**
 - Scored highly in terms of:
 - Income ○ Social support ○ Trust
 - Healthy-life expectancy ○ Freedom ○ Generosity
 - Citizens in these countries **pay some of the highest taxes in the world**, but there is wide public support for that because people see them as investments in quality of life for all
- **Finland is the happiest country in the world**
 - Ranked as the most stable, the safest and best governed country in the world
 - **Free education, generous parental leave, healthy work-life balance**
 - Over 80% of Finns trust the country's **police, education and health-care systems**
 - Progressive taxation and **wealth redistribution**
 - Widely considered one of the best places in the world to be a mother, and to be a working woman

Source: [Statistics Finland](#), [Scientific American Magazine](#), [The Economist](#)

Happiest countries have higher tax rates (except Norway) but provide generous social support

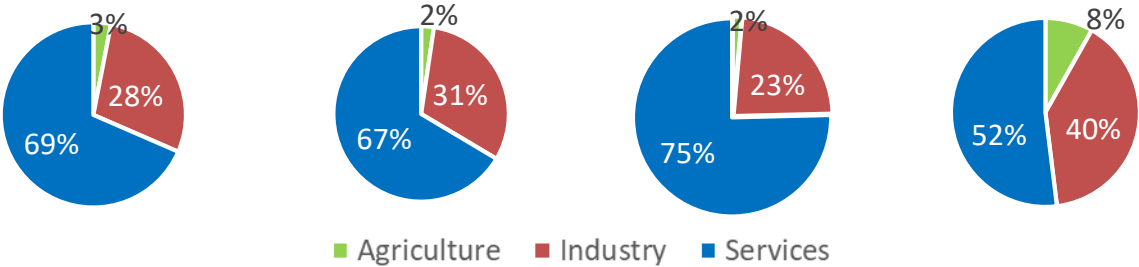
Characteristics	Finland	Norway	Denmark	Malaysia
Income tax brackets	5 income tax brackets <ul style="list-style-type: none">0%6%17.25%21.25%31.25%	5 income tax brackets <ul style="list-style-type: none">0%1.4%3.3%12.4%15.4%	3 income tax brackets <ul style="list-style-type: none">8%41%55%	11 income tax brackets <ul style="list-style-type: none">0% • 21% • 28%1% • 24%3% • 24.5%8% • 25%14% • 26%
Education	Free for the citizens for all 3 levels of education	Free for the citizens for all 3 levels of education	Free for the citizens for all 3 levels of education	Free for the citizens for primary and secondary levels. Tertiary level apply some cost of tuition fee.
Health services	Free of charge with national insurance subscription	Free of charge up to sixteen years citizens	Free of charge of the citizens	RM1 for outpatient fee and some fees for inpatient
Unemployment allowance	EUR32.40 daily for 5 days per week, for 65 days (must have Kela insurance) Allowance is gradually reduced after 65 days	62.4% of previous income (up to 52 to 104 weeks)	~EUR2500 or ~EUR1700 for full and part time insurance member (up to 2 to 3 years)	Employment Insurance System (EIS). 30% - 80% from the salary up to 6 months
Maternity and paternity leave	Father – max 54 days Mother – max 105 days	Father – 2 weeks Mother – 3 weeks before and 15 weeks after	Father – 2 weeks after Mother – 18 weeks after	Father – 7 days after Mother – 14 days before and 60-90 days after
Trust in the government (2015)	56% confidence in national government	59% confidence in national government	58% confidence in national government	44% confidence in national government

Source: World Health Organization and various sources

Happiest countries have higher labour productivity, income and compensation of employees

Item	Finland	Norway	Denmark	Malaysia
Real GDP (% p.a.)	2.8	1.9	2.3	5.9
Inflation rate (%)	0.8	1.9	1.1	3.7
Unemployment rate (%)	8.5	4.2	5.7	3.3
Fiscal position (% of GDP)	-0.1	-7.7	0.3	-3.2
Population (million)	5.50	5.29	5.75	32.0
GDP per capita (US\$)	45,927	75,389	56,631	9,755
(PPP, current international \$)	44,866	61,414	51,364	29,449
Labour productivity (US\$ PPP)	96,203	136,747	98,543	67,156
Share of Compensation of Employee to GDP (%)	46.8	47.5	51.5	35.2

Economic structure
(% to total real GDP)



Note: 1 CEIC Global Economic Data
2 Industry comprises of Mining, manufacturing, construction and utilities
Source: IMF World Economic Outlook, World Development Indicators, EIU Country Data, and The Conference Board

Lessons from Countries on Policy Support for Enhancing Happiness

- **Inclusive policymaking** – the happiness effects and policy effectiveness were likely to be greater where there was **greater engagement by all the actors**, as contrasted to cases where the policy interventions were designed in top-down fashion
- **Important to measure subjective wellbeing** – key variables with enough frequency and geographic breakdown to **provide subjective wellbeing data at the level of cities and neighbourhoods**
- **Need to move beyond GDP**
 - Gradually moving towards subjective wellbeing indicators from peripheral positions to their more natural roles as overall summary indicators of the quality of life
 - Sweden's 15 New Measures of Wellbeing, recently introduced includes three key subjective indicators among its headline items - life satisfaction, self-assessed health status and social trust

Lessons from Countries on Policy Support for Enhancing Happiness

- **Design an institutional framework flexible enough to facilitate innovation at the lower levels**
 - Important to account for local circumstances
 - **Collaborative local engagement**
- **Introducing a happiness policy agenda would require major changes in the way policies are designed and delivered**
 - Changes on a scale large enough to threaten many entrenched methods and objectives
 - Authorities need to foresee and forestall the inevitable objections to these changes

Source: [Global Happiness Policy Report 2018](#)

GLOBAL TRENDS

PRIMARY FORCES

Hyper Globalisation

- Emerging economy powerhouses
- Rise of digital platforms

Technology

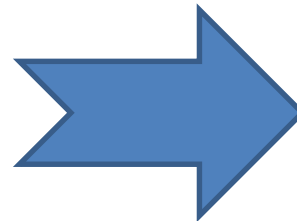
- Digital transformation
- Exponential growth in computing power
- IoT, AI

Demographics patterns

- Widespread aging – fewer births and longer life spans
- Urbanization

Environment

- **Food and water scarcity**
- **Climate change**



MEGATRENDS

Human augmentation

Adaptive regulation

Future of work

Global knowledge society

Dynamic technology and innovation

Scarcity of resources

Source: EY (2018), Roland Berger (2017) and Bernard Marr (2017)

MEGA TRENDS IN THE HORIZON

Major forces shaping the future

Globalisation



World economic centre of gravity continues to shift towards Asia - Asia Pacific share of global exports expected to **NEARLY DOUBLE** to 46% in 2050

Global GDP growth projected at average 2.6% annually from 2019-2050

RISING Public Debt



By 2050, population aging will drive up health & pension spending
If current trends continue, global levels of net public debt are set to reach staggering

Economic Power Shift, Rise of East and South

Technology



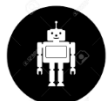
Half the world population will have access to the internet by 2030



Big Data



Artificial Intelligence



New future for manufacturing / Advance Robotics



Cloud Computing

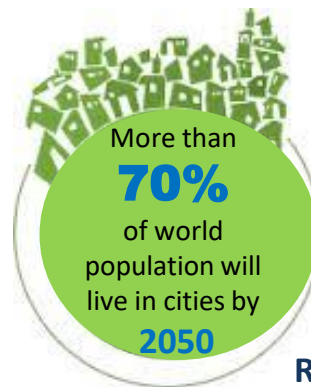


Advance Genomics

Social

In 2050 ...

