



BJF 30523 INDUSTRIAL  
ETHICS

# LAW AND ACTS GOVERNING THE ENGINEERING

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# ISSUES IN ETHICAL PROBLEMS



Natural laws

Deontology

Virtue theory

Utilitarianism

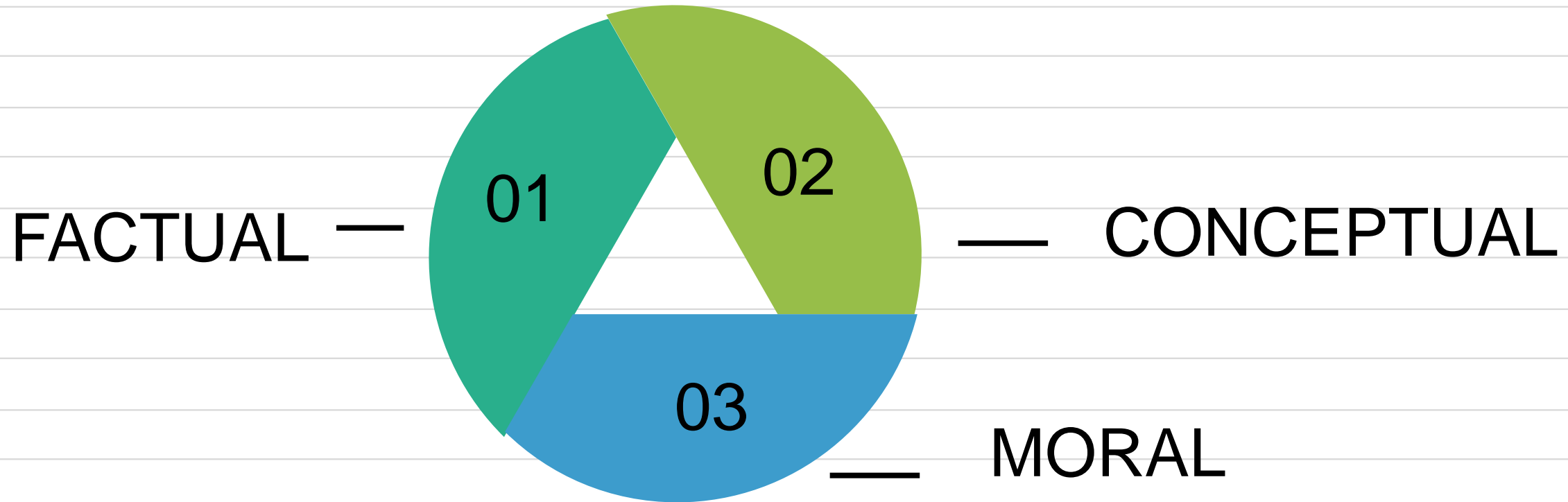
Right Ethic Theory

- ethical problem solving is problem-solving strategies in other engineering classes.
- we will need some knowledge of ethical theory to provide a framework for understanding and reaching solutions in ethical problems.



- One of major reason if issues in ethical problems are lack of understanding of the issues involved.
- If once these issues are failed to determine, a solution to the problems failed to apparent.

**There are three type of understanding ethical issues.**



# FACTUAL ISSUES

- Factual issues is issues occurs when not clear and controversial facts given for understanding and finding solutions to the value based issues.
- If this issues overcome t his helps in providing the information regarding the business realities
- This issue can be resolved by through research to establish the truth

## PROBLEM

Global warming: Ali works as an engineer in a project that focus on to reduce greenhouse gasses such as carbon dioxide trap heat in the atmosphere and cause global warming. Ali is asked to design better products and redesign older ones. However , he still barely understood the global warming procedure and the need of curtailment of emission of these gases is still controversial.

## SOLUTION

- SOLVE IT THROUGH RESEARCH TO ESTABLISH FACT
- USE EFFICIENT ENGINE THAT WELL WITH MNIMAL PETROL AND MORE

# CONCEPTUAL ISSUES

- Conceptual issue is an issue having to do with the meaning or scope of a term or concept
- The ethics that an engineer should possess to protect the safety, health, and welfare of the public.

## PROBLEM

Rajini's concerns remain about the risk of contracting coronavirus once back in his workplace. It's a serious issue for a [workforce that make him more stressed than ever](#). And besides real fears about getting sick, he started to analyse a [Gallup poll](#) that found a majority of adults working from home would prefer to continue doing so "[as much as possible](#)" after the pandemic. But our government authorities look to implement business reopening measures, employers are now planning to move employees back into the workplace. As, an employee what is Rajini's responsibility for safe workplace?

- Rajini must follow all safe work procedure for prevention of covid 19 at workplace.
- Rajini should make use of face shield when performing work that requires interaction with the public.
- She complies with any rules and instruction set by employers related to COVID-19 and any guidelines set by the MOH, WHO, ILO and any related agencies.

# MORAL ISSUES


- This issue relates to morale of an act. Once the conceptual issues are resolved, it is usually clear which moral concept applies
- This issues affect the engineering practice on moral grounds
- This issue can be resolved by agreement as to which moral principles are pertinent (important) and how they hold be applied

## PROBLEM

Siti and her co-worker female too are not given chance to speak up in many instance meetings. Because men take over a meeting, interrupt most of the female employee's presentation or speech and of male appropriation of ideas. If they 're too loud, they 're labelled as bossy and aggressive. If they don't speak, they are considered to be too weak and timid. What should be done to help them overcome this problem?

## SOLUTION

- Let them speak. In meetings, try giving everyone a turn to speak.
- Make sure it's a no interruption meeting.
- ladies support each other.