16.7% of population is aged **65+**



Rapid urbanization
Most urban growth will take place in **Africa & Asia**



Rising group of middle income



Resources & Environment



60% ↑ in food production necessary



55% ↑ in water demand



Energy demand on the rise



RAPID CLIMATE CHANGE

50% ↑ in GHG emissions by 2050

10% biodiversity loss by 2050



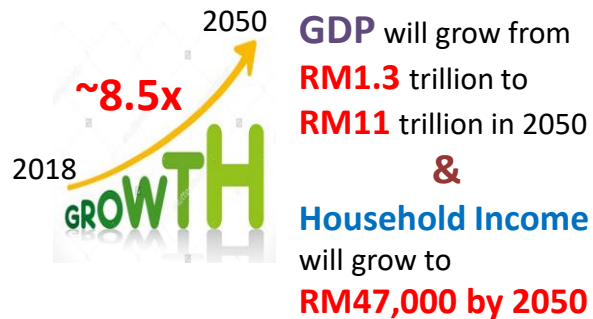
The developing world will have to shoulder 75 – 80% of adaptation cost
(+3 - 4°C) **200m people could become permanently displaced** due to rising sea levels, flooding & droughts



IN THE HORIZON

Major forces taking shape in the future **DOMESTIC** trends

Globalisation



Labour productivity increase to **RM192,000** by 2050



Potential revenue:
2020: RM9.5 bil
2040: RM80 bil

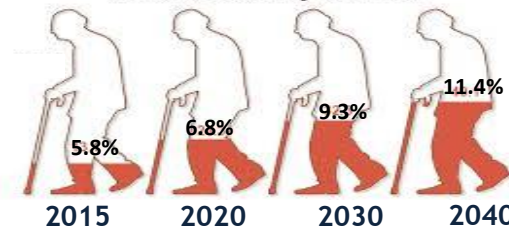
Social



Population will increase to 45 million in 2050

Urbanisation will grow from 71% in 2010 to 85% in 2040
Rapid urbanisation

Ratio of elderly over 65



Aging population by 2021



The rise of refugees/migrants

Technology

Automated economy: heavy on technology, light on labor



New types of jobs emerge

Demand for specialised skills

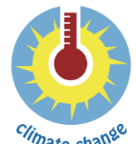
New type of society



Resources and Environment



GHG



Challenge: Decoupling the growth of economy from GHG emissions

As Economy grows:
Natural resources consumed
Waste produced

Food Security challenges

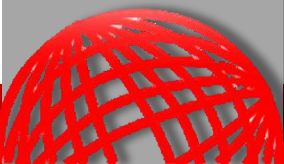




RMK12: Concepts, Work Plan and Structure

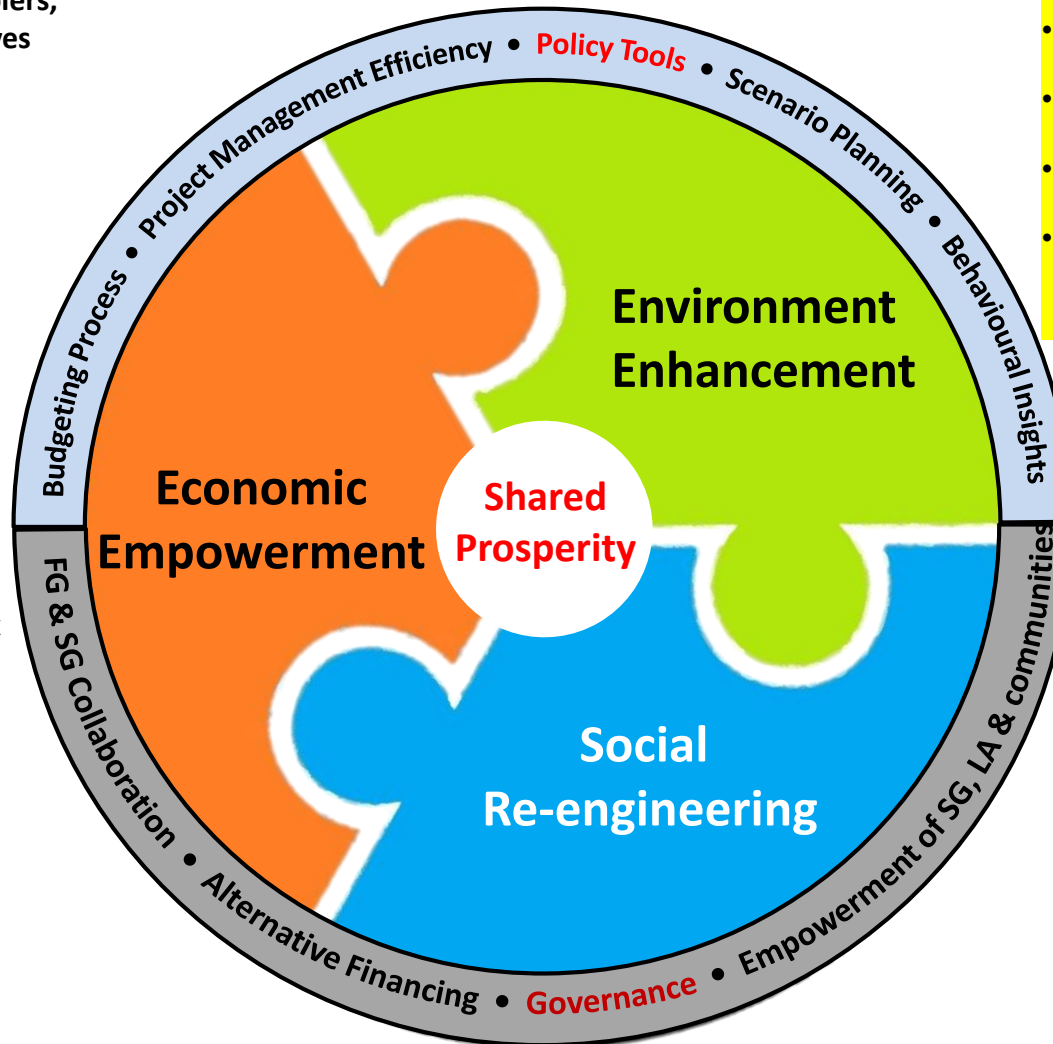
- Initial Concepts
- Proposed Strategy Papers
- TOR of IAPGs & TWGs
- Strategy Paper Format
- Timeline and work schedule

Ministry of
Economic
Affairs



1 Economic Empowerment : Growth drivers and enablers, ecosystem and imperatives

- **Drivers and enablers**
 - Digital economy
 - Target industries and services (aerospace etc)
 - Growth poles (cities)
 - Collaborative/sharing economy
 - Fourth Industrial Revolution
 - Sustainable energy
 - Greater regional balance
- **Ecosystem**
 - Infrastructure and transport connectivity
 - Progressive fiscal and tax structure
 - Human capital realignment
 - Governance/Regulatory framework
 - Federal-State-Local Authority re-engineering
- **Imperatives**
 - Raising innovation and productivity to next level
 - Boosting trade and private investment



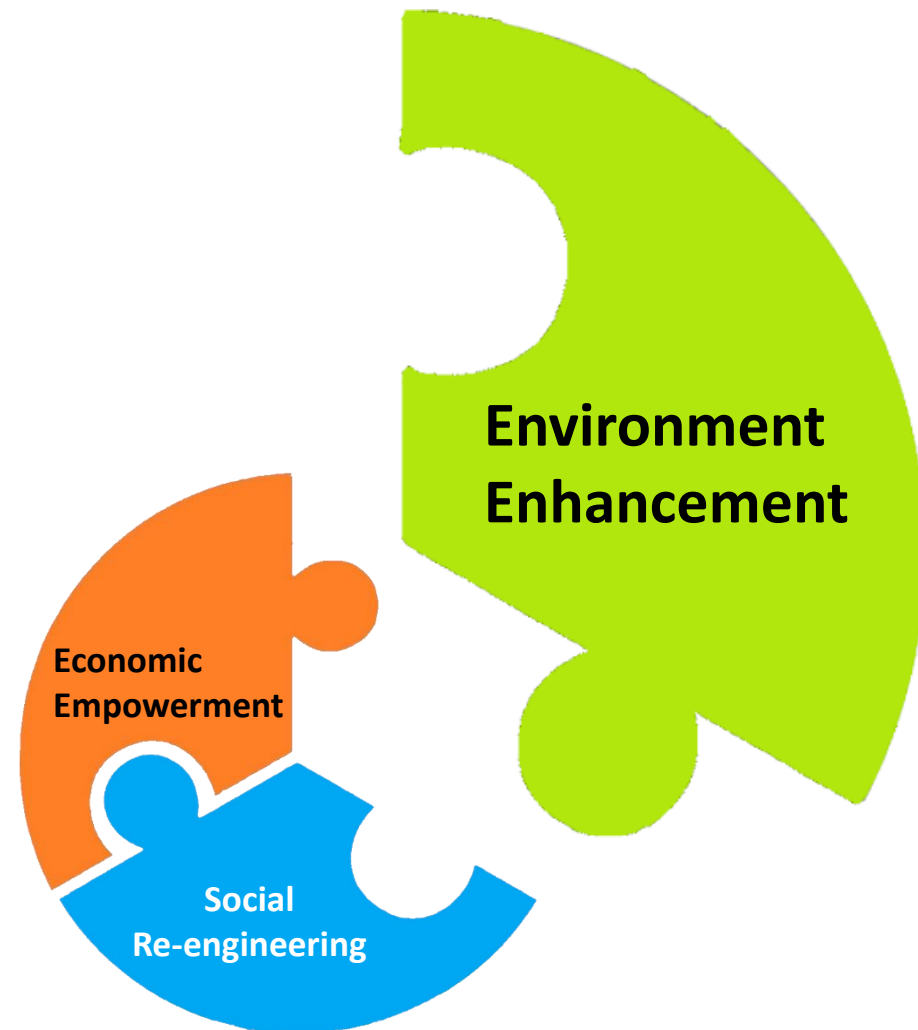
2 Environment Enhancement : Conservation and preservation

- Addressing climate change
- Management of green and blue economy
- Sustainable forest management
- Managing energy and water resources
- Circular economy – reducing waste and creating value from waste

3 Social Re-engineering : Enhancing social capital, inclusivity and social cohesion

- Greater income equality with focus on B40 and M40
- National unity and cohesion
- Social protection – disadvantaged, vulnerable and ageing society
- Independent Bumiputera
- Healthy and active lifestyle
- Affordable housing
- Secure nation

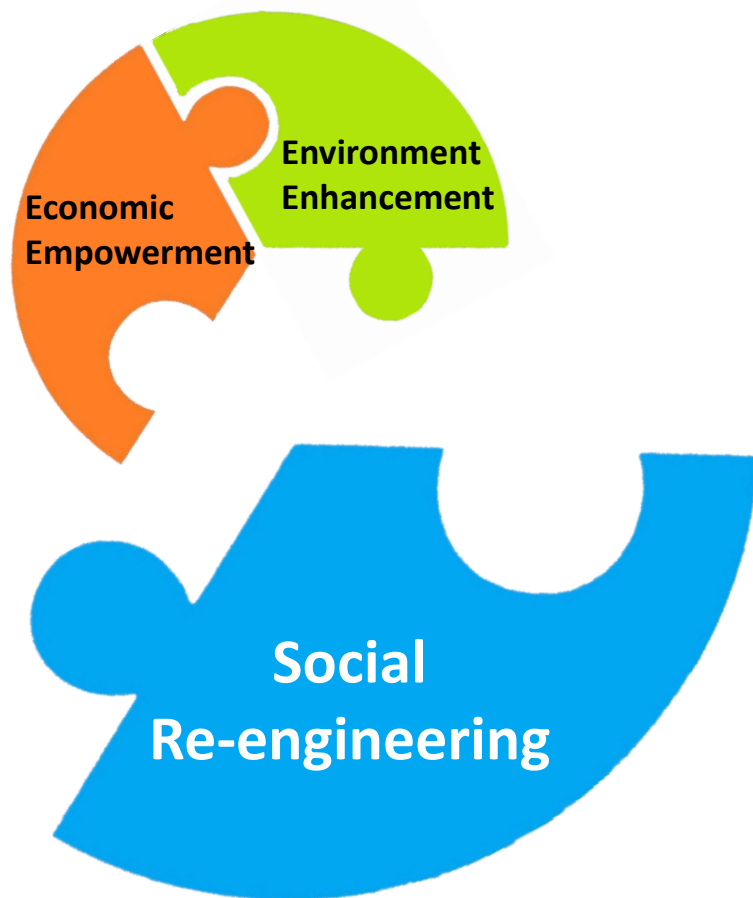
Operationalising Post-2020 Plan : Twelfth Malaysia Plan, 2021-2025



Environment Enhancement

1. Climate change mitigation and adaptation
2. Carbon Tax
3. Sustainable Consumption & Production
4. Disaster risk management
5. Disaster risk insurance scheme
6. Green technology
7. Green economy indicators
8. Biodiversity conservation
9. Renewable energy
10. Energy efficiency
- 11. Integrated water resource management**
12. Marine litter
13. Valuing ecosystem services
14. Waste as commodity

Operationalising Post-2020 Plan : Twelfth Malaysia Plan, 2021-2025

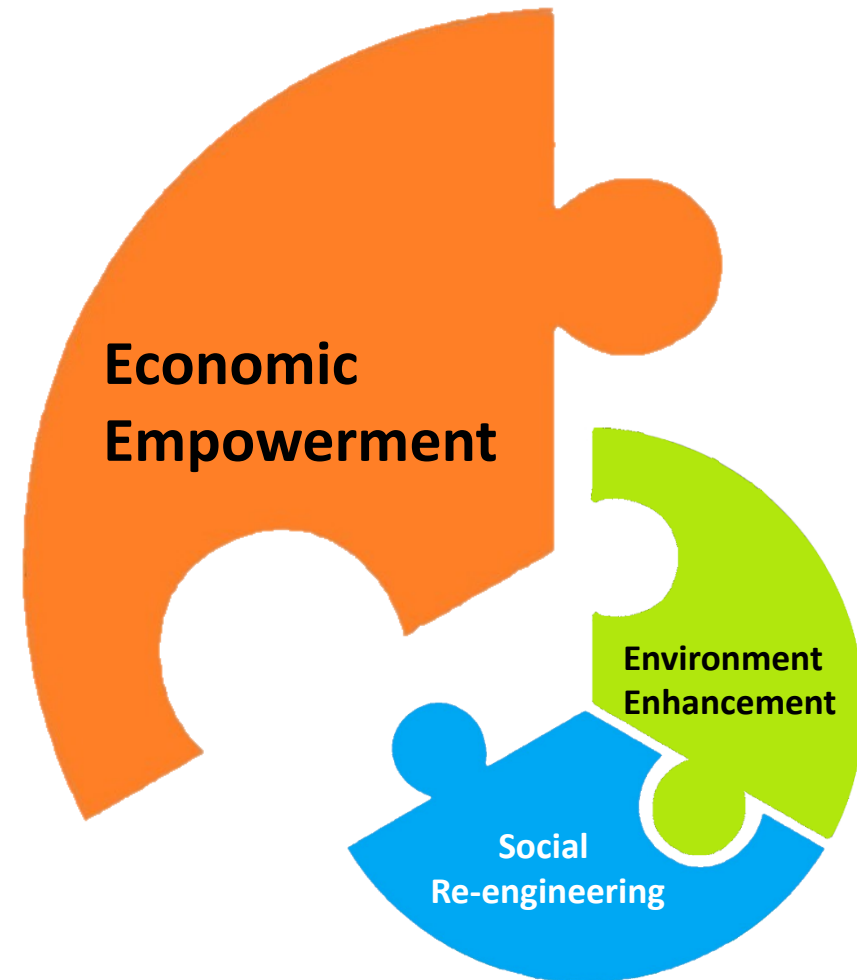


Social Re-engineering

1. Cost of Living
2. Purchasing power
3. Diversify sources of income
4. Universal basic income
5. B40 income elevation
6. Social enterprises
7. Affordable housing, health and education
8. Improve poverty measurement
9. Urban poverty
10. Resilient Bumiputera
11. Optimising Malay reserve land
12. Minority groups participation
13. Good ethics and moral values
14. Community development
15. Ageing Society
16. Invigorate healthcare
17. Public safety and security
18. Work-life balance
19. Early childhood education for all
20. Structured financial support system for students
21. Regulating industry-academia collaboration in TVET
22. Job creation for local
23. Managing foreign workers
24. Towards smart farming/ precision agriculture