# REGISTRATION OF ENGINEERING ACT 1967

ROLES OF BEM & IEM



## BOARD OF ENGINEERS (BEM)

### ❑ Establishment of BEM Section 3

1. For the purposes of this Act there is hereby established a board to be called "Board of Engineers" which shall be a body corporate with perpetual succession and a common seal and which may sue and be sued.

2. The Board shall consist of the following members who shall be Malaysian citizens and who are appointed by the Minister:

- a) a President who shall be a Professional Engineer;
- b) not more than fourteen members who shall be Professional Engineers, five of whom shall be from a nomination list submitted by the Council of the Institution of Engineers (Malaysia);
- c) one member on the nomination of the Board of Architects from among members of that Board established under the Architects Act 1967; and
  - a) one member on the nomination of the Board of Quantity Surveyors from among members of that Board established under the Quantity Surveyors Act 1967.

Cont.....

**3. The members of the Board referred to in paragraph 2(b) shall consist of the following:**

- a) not more than five Professional Engineers who are in the public service of the Federation;
- b) not more than two Professional Engineers who are in the service of any local authority or statutory authority;
- c) not more than five Professional Engineers who are employees, sole proprietors, partners or directors of an engineering consultancy practice; and
- d) not more than two Professional Engineers who are employees of any person or body of persons, not being in the public service of the Federation or in the service of any local authority or statutory authority.

**The functions of the board should be :**

- i. To keep and maintain the Register;
- ii. To approve or reject applications for registration under this Act or to approve any such application subject to such conditions or restrictions as it may deem fit to impose;
- iii. To order the issuance of a written warning or reprimand, the imposition of a fine, suspension, cancellation, removal or reinstatement in accordance with Parts III and IV;
- iv. To fix from time to time with the approval of the Minister the scale of fees to be charged by registered Engineers and Engineering consultancy practices for professional engineering services rendered

# INSTITUTION OF ENGINEERS MALAYSIA (IEM)

## OBJECTIVES :

The objectives and purposes of which the Institution is constituted are to promote and advance the theory and practice of engineering in all its disciplines and to:

- a) raise the character and status and advance the interests of the profession;
- b) increase the confidence of the community in the employment of recognised engineers by admitting to the Institution only such persons who have adequate knowledge of both the theory and practice of engineering.

c) promote honest practice, prevent malpractice and settle disputed points of practice and ethics;

d) collect and disseminate engineering information;

e) arrange lectures, exhibitions and conferences, seminars, courses;

f) encourage the study of engineering and improve the general and technical knowledge of persons engaged in the profession;

g) originate and promote improvements in legislation and its administration by deputation, submissions and representations.



# OCCUPATIONAL SAFETY & HEALTH ACT 1994

ACT :

- ✓ 15 PARTS
- ✓ 67 SECTIONS
- ✓ 3 SCHEDULES

## Regulations Under Occupational Safety & Health Act

- OSH (Employers' Safety and Health General Policy Statements)(Exception)Regulations 1995
- OSH (Control of Industrial Major Accident Hazards) Regulations 1996
- OSH (Classification, Packaging and Labelling of Hazardous Chemicals)Regulations 1997
- OSH (Safety and Health Officer)Regulations 1997
- OSH (Safety and Health Officer) Order1997

- OSH (Prohibition of Used of Substance)Order 1999
- OSH (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000
- OSH (Indoor Air Quality) Code of Practice 2005

## OSH 1994 (ACT 514 )

### Main Partition

- Part VIII – Notification of Accidents, Dangerous Occurrence Occupational Poisoning and Occupational Disease and Inquiry.
- Part IX – Prohibition Against Use of Plant or Substance
- Part X – Industry Codes of Practice
- Part XI – Enforcement and Investigation
- Part XII – Liability for Offences
- Part XIII – Appeals
- Part XIV – Regulations
- Part XV - Miscellaneous

## OBJECTIVES

- ✓ for securing the safety, health and welfare of persons at work
- ✓ protect persons at a place of work other than employees
- ✓ promote a suitable environment for persons at work
- ✓ enable previous legislation to be replaced by regulations and approved industry codes of practice operating in combination with the OSH Act 1994

## GENERAL DUTIES OF EMPLOYERS AND SELF-EMPLOYED PERSONS

So far as is practicable –

- provide and maintain plant and system of work
- make arrangements for the safe use, operation, handling, storage and transportation of substances and plant
- provide information, instruction, training and supervision
- provide and maintain place of work and means of access to and egress from any place of work
- provide and maintain working environment that is safe and without health risk and adequate welfare facilities

## OTHER DUTIES OF EMPLOYERS, SELF-EMPLOYED AND OCCUPIES

- Formulate written statement of his policy on OSH.
- Conduct undertaking in such manner not to affect other persons not his employees
- Provide information to other persons on ways his undertaking may affect them

## GENERAL DUTIES OF DESIGNERS, MANUFACTURERS AND SUPPLIERS

So far as is practicable –

- to ensure plant/substance is designed and constructed to be safe and without risk to health when properly used
- arrange for carrying out testing and examination
- adequate information
- for designers and manufacturers – arrange for research to eliminate or minimize hazards
- safe erection and installation

## GENERAL DUTIES OF EMPLOYEES

- Reasonable care for safety and health of himself and others
- Co-operate with employer and others
- Wear and use Personal Protective Equipment
- Comply with instruction on OSH





## INTERFERE, CHARGE AND DISCRIMINATE

- Employee not to interfere or misuse with anything provided for the interest of safety and health
- Employer/trade union not to levy on employees due to any actions done in pursuance of this Act or its regulations
- Employer/trade union not to discriminate (dismiss, injure or alter position) employee if
  - he makes a complaint on a matter he considers not safe,
  - becomes a member of a safety and health committee
  - exercises his functions as a member in the committee