Economic Empowerment

1. 4.0 Industrial Revolution
2. Reforming agricultural sector
3. Internationalising oil & gas services and equipment industry (OGSE)
4. Regional energy market hub
5. Review of the 3+2 industries
6. Industrialisation vs. deindustrialisation
7. Digital economy
8. Science & technology, innovation & commercialisation
9. Distributive trade
10. Revitalising Cyberjaya
11. Culture, arts and heritage
12. Halal traceability
13. Smart construction
14. Seamless transport
15. Micro-credential
16. Job creation for locals
17. Managing foreign workers
18. Cities as growth catalyst
19. Resilient rural development
20. Integrated regional development
21. International cooperation
22. Public sector efficiency
23. Energy market reform

**Operationalising Post-2020 Plan :
Twelfth Malaysia Plan, 2021-2025**

Feedback from stakeholders are solicited through Inter-Agency Planning Groups

To prepare for the Twelfth Malaysia Plan (2021-2025), MEA will establish

- **13 Inter-Agency Planning Groups (IAPGs)**
- 46 Technical Working Groups (TWGs)
- Minimum 180 Focus Groups (FGs)

IAPGs

1. Public sector reforms (BKE)
2. Inclusivity – youth, etc (BEQT, BPS)
3. Wellbeing & societal values (BPS)
4. Regional balance (BPW, BPSKA)
5. Human capital (BPMI)
6. Environment & natural resources (BEASSA, BINFRA)
7. Sustainable energy (BTE)
8. Agriculture (BTANI)
9. Manufacturing, science and technology, innovation and SMEs (BIPST)
10. Services sector (BIP)
11. Digital economy (BKE)
12. Transport and logistics (BINFRA, BIP)
13. Macroeconomics (BEM)

Tasks

- *Review progress of past policies and programmes*
- *Identify current issues and future challenges*
- *Draft new policies, strategies and programmes to achieve identified targets and outcome*
- *Draft strategy papers*

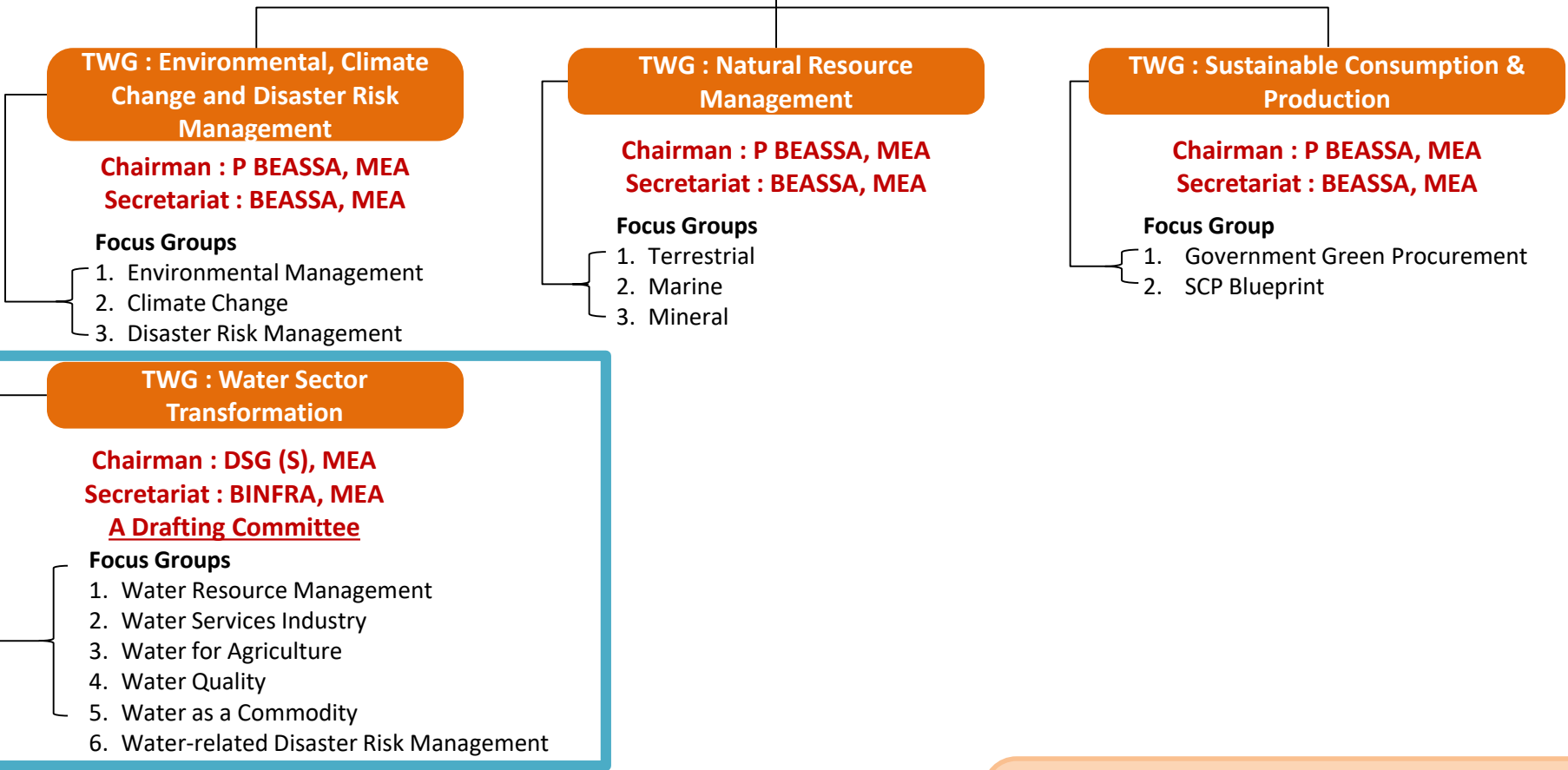
Output

Strategy Papers

1. Embedding Behavioral Insight in Designing Policy (BKE)
2. Reforming State-owned Enterprise Management (BKP)
3. Reforming Public Private Partnership Towards Reducing Government Roles in Businesses (BPSKA)
4. Ensuring Sustainability of B40 Household Income (BEQT)
5. Upholding Bumiputera Community Towards a Resilient, Progressive and Bold Society (BEQT)
6. Invigorating Healthcare Towards Progressive Nation (BPS)
7. Towards 2030 : Creating Solutions for the Ageing Population in Malaysia (BPS)
8. Strengthening National Unity (BPS)
9. Ensuring a Safe, Secure and Peaceful Nation (BKKA)
10. Progressing Towards Sustainable Cities (BPW)
11. Transforming Rural Areas to Uplift Wellbeing of Rural Communities (BPW)
12. Strengthening Coordination and Cooperation to Support Regional Development (BPW)
13. Strengthening Technical and Vocational Education and Training (TVET) to Meet Industry Demand (BPMI)
14. Inclusive Labour Market for Prosperous Nation (BPMI)
15. Revitalising Education System (BPMI)
16. Reinvigorating Higher Education System (BPMI)
17. Investing in Sustainable and Resilient Growth (BEASSA)
18. Valuing Natural Resources for Socioeconomic Development (BEASSA)
19. **Water Sector Transformation (BINFRA)**
20. Sustainable Usage of Energy to Support Growth (BTE)
21. Driving Modernisation in Agro-food (BTANI)
22. Delivering Economic and Social Prosperity Through Agri-Commodity (BTANI)
23. Energising Manufacturing Sector (BIPST)
24. Translating Innovation to Wealth (BIPST)
25. Aerospace (BIPST)
26. Fostering a Robust Services Sector (BIP)
27. Digitalising Malaysian Economy (BKE)
28. Making Connections: Seamless Transport System and Logistics (BINFRA)

IAPG on Environment, Natural Resource and Disaster Risks (BEASSA)

Chairman : Dep. SG (Macro), MEA
 Secretariat :
 Director (Environment and Natural Resource), MEA



Proposed Strategy Papers

1. Investing in Sustainable and Resilient Growth
2. Valuing Natural Resources for Socioeconomic Development
3. Water Sector Transformation

IAPG on Environment, Natural Resource and Disaster Risks

- 4 Technical Working Groups
- 14 Focus Groups

Terms of Reference for Environment IAPG

Chairperson : **Deputy Secretary General (Macro), MEA**
Secretariat : **Environment & Natural Resource Economics Division, MEA**

Scope of work

The main responsibility of the Inter-Agency Planning Group (IAPG) is to facilitate discussion, provide guidance and endorse the way forward for the 12th Malaysia Plan, in terms of policies, strategies and initiatives required in managing the environment, natural resources, climate change and disaster risks. The IAPG's scope of work include the following :

- i. to review the effectiveness of current policies and strategies implementation based on the key performance indicators targeted under the 11th Malaysia Plan;
- ii. to evaluate the suitability of existing policies and strategies based on emerging issues and recent developments internationally and nationally as well as identify gaps and challenges in implementing current policies;

Terms of Reference for Environment IAPG

- iii. to identify and introduce new directions to achieve national development goals in terms of higher economic growth, better quality of life and enhanced environmental sustainability;
- iv. to assess the proposed policies including strategies, programmes, approaches and performance indicators prepared by the Technical Working Group;
- v. to ensure consistency of the policies in terms of objectives, strategies and programmes to avoid overlapping and contradictions as well as facilitate implementation and ensure effectiveness; and
- vi. to endorse the policies, strategies and programmes including approaches and performance indicators prepared by the Technical Working Group to be presented to National Planning Development Committee (NDPC).

Terms of Reference for IAPG

Permanent Members of the Environment IAPG

Ministry/Agency	Ministry/Agency	MEA
<ol style="list-style-type: none"> 1. Kementerian Kewangan 2. Kementerian Air, Tanah dan Sumber Asli 3. Kementerian Tenaga, Sains, Teknologi, Alam Sekitar & Perubahan Iklim 4. Kementerian Perdagangan Antarabangsa dan Industri 5. Kementerian Industri Utama 6. Kementerian Perumahan dan Kerajaan Tempatan 7. Kementerian Kesihatan 8. Kementerian Kerja Raya 9. Kementerian Pertanian dan Industri Asas Tani 10. Kementerian Perdagangan Dalam Negeri dan Hal Ehwal Pengguna 11. Kementerian Industri Utama 12. Kementerian Pengangkutan Malaysia 13. Kementerian Pelancongan, Seni dan Budaya Malaysia 14. Kementerian Pendidikan 15. Kementerian Dalam Negeri 16. Kementerian Wilayah Persekutuan 17. Kementerian Komunikasi dan Multimedia 18. Kementerian Pembangunan Luar Bandar 19. Majlis Keselamatan Negara 20. Agensi Pengurusan Bencana Negara 21. Agensi Pengangkutan Awam Darat 22. Agensi Penguatkuasaan Maritim 23. Suruhanjaya Tenaga 	<ol style="list-style-type: none"> 24. Jabatan Perangkaan Malaysia 25. Jabatan Pengairan dan Saliran 26. Jabatan Alam Sekitar 27. Jabatan Meteorologi Malaysia 28. Jabatan Pengurusan Sisa Pepejal Negara 29. Jabatan Perancangan Bandar & Desa 30. Jabatan Taman Laut Malaysia 31. Jabatan Perikanan Malaysia 32. Unit Perancang Negeri Sarawak 33. Unit Perancang Negeri Sabah 34. SIRIM Berhad 35. Sustainable Energy Development Authority 36. Malaysian Green Technology Corporation 	<ol style="list-style-type: none"> 1. Bajet Pembangunan 2. Industri Perkhidmatan 3. Infrastruktur dan Kemudahan Awam 4. Ekonomi Makro 5. Industri Pembuatan, Sains dan Teknologi 6. Pembangunan Wilayah 7. Perkhidmatan Sosial 8. Pertanian 9. Tenaga 10. Keselamatan & Ketenteraman Awam 11. K-Ekonomi
	NGOs	Academic Institution
	<ol style="list-style-type: none"> 1. Malaysia Environment NGOs (MENGO) 2. Center for Environment, Technology and Development, Malaysia (CETDEM) 3. Yayasan Hasanah 4. WWF-Malaysia 	<ol style="list-style-type: none"> 1. Institute of Strategic and International Studies (ISIS) Malaysia 2. Majlis Profesor Negara 3. Institut Oseanografi dan Sekitaran 4. Universiti Malaysia Terengganu

Terms of Reference for TWG on Water Sector Transformation

Chairperson: **Deputy Secretary (Sectoral) MEA**

Alternate Chairperson: **Director of Infrastructure and Utility Division, MEA**

Secretariat: **Infrastructure and Utility Division, MEA**

Scope of work

The key responsibility of the Technical Working Group is to evaluate the implementation and effectiveness of the 11th Plan policies and strategies. Subsequently, propose policies including strategies, initiatives, approaches and performance indicators to effectively address issues related to the **water sector considering the aspects of environment, natural resource, climate change and disaster risk**. The TWG's scope of work, among others, will include the following :

- i. **to analyse and report the performance** of the 11th Plan goals, strategies and programmes as well as achievement of the 11th Plan targets, including taking into account the implementation of Malaysia's commitments under the relevant multilateral environmental agreements (MEAs);

Terms of Reference for TWG on Water Sector Transformation

- ii. to identify **current global trends and emerging issues** in environment, climate change, natural resources and disaster risk management as well as its implementation gaps and challenges;
- iii. to identify approaches, strategies and programmes, including performance indicators **towards effective implementation of Integrated Water Resources Management** to achieve development goals as well as high impact and sustainable economic growth for the 12th Plan period,, and other relevant MEAs;
- iv. to recommend policies, strategies and programmes to achieve national targets in line with international commitment under the **Sustainable Development Goals 2030** and to **transform the water sector by 2040**; and
- v. **to present recommendations** on the 12th Plan policies, approaches, strategies and programmes to the **Inter-Agency Planning Group**.

Terms of Reference for TWG on Water Sector Transformation-Permanent Members

Ministry

1. Kementerian Kewangan
2. Kementerian Air, Tanah dan Sumber Asli
3. Kementerian Tenaga, Sains, Teknologi, Alam Sekitar & Perubahan Iklim
4. Kementerian Perdagangan Antarabangsa dan Industri
5. Kementerian Perumahan dan Kerajaan Tempatan
6. Kementerian Kesihatan
7. Kementerian Pembangunan Usahawan
8. Kementerian Pertanian dan Industri Asas Tani
9. Kementerian Industri Utama
10. Kementerian Pembangunan Luar Bandar

NGOs

1. Malaysia Environment NGOs (MENGO)
2. Center for Environment, Technology and Development, Malaysia (CETDEM)
3. Yayasan Hasanah
4. Persatuan Air Malaysia
5. MyWater Partnership
6. WWF-Malaysia
7. UNDP Malaysia

Ministry/Agency

1. Agensi Pengurusan Bencana Negara
2. Jabatan Perangkaan Malaysia
3. Jabatan Pengairan dan Saliran
4. Jabatan Alam Sekitar
5. Jabatan Bekalan Air
6. Jabatan Perkhidmatan Pembetungan
7. Jabatan Pengurusan Sisa Pepejal Negara
8. Jabatan Perancangan Bandar & Desa
9. Jabatan Perhutanan Semenanjung Malaysia
10. Institut Penyelidikan Perhutanan Malaysia
11. Institut Penyelidikan Hidraulik Kebangsaan Malaysia
12. Jabatan Perhutanan Semenanjung Malaysia
13. Unit Perancang Ekonomi Sabah
14. Unit Perancang Ekonomi Sarawak
15. Jabatan Hutan Sarawak
16. Jabatan Perhutanan Sabah
17. FELDA
18. Jabatan Kemajuan Orang Asli (JAKOA)
19. Indah Water Konsortium
20. Lembaga Pembangunan Pelaburan Malaysia
21. Suruhanjaya Perkhidmatan Air Negara
22. Pengurusan Aset Air Berhad

MEA

1. Bahagian Bajet Pembangunan
2. Bahagian Industri Perkhidmatan
3. Bahagian Ekonomi Alam Sekitar dan Sumber Asli
4. Bahagian Infrastruktur dan Kemudahan Awam
5. Bahagian Pembangunan Wilayah
6. Bahagian Ekuiti
7. Bahagian Perkhidmatan Sosial
8. Bahagian Pertanian

Academic Institution

1. Universiti Sains Malaysia
2. Universiti Kebangsaan Malaysia
3. Universiti Teknologi Malaysia
4. Akademi Sains Malaysia