# CIDB

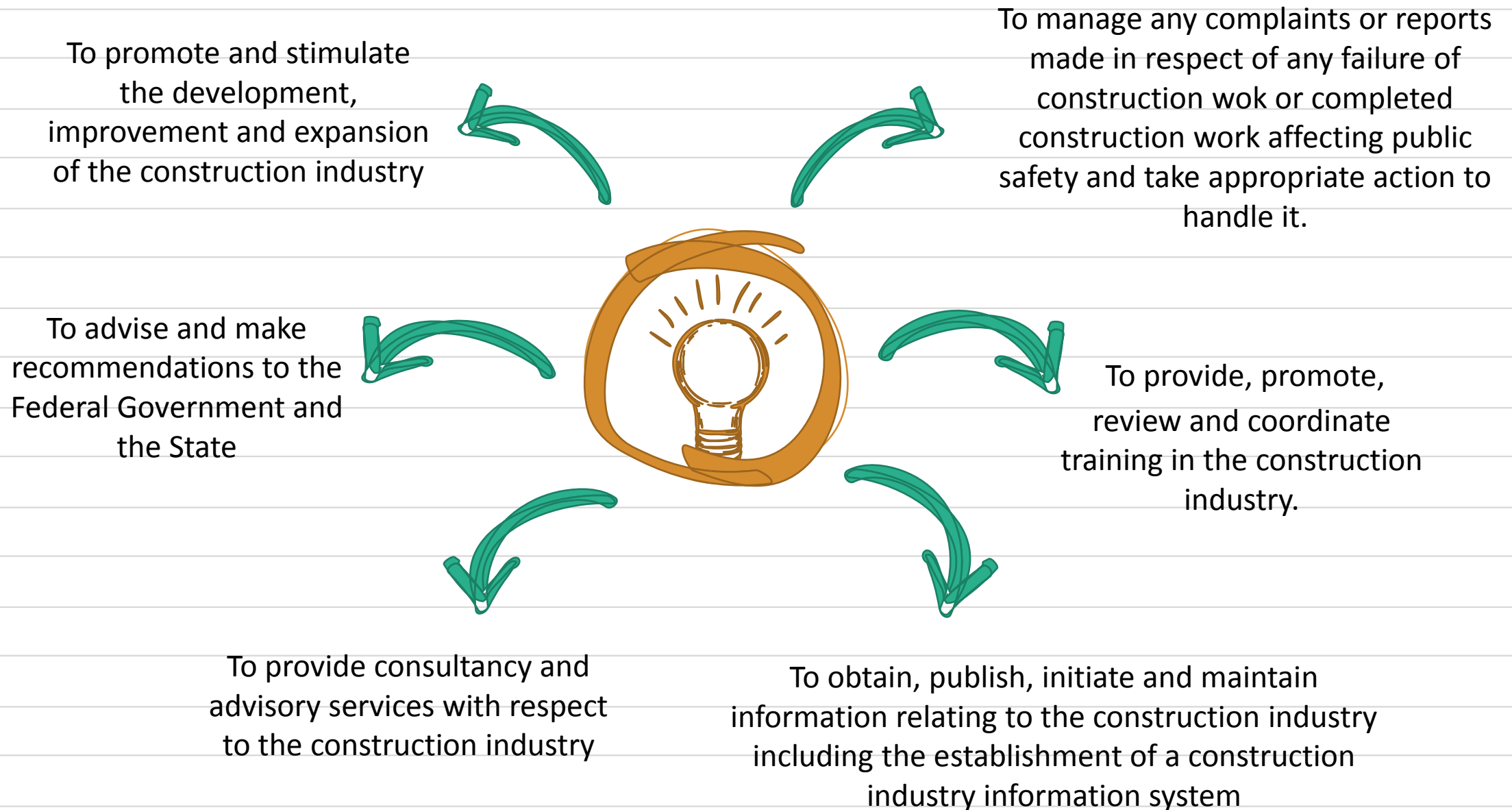


# **CONSTRUCTION INDUSTRY DEVELOPMENT BOARD MALAYSIA**



- Government agency entrusted to enforce the Malaysia standard mandated on the importation of construction products listed under the customs (prohibition of imports) order 1998 amendments 2003, 2004 & 2009 through the issuance of certification of approval (COA).
- CIDB Malaysia was established under the Construction Industry Development Act (Act 520) to develop the capacity and capability of the construction industry through enhancement of quality and productivity by placing great emphasis on professionalism, innovation and knowledge in the endeavour to improve the quality of life.

# FUNCTION OF CIDB

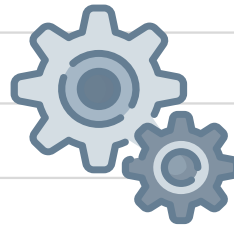


# CIDB (ACT 520) AND ITS AMENDMENT

Act 520 was passed in 1994 to establish the Malaysian Construction Industry Development Board (CIDB), and to provide for its functions relating to the construction industry and for matters connected. It's focus on 3 main areas:




Enhancing construction quality through registration of construction personnel as well as skills and competency certification




Ensuring quality of building material and compliance with standards



Contractors and site managers' responsibility to ensure safety of buildings during or after the construction work



# NIOSH



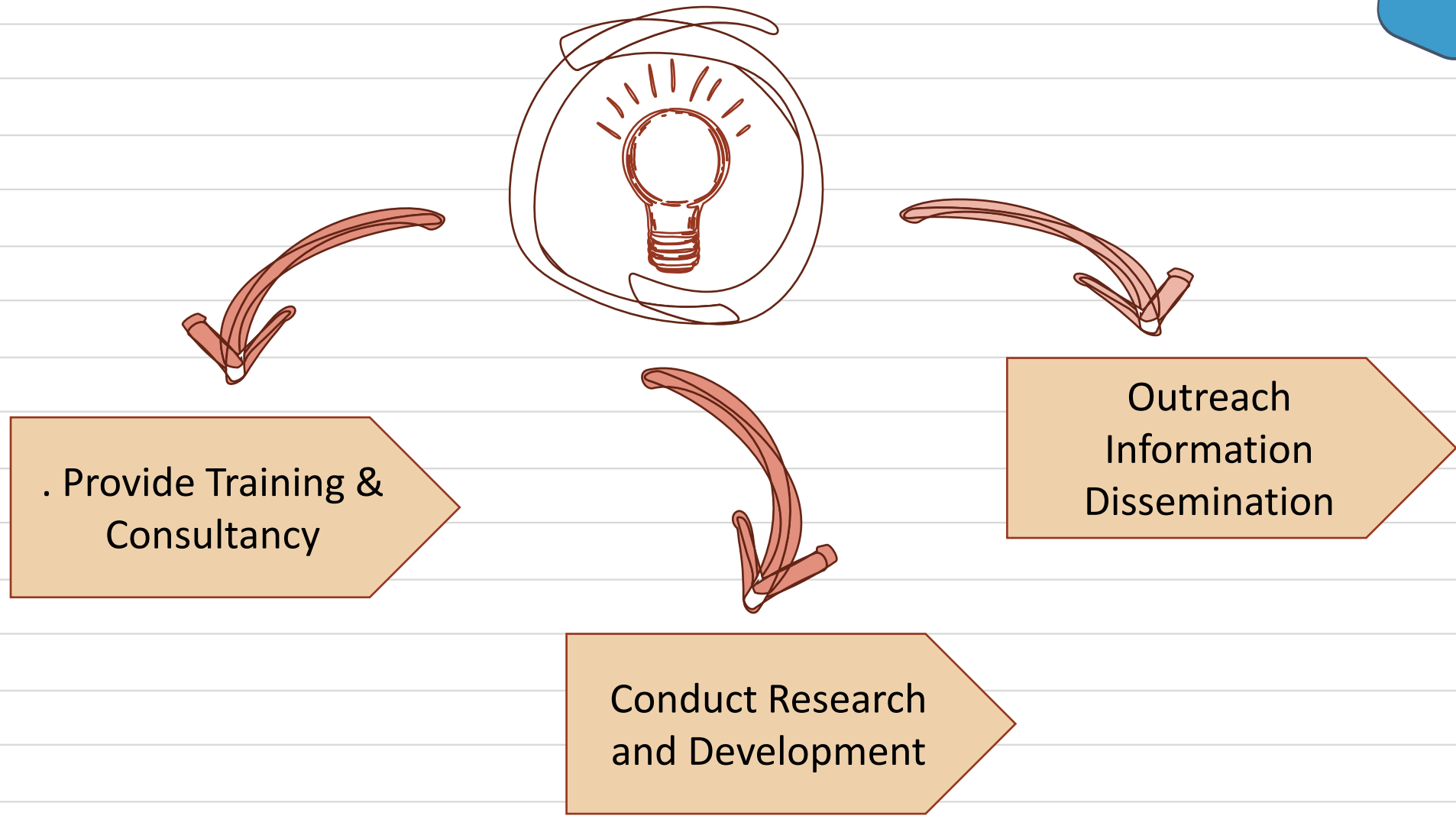
# NATIONAL INSTITUTE OF OCCUPATIONAL AND HEALTH MALAYSIA



- NIOSH Malaysia was established on 24 June 1992 as a Company Limited by Guarantee, under the Malaysian Companies Act, 1965.
- NIOSH Malaysia conducts regular Occupational Safety and Health-related training around the country. As the “training arm” of the Department of Occupational Safety and Health (DOSH), IMHO, the courses offered by NIOSH are recognized by that department.
- NIOSH was established with an endowment fund from the Social Security Organization (SOCSO) and from the government. This fund has invested to become part of NIOSH’s source of income.



# FUNCTION OF NIOSH





# Provide Training & Consultancy

## Training

Training is an integral part of Occupational Safety & Health (OSH) to ensure the success of any OSH programme at the workplace, adequate and effective training must be implemented for all those responsible in OSH

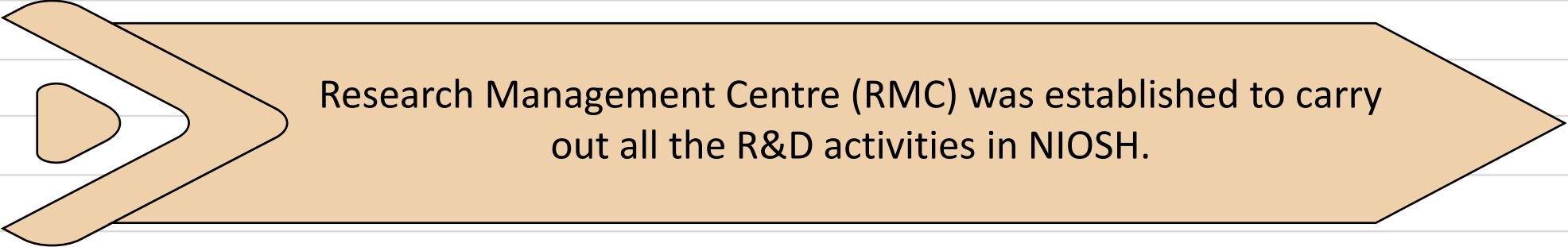
### 4 Types Of Training Conducted By NIOSH

- OSH Practitioners Programmes
- Competency / Certificate Programme
- Trainer's Programme
- Safety Passport Programmes

## Consultancy

- One of NIOSH core activities in the effort of elevating and improving OSH in the workplace.
- Consultation Management Centre (CMC) consolidates and facilitates consultancy services carried out by Consultation, Research and Development Department (CRDD)
- CRDD offers consultancy services in meeting the requirements of OSH law and legislation as well as good practice as follows:
  - Regulatory Compliance
  - OSH Solution
  - Laboratory Services
  - Advisory Services

# Conduct Research and development



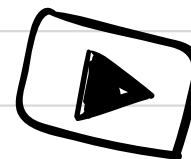
Research Management Centre (RMC) was established to carry out all the R&D activities in NIOSH.