Focus Group Discussion as the main platform to collect input for RMK12

1. **Transforming issues and challenges** facing water sector Malaysia into opportunities
2. **Mainstreaming water management** in development activities. Covers upstream to downstream-source to services-intake to discharge
3. **Focus and reprioritise strategies** to transform water sector by 2040
4. **Targets and KPIs for 12th MP** to transform the water sector by 2040 to be identified, supportive to national and global targets: **SDG 6, GTMP 2030** etc
5. **Estimate allocation needed** according to the proposed strategies

Drafting Committee Members of Water Sector Transformation Strategy Paper

1. **Dr. Salmah Zakaria**, Akademi Sains Malaysia- Chairperson
2. **Datuk Mohd Adnan Mohd Nor**, Akademi Sains Malaysia
3. **Prof. Madya Dr. Norhayati Abdullah**, Malaysia Water Association
4. **Ms. Ainul Rasyidah binti Ab Rahim**, Kementerian Pembangunan Usahawan
5. **Mr. Noorhashim bin Baron**, Suruhanjaya Perkhidmatan Air Negara
6. **Hajah Anita Ainan**, Jabatan Pengairan dan Saliran
7. **Dr. Asnor Muizan bin Hj. Ishak**, Jabatan Pengairan dan Saliran
8. **Mr. Voon Kok How**, Kementerian Kesihatan Malaysia
9. **Ms. Nor Jahilawati Mohd**, Jabatan Bekalan Air
10. **Ms. Ivy Wong Abdullah**, Yayasan Hasanah

Strategy Paper Format

I. Background / Introduction

II. Objective

III. Performance

(10%)

- Outcome performance: 2015, 2020, 2025 (projection) - 5 years interval
- Current policies/strategies/programmes and target groups involved and major performance by subsector

IV. Analyse Gaps & Issues (20%)

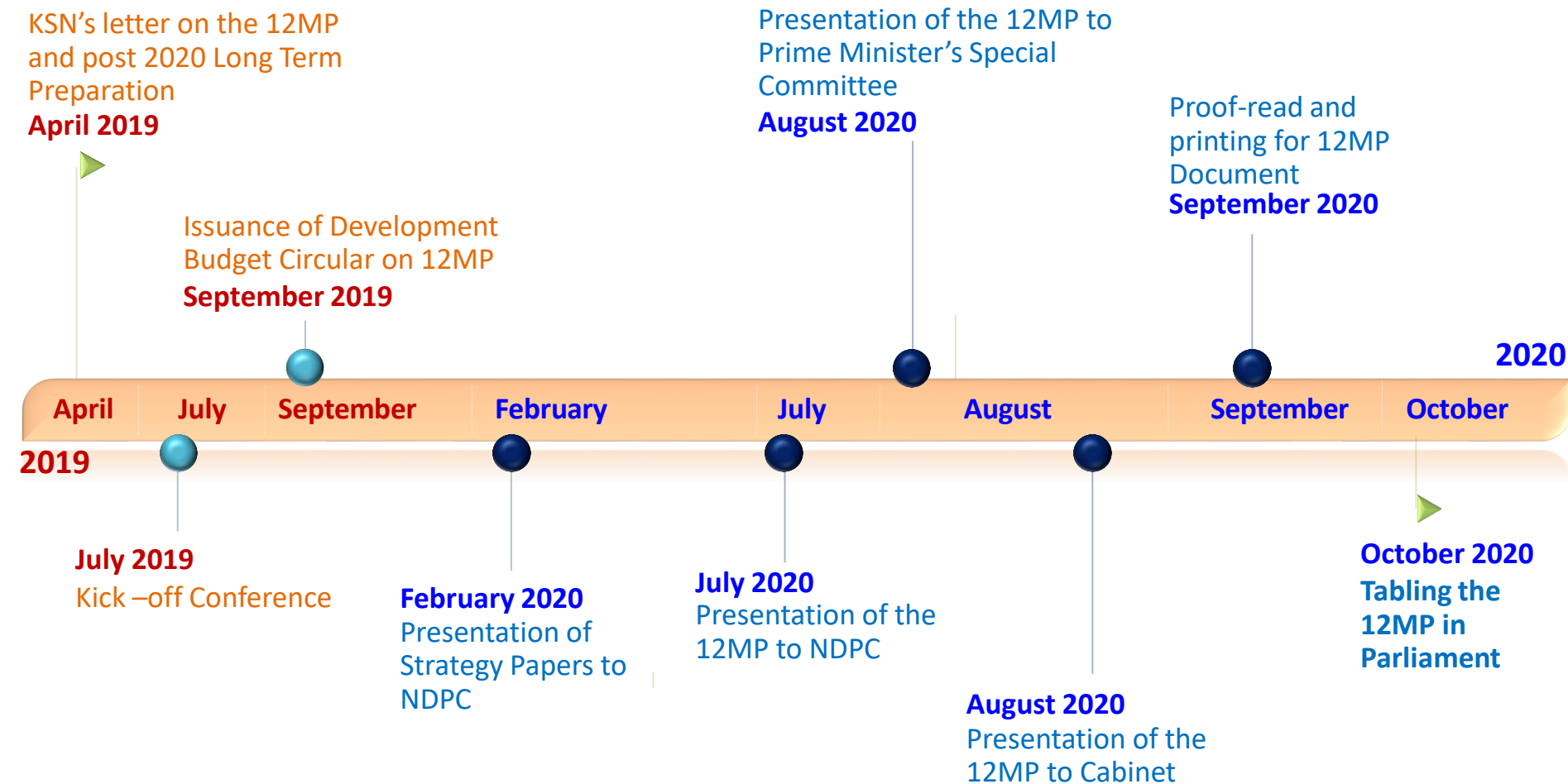
- Performance issues/challenges (supported by data/facts)
- Split into to short/medium issues (5 years)

V. Recommendations/Way Forward (70%)

- Direction/outcomes
- Programmes / project / Business Model
- Action Plans

SULIT

Timeline for the Twelfth Malaysia Plan



Twelfth Malaysia Plan Kick-Off Conference



Date: 1 – 4 July 2019



Venue: Marriott, Putrajaya



Expected Participants: 200 pax
(Ministries and agencies, industry players, associations and chambers of commerce, NGOs)



Speakers: Experts from International (UN, WB, ADB, OECD) and Local Organisations



Co-Host: United Nations, World Bank and MEA



Next steps: Detailed programme, topics, speakers, cost-sharing mechanism

Proposed Timeline for TWG Water Sector Transformation

No.	Activity	Apr	May	June	Jul	Aug	Sept
1	IAPG Environment		14				12
2	TWG Water Sector Transformation			17		20	
3	Focus Group Discussion Workshop						
	• Kick-Off	15-16					
	• End Users			20			
	• River Basin's Stakeholders				8-9		
	• Closing				10-11		
4	Preparation of draft outline for strategy paper				18		
5	Strategy Paper Drafting Workshop				25-27	23-25	
6	Data collection/ information gathering period						

PROPOSED INPUT FOR STRATEGY PAPER ON WATER SECTOR TRANSFORMATION 12TH MALAYSIA PLAN (Based on Focus Group Discussion 1/2019)



ISSUES AND CHALLENGES

1. Water Resources Management

1. Lack of effectiveness of policy implementation set by the Federal Government by the State and local government who have jurisdiction over land and water resources matter
2. Limited capability (manpower, skills and financial resources) of implementing agencies to implement, monitor/ enforce policies
3. Political will-water issues being politicized
4. Lack of awareness among various level of society and different group of stakeholders
5. Lack of R&D activities
6. Data/ research findings/ reports are not shared or made public for open access
7. Lack of community participation to help protect water resources/ catchment areas

ISSUES AND CHALLENGES

2. Water Services (Water Supply and Sewerage Services)

1. Lack of financial sustainability of service providers due to high CAPEX, O&M, NRW and low tariff
2. Over dependence on grey infrastructure technology which is capital and energy intensive
3. Expensive infrastructure are not fully optimized (reluctant to connect to centralized STP, high NRW)
4. Unreliable water resources (volume, quality)
5. Aging infrastructure causes inability to comply to environmental standard and regulation
6. Lack of infrastructure to support resource recovery
7. Unintegrated source to source planning