RMC responsibilities:

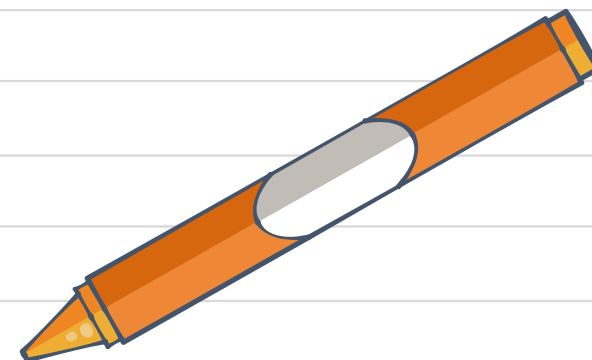
- To foster various discipline of OSH research in accordance with NIOSH priority
- To enable and expedite high-impact research through collaboration and partnership
- To coordinate research projects through effective monitoring approaches
- To disseminate research outcome to all relevant stakeholders

# Outreach Information Dissemination

Dissemination of information is one of the roles of NIOSH that has been the industry's demand. Indirectly, it suggests a growing degree of understanding among employers, workers and higher education institutions in the OSH in Malaysia. NIOSH also organizes and participates in numerous exhibits, workshops and conferences organized around the world, as well as guidance and encouragement to companies in their safety and health campaign activities.



# DOSH



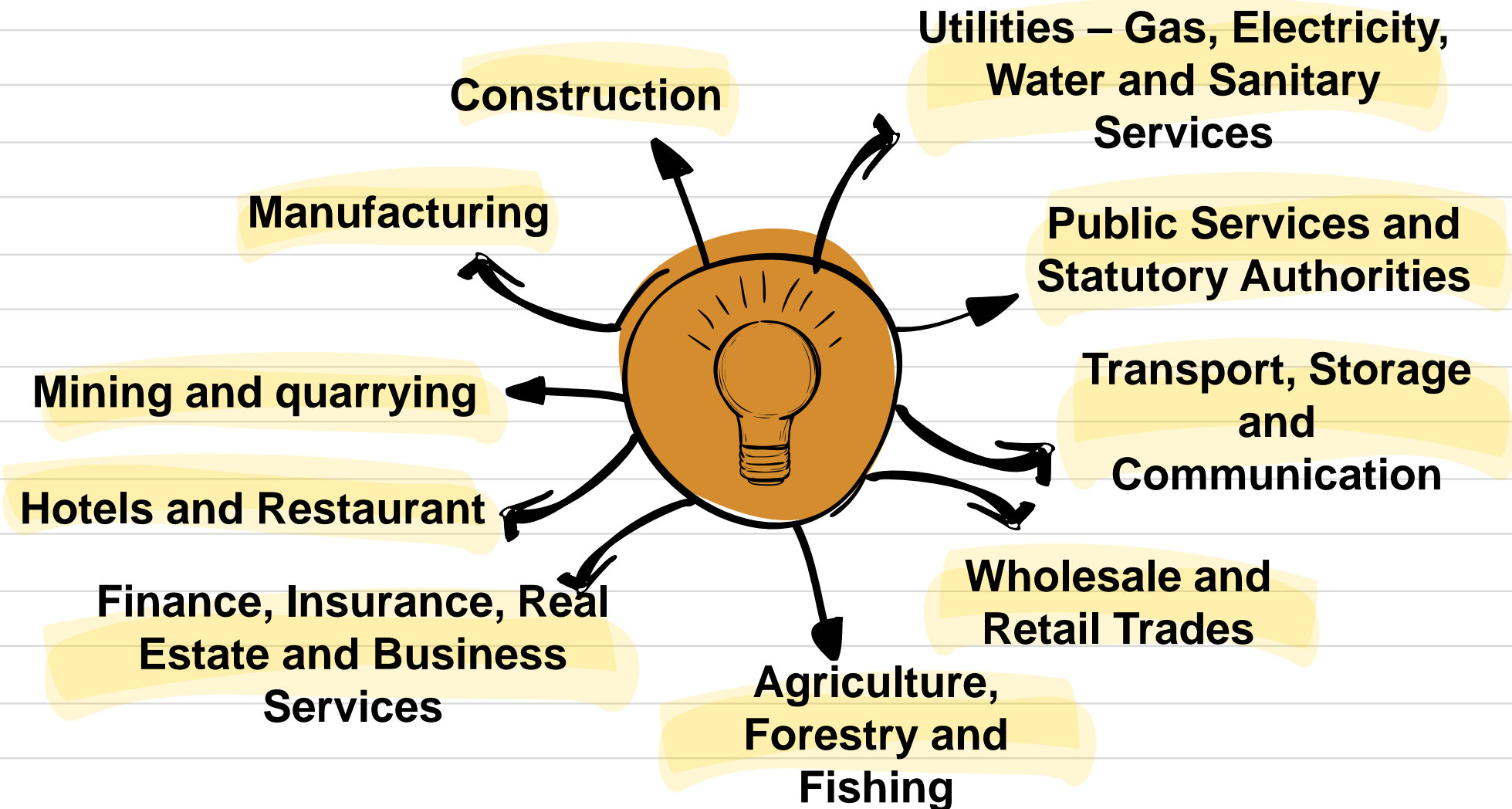
# THE DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (DOSH)

- The Department of Occupational Safety and Health (DOSH) is a department under the Ministry of Human Resources.
- As a government agency, the department is responsible for the administration and enforcement of legislations related to occupational safety and health of the country.
- Jabatan Keselamatan dan Kesihatan Pekerjaan formerly known as Jabatan Kiang dan Jentera is given the mandate to administer and enforce the safety and health law in Malaysia.