ISSUES AND CHALLENGES

3. Water for Agriculture

1. Competing usage between agriculture and other use. Agriculture usage will be the least to be considered
2. Irrigation infrastructure:
 - i. underutilized due to lack of water resources issues
 - ii. Aging (mostly above 30 years) and damaged irrigation infrastructure due to lack of maintenance (insufficient financial allocation) and flood disaster
 - iii. Inefficient because manually operated
3. Poor Farm Management; Do not follow planting schedule, over tapping of upstream water resources, vandalism

ISSUES AND CHALLENGES

4. Water Quality

1. Legislative gap
 - i. pollution sources are governed by different agencies (DOE, Local Authorities)
 - ii. Non-point sources are overlooked
 - iii. Water quality index and standard are not revised
 - iv. Lack of emphasis on TMDL
 - v. Tap water, lake, coastal and groundwater quality
 - vi. Bacteria limit in water resources
2. Lack of effort to minimize pollution discharge (pollution discharge exceed carrying capacity of receiving water bodies, lack of connection to CSTP)
3. Lack of awareness to campaign and capacity building programmes
4. Lack of water quality data sharing to stakeholders/ public

ISSUES AND CHALLENGES

5. Water as An Asset for Wealth Creation

1. Lack of awareness, knowledge, infrastructure and access to technology on resource recovery in water sector among stakeholders and potential buyers/investors
2. Perception of the end users of resource recovery products (usage of bio-sludge as fertilisers, usage bio-effluent for agriculture)
3. No comprehensive database to support the resource recovery industry

ISSUES AND CHALLENGES

6. Water Related Disaster Risk Management

1. Heavy focus on structural measures for flood mitigation- non structural measures are not given enough emphasis
2. Development is being carried out on flood plains due to space constraints in urban areas
3. No legislation to govern the design and management of dams
4. Infrastructure is not designed to withstand future climate change and sea level rise
5. Flood risk map not open to public and coverage is limited to certain river basins
6. Areas gazetted for flood retention ponds have been developed for other purposes
7. Loss of natural forest cover and/ or land use change
8. Dry spells due to climate vulnerability and climate change
9. Coastal flooding and erosion
10. Insufficient strategic R&D to ensure adequate and sustainable water

THEME

Water - a resource, a precious commodity, an asset; its integrated and sustainable management is a lifeline for the nation (for sustenance, security and economic development)

VISION 2040

A major **national dynamic economic sector, within a pristine environment and providing sustenance, security, support & joy to the nation** (up to date with all current practices; zero waste, green, SDG targets, Digital Water, IR4.0, etc)



FOCUS AREA (B): TRANSFORMING WATER SECTOR

Strategy: Water (from source to source)

Issues and Challenges

- **Water Resources Management**
 - Ineffective implementation of water-related policies/legislation
 - Lack of consideration for water in development planning
 - Low awareness and participation of non-state actors
 - Lack of water related database
- **Water Services (Water Supply and Sewerage Services)**
 - Financial sustainability issues
 - Unreliable water sources
 - Expensive infrastructure
- **Water for agriculture**
 - Competition on water resources usage with other sectors
 - Aging and poor maintenance of irrigation infrastructure
- **Water Quality**
 - Legislative gap
 - Insufficient enforcement capacity
- **Water as An Asset for Wealth Creation**
 - Lack of awareness, knowledge, infrastructure and access to technology on resource recovery
- **Water-Related Disaster Risk Management**
 - Lack of focus on integrated and non-structural measures
 - Current infrastructure design does not take into account adaptation measures for disaster
 - Lack of R&D

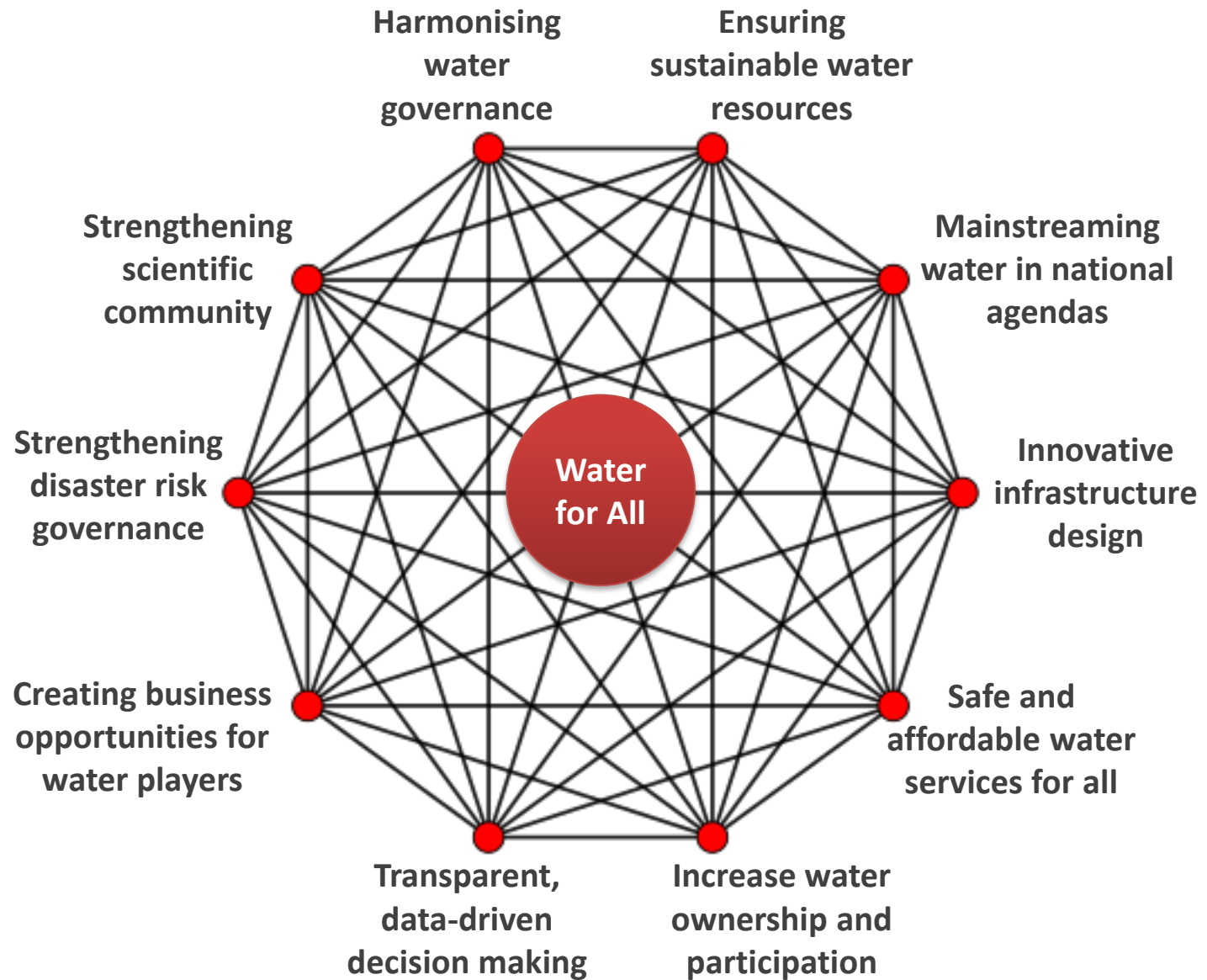
Way Forward

Towards Water Sector Transformation 2040 (Phase 1-2021-2025)

Outcome: Effective Implementation of IWRM

1. **Harmonizing water governance** (*vertical and horizontal*)
2. Ensuring **safe, quality and reliable water resources**
3. **Mainstreaming water** in national agendas (eg.: Holistic development planning and implementation)
4. Review and update **infrastructure design** and technology used (*resilient, green vs grey, non-structural vs structural measures*)
5. Ensuring **safe and affordable water services** for all
6. Increase **water ownership** through inclusive and participatory approach involving all stakeholders
7. **Integrated, data driven and transparent** water decision making
8. Expanding **business opportunities** for water players
9. Strengthening **disaster risk governance** and investing in disaster risk reduction for resilience
10. Strengthening **scientific community** to support water sector transformation

10 PILLAR STRATEGIES



STRATEGY 1 Harmonizing of water governance (vertical and horizontal)