**Jabatan Keselamatan dan Kesihatan Pekerjaan**  
KEMENTERIAN SUMBER MANUSIA

- This department is responsible for ensuring the safety, health and welfare of people at work as well as protecting other people from the safety and health hazard arising from the activities sectors which include:




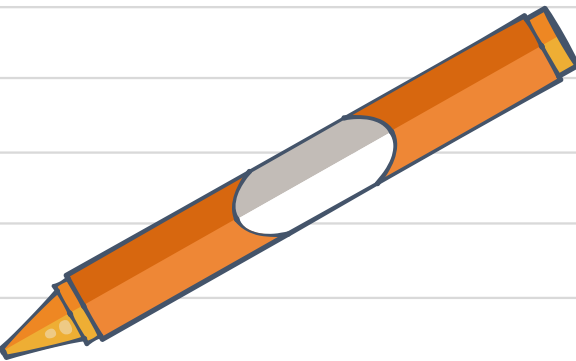



# Functions

a) To secure the safety, health and welfare of persons at work against risks.

b) To protect persons at a place of work other than persons at work against risks.

c) To promote an occupational environment for persons at work which is adapted to their physiological and psychological needs.

d) To provide the means towards a legislative system based on regulations and industry codes of practice in combination with the provisions of the Act.



DOE



# DEPARTMENT OF ENVIRONMENT (DOE)

- Department of Environment (DOE) was originally created as Environment Division under the Ministry of Local Government and Environment on 15 April 1975. Environment Division was then placed under the Ministry of Science, Technology and Environment on March 1976.
- On 1 September 1983, the Environment Division has been upgraded to a Department of Environment.
- On March 2004, DOE was then placed under the Ministry of Natural Resources and Environment.
- The establishment of Department of Environment is based on the Environmental Quality Act, 1974 which was enacted in March 1974 and came into force on 15 April 1975.



- There are 11 main units under DOE as follows:



Administrative  
and Finance  
Division

Enforcement  
Division

Hazardous  
Substance  
Division

Air Division

Assessment  
Division

Strategic  
Communication  
Division

Water and  
Marine Division

Information  
Technology  
Division

Environment  
Institute of  
Malaysia

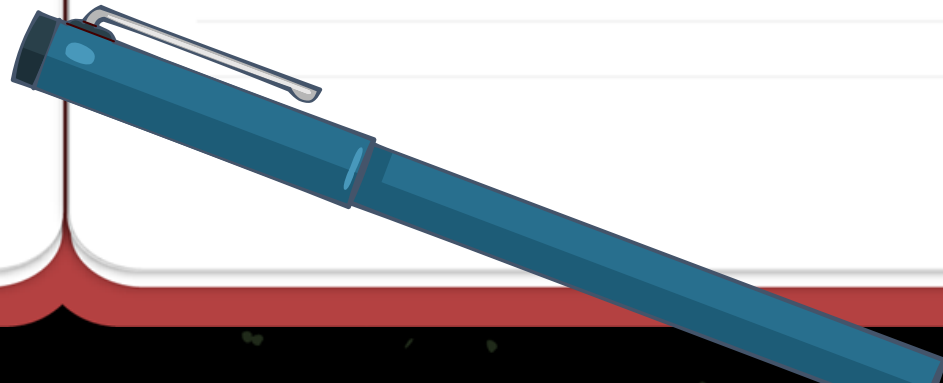
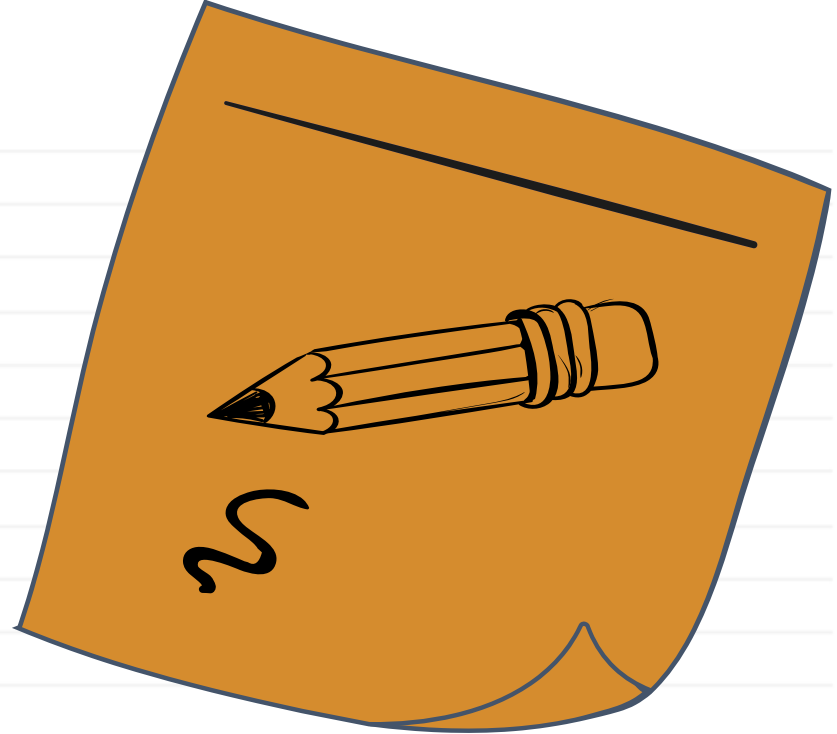
Green Industry  
Unit

Legal Unit



## FUNCTIONS

The Department of Environment's main role is to prevent, control, abate pollution and enhancement of the environment through the enforcement of the EQA 1974, and its 37 subsidiary legislation.



# Environmental Quality Act 1974

## Prevention of Pollution

- Section 19 – Prohibition against causing vehicles, ships or premises to become prescribed conveyance or prescribed premises.
- Section 34A – Report on impact on the environment resulting prescribed activities.

## Abatement of Pollution

- Section 30A – Power to control use of substance and product and to state environmental labeling.
- Section 30B – Power to specify rules on deposit and rebate schemes.
- Section 47 – Power to recovery of costs and expenses.

## Control of Pollution

- Licensing
- Acceptable conditions
- Prohibition
- Environmental audit

## Enhancement of the Environment

- Section 3 – Environmental Protection Policy, Issuance of license, research etc,



# ENGINEERING AS RESPONSIBLE EXPERIMENT

engineers are primarily  
considered as technical enablers  
or facilitators

special roles of engineers include  
project monitoring, risk  
assessment, supplying clients and  
customers with the knowledge  
they need to make reasonable  
choices.

General responsibility of  
engineering as society

The accountability of engineers is  
shared with management, the  
public and others.

show the virtue of being a  
socially responsible person during  
the exercise of engineering  
duties.

# ENGINEERING AS RESPONSIBLE EXPERIMENT

General features of moral responsible engineers

Conscientiousness

- Conscientiousness means commitment to live according to certain values
- Engineers have to be sensitive to a range of moral values and responsibilities, which are relevant in a given situation
- engineers should have the willing to develop the skill and apply the effort needed to reach the best balance possible among various considerations
- The primary duty of morally responsible engineers is to protect the safety of human beings and respect their rights of consent

Relevant information

- Conscientiousness is impossible without relevant factual information
- show the commitment to obtain and properly gauge all the information related

# ENGINEERING AS RESPONSIBLE EXPERIMENT

## MORAL AUTONOMY AS RESPONSIBLE EXPERIMENT

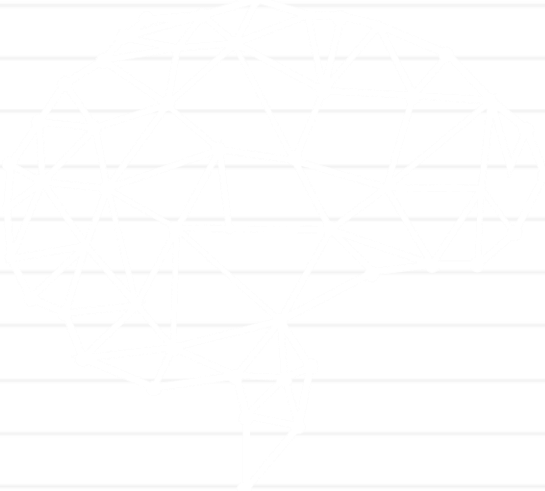
- the ability to think critically and independently about moral issues
- that an individual personality depends on the integration of his moral benefits and attitude
- an engineer has to undergo an extensive and updated training to form his identity as a professional
- The magnitude of moral autonomy to be experienced by engineering is highly influenced by the attitude of company's managements

## ACCOUNTABILITY

- Being responsible, liable, answerable or obligated.
- Refers to the general tendency of being willing to submit ones action to any type of moral scrutiny and be responsive to others assessment
- Morally responsible people are expected to accept morally responsibility for their action.
- People are not willing to accept personal accountability when placed under authority. There exist a lot of difference and separation between casual influence and moral accountability in all professions including engineering.
- Because of modern engineering practices, the complication in accepting one's moral accountability further worsened. Some of these situations are explained below:
  1. Modern engineering projects involve teamwork, in which each members contributes a small of personal accountability.
  2. The modern organization are based on the principle of division of work. Due to this division of work, the personal accountability also stretched within hierarchies of authority
  3. A preoccupation with legalities in a time of proliferating malpractice lawsuits.



• What is a Trade Union?