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Adoption of Federal Water Legislation by all states	➤ Adoption of Federal Water Legislation by all 13 states
ii	Encourage and facilitate the Water/ Water Resources Enactment by the states	➤ 13 states with Water/ Water Resources Enactment
iii	Establish a common and active platform to facilitate implementation, monitor and report the implementation of decisions by Majlis Air Negara	➤ 5 Regional Task Force of Majlis Air Negara is established

STRATEGY 2 Ensuring safe, quality and reliable water resources

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Strengthen enforcement to control pollution at source and improve agencies' capacities (legislative/ financial/ human resources) to control non-point source pollution	<div><div>➤ 50% of clean rivers and water bodies</div><div>➤ Laws & legislation reviewed and improved to deter polluters; maximum loading per river identified and enforced</div><div>➤ X% of enforcers increased from 2018 baseline capacity</div><div>➤ Institute alternative/ innovative methods e.g. Constructed wetlands to remove pollutants prior to releasing in water bodies</div><div>➤ Recognise the use of constructed treatment wetlands as polishing ponds before releasing affluent to water bodies</div></div>

STRATEGY 2 Ensuring safe, quality and reliable water resources

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
ii	Increase alternative/ diversification of water resources for all sectors, where appropriate	➤ X% abstraction of water resources from river
		➤ Y% abstraction of ground water
		➤ Z% abstraction of other water resources
iii	Encourage gazettement of forest area for flood control purposes	➤ X Ha of forests protected for flood control
iv	Ensuring water catchment areas gazettement	➤ X Ha of forests protected as water catchment area
v	Establish a national mechanism to incentivise water catchment areas protection and conservation efforts through payment for ecosystem mechanism	➤ A national mechanism to incentivise water catchment areas protection and conservation efforts through payment for ecosystem mechanism is established and 2 pilot projects implemented
vi	Targeted enforcement leveraging on the social media by empowering NGOs, NGIs and CSOs	

STRATEGY 3 Mainstreaming water in national agendas

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Incorporation of National Physical Plan into states structural and local plans and implementation	➤ % implementation of MPFN's water-related decisions
ii	Educating all stakeholders on Integrated Water Resources Management (IWRM)	➤ An AACB module for IWRM is developed ➤ X programmes conducted
	Ensuring the implementation of IWRM at all level through development projects	➤ X Development Projects (RMK-12) approved based on the merit of their adherence to IWRM

STRATEGY 4

Review and update infrastructure design and technology used(resilient, green infrastructure, with emphasis on non-structural measures)

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Encourage invention and innovation in water technology/ localized technology	➤ RM X allocated for Research, Development, Innovation and Commercialisation (RDIC) in local water technology
ii	Explore the potential use of available green infrastructure in water sector (eg: use constructed wetlands to treat wastewater)	➤ Comprehensive study on the potential of environmental and socio-economic benefits of green infrastructure
iii	Control at source methods using green infrastructure	➤ X % reduction in flood damage (direct & indirect)
iv	Improve operation (automated) and maintenance to ensure infrastructure's sustainability	➤ X% increase in water resource storage uptake
		➤ X% increase in agriculture efficiency

STRATEGY 5 Ensuring safe and affordable water services for all

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Ensuring connection to the Centralised Sewerage Treatment Plants through enforcement	➤ 90% sewerage connectivity in urban
ii	Decentralisation of sewerage treatment plants in less populated areas	➤
iii	Using constructed treatment wetlands as an alternative sewerage treatment systems in low density/ rural areas with spatial availability	➤ 80% proper sanitation in rural areas
iv	Encourage the use of constructed treatment wetlands to reclaim water for industrial purposes	➤ X factories adopt recycling of wastewater
v	Facilitate waste-to-wealth initiatives through smart-partnerships, RDIC etc.	➤ X% of treated effluent from sewerage treatment plants to be recycled
		➤ Y% of bio-solids from sewerage treatment plants to be recycled

STRATEGY 5 Ensuring safe and affordable water services for all

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
vi	Implementation of National NRW Reduction Programme	➤ Reduce National NRW to 25%
vii	Construct new and upgrade existing water treatment plants	➤ 100% treated water supply in urban and 90% in rural areas
viii	Ensuring access to clean and safe water supply in rural/ remote areas	➤ Rural areas without treated piped water have access to improved alternative system for clean and safe water supply
ix	Improve financial sustainability of water supply and sewerage services operators	➤ % increase in water tariffs ➤ % increase in sewerage services tariffs and % increase in collections
x	Ensuring sustainable supply of freshwater for Water Supply by developing off-river storage (ORS) with barrage to tap and retain surplus run-off from the river	➤ % increase in fresh water availability for abstraction

STRATEGY 6

Increase water ownership through inclusive and participatory approach involving all stakeholders

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Develop advocacy, awareness creation and capacity building to value water (both vertical and horizontal)	➤ X of partners/govt agencies conducting awareness program on valuation of water & services
ii	Provide investment in awareness campaign and programmes for water users including farmers, industry etc.	➤ X of organizations contributing to water campaign and awareness program
		➤ RMX contributed for awareness program
		➤ X of stakeholders and type involved in awareness program on water
iii	Provide trainings/ capacity building programmes for agencies involved in water resources and services management	➤ X of training program conducted
		➤ X of staff & type of agencies involved in trainng/capacity building program

STRATEGY 6

Increase water ownership through inclusive and participatory approach involving all stakeholders

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
iv	Empowering local communities and non-state actors to take actions	➤ X of briefing sessions, workshops and training provided to local communities and NGO on role in water conservation & protection
		➤ X of local groups established to protect local water bodies/rivers
		➤ X of reports submitted to enforcement agencies on violators

STRATEGY 7 Integrated and data driven and transparent water decision making

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Continue the development of NAWABS, PRABN and relevant water database in main river basins	<div>➤ X river basins with NAWABS</div> <div>➤ X river basins with PRABN</div>
ii	Establish, develop, review and update, where appropriate, functional tools, incorporating IOT & IR4 for all water sectors (NAWABS, PRABN, asset management inventory system)	<div>➤ Establish a Big Data platform-MyWater</div>
iii	Data sharing by the main water agencies is made compulsory	<div>➤ Establish a legal framework for data sharing on water</div>
	Projects applied under the RMK-12 must be supported by data from relevant water database	<div>➤ % projects applied under the RMK-12 is supported by the relevant water database</div>

STRATEGY 8 Expanding business opportunities for water players

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Encourage invention and innovation in water technology/ localized technology	➤ RM X allocated for Research, Development, Innovation and Commercialisation (RDIC) in local water technology
		➤ % of investment for water-related Green Technology Financing Scheme
ii	Recognise resource recovery as the new source of wealth	➤ Setting up a foundation to promote and implement waste to wealth initiative in water sector
		➤ Policy on waste recovery developed to guide waste recovery protocols and treatment/transformation

STRATEGY 9

Strengthening disaster risk governance and investing in disaster risk reduction for resilience

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Improving risk communication and governance & integrating risk-based method into cost-benefit analysis	
ii	Empowering and mobilising communities in disaster risk management	
iii	Increasing resources and strategic R&D for early warning system	
iv	Consolidating capacity building programme for awareness and preparedness at national, state, district and local level platforms.	
v	Embracing digital technologies and data analytics platform for integrated disaster risk management	
vii	Establish a strategic R&D working group	
viii	Develop Disaster Risk Prevention and Management Plan	
ix	Develop and implement Dam Safety Act	

STRATEGY 10 Strengthening scientific community to support water sector transformation

No	INITIATIVES/ PROGRAMMES	TARGETS/ KPIs
i	Promote RDCI in water through research grants	➤ % of grants received are on RDCI
ii	Provide platform for science-policy interface	➤ Platform to engage policy makers with research findings established
iii	Database for sharing of research activities/ output/ reports	➤ Database established
iv	Collaborate with academic institution to monitor and update database	
v	Provide advisory role of academicians in policy making	

Main input needed from the Ministries/ Agencies

- Review of current performances
- Issues and Challenges
- Proposed strategies/ initiatives
- Targets for each strategies/ initiatives (align with SDGs and other policy documents)
- Proposed projects for 2021-2025, timeline, costs, source of funding (OE/ DE/ PPP/ Others)
- [Templates](#)



Thank you

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**Ministry of
Economic
Affairs**