## DEFINITION

An organization of workers or employees formed mainly to

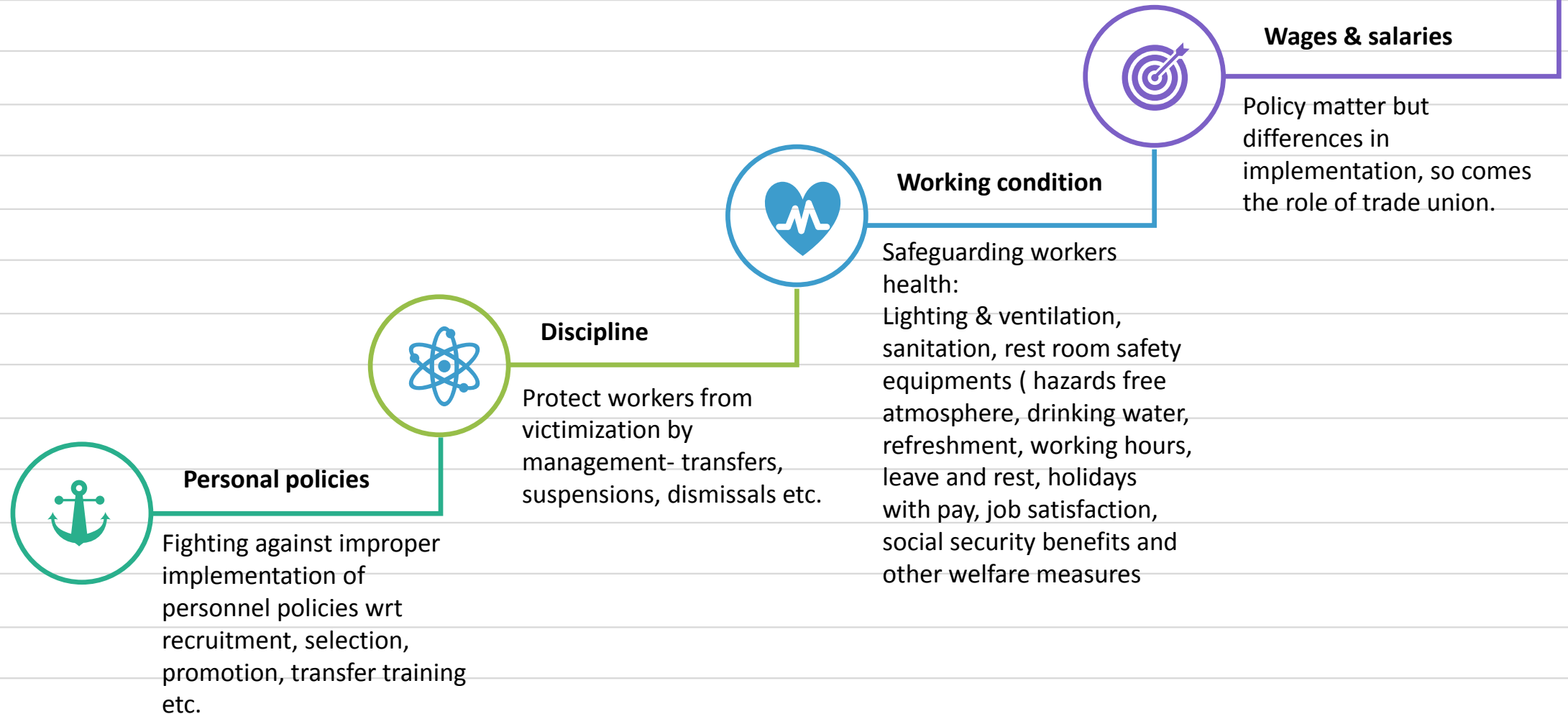
- Negotiation with the employment related issues
- Improve the terms and conditions at their workplace
- Enhance their status in society

In most countries, there are laws governing the formation, membership and administration of trade unions.

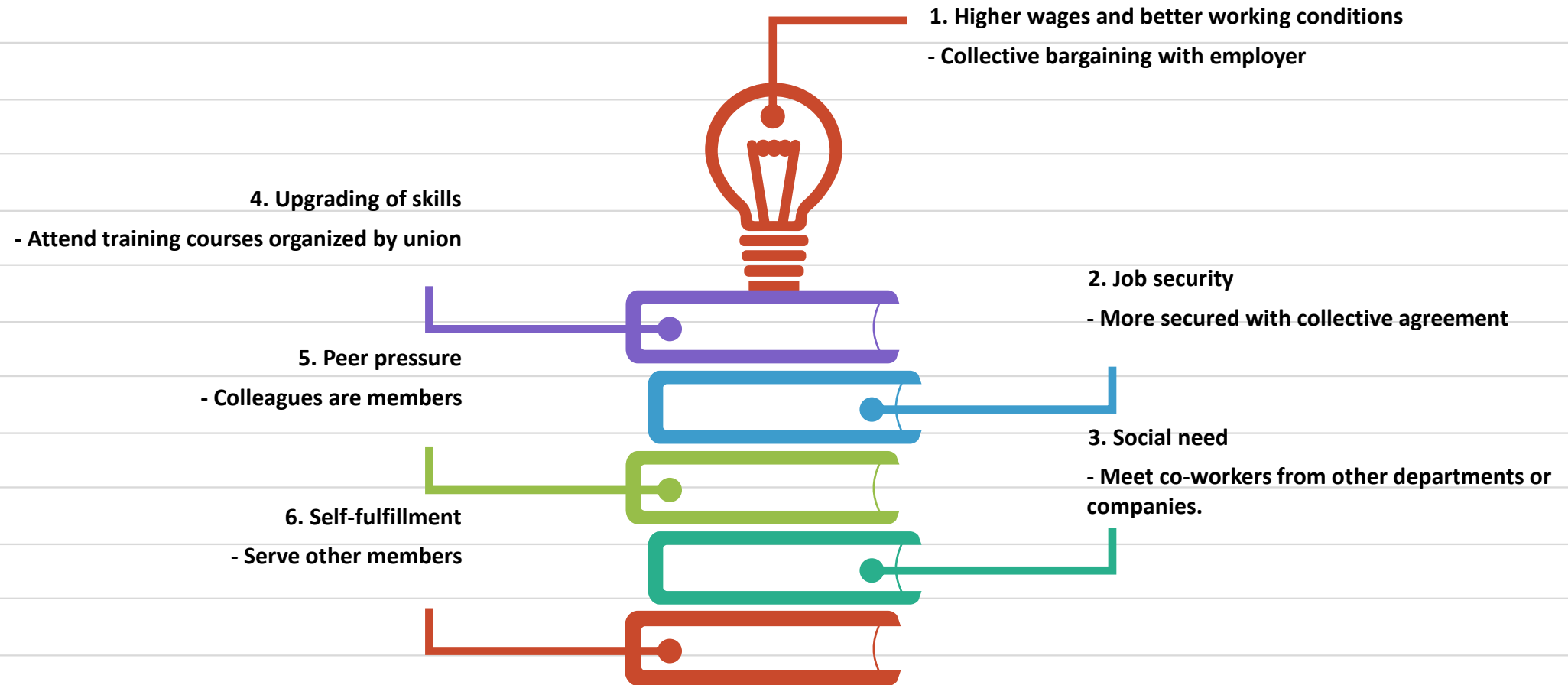




# Importance of Trade Unions



# Why Workers join Trade Unions?



# Trade Union Act 1926

