



STRATEGIES FOR PREVENTION AND CONTROL FOR ENVIRONMENTAL AND OCCUPATIONAL DISEASES

YEAR

1439-1440 Hijri

2018 - 2019 Gregorian

Objectives

Understand preventive strategies against environmental diseases internationally and nationally.

Understand prevention of occupational diseases and hazards in terms of:

- Medical measures
- Engineering
- Legislations



Global STRATEGIES

Reducing the disease burden of environmental risk factors will contribute significantly to the Millennium Development Goals.

Many Millennium Development Goals (MDGs) have an environmental health component, some of which are highlighted below

The **Millennium Development Goals (MDGs)** are eight **goals** with measurable targets and clear deadlines for improving the lives of the world's poorest people.



Goal 1 Eradicate extreme poverty and hunger

Minimizing exposures to environmental risk factors indirectly contributes to reducing poverty, because **many environmentally mediated diseases cause lost earnings**. If occupational disease, injury or death eliminates the only source of income for a family, this leads to increased poverty and disease for the entire family.

Example:

For developing regions, the mean per capita rate of healthy life years lost to childhood malnutrition is 12-times higher than for developed regions, and there is a 60-fold difference between the per capita rates for the WHO subregions with the highest and lowest malnutrition rates.



Goal 2 Achieve universal primary education

Environmental health intervention helps to achieve this goal in several ways.

- Providing clean water and toilet at school (particularly toilet for girls) will encourage primary school students to come to school.
- Interventions that provide water and fuel for houses will also improve student attendance, because children (often girls) will not need to spend time collecting water and/or fuel for the home.



Goal 3 Promote gender equality and empower women

- Although there were no great differences between the overall rates of environmentally mediated diseases for men and for women, women are disadvantaged in many aspects.
- **In developing countries**, women are more likely to be involved in collecting safe water for the family, and in looking after children who may be sick from environmental risk factors such as polluted water or polluted indoor air (from using biomass fuels to cook and heat).



Goal 4 Reduce child mortality

- The environmentally-linked mortality rate in children under five years of age was 180-times higher in the poorest performing region compared with that in the best performing region.
- Improving the environment could thus help to reach the MDG, to reduce by two thirds the mortality rate among children under five years old.



Goal 5 Improve maternal health

- Environmental interventions can contribute to this MDG by providing a safe home environment, which is of great importance to the health of children and pregnant mothers.
- An unprotected or contaminated home environment is a threat to the mother and her unborn child. Childbirth, for example, requires safe water and sanitary conditions.



Goal 6 Combat AIDS, malaria and other diseases

- Every year, there are over half a million deaths from malaria worldwide and over a quarter of a million deaths from HIV/AIDS that are related to environmental and occupational causes.
- Targeted environmental interventions could reduce the impact of major diseases such as these.
- Environmental interventions could also reduce the number of deaths from diarrhoea and lower respiratory infections by over 3 million each year.
- With the exception of HIV/AIDS, all of these diseases affect children in large number, and even HIV/AIDS can have a major indirect impact on the health of children



Goal 7 Ensure environmental sustainability

- Providing **sustainable sources of safe water and clean energy** are key environmental interventions that contribute to this MDG.
- Diarrhoeal diseases, caused mainly by a lack of clean water and inadequate sanitation, contribute to nearly 1.7 million deaths a year.

Environmental interventions will likely have a great impact on improving the health of slum dwellers, who are among those most affected by the combined health hazards associated with polluted water, inadequate sanitation, urban ambient air pollution, and indoor air pollution from solid fuel use.



Goal 8 Develop a global partnership for development

- In summary, environmental health interventions can make a valuable and sustainable contribution towards reducing the global disease burden and improving the well-being of people everywhere.
- Many interventions can be cost-effective and have benefits beyond improving people's health, benefits such as helping to alleviate poverty and reducing gender inequalities.



ENVIRONMENTAL IMPACT ASSESSMENT

Environmental impact assessment (EIA) is an important procedure for ensuring that the likely effects of new development on the environment are fully understood and taken into account before the development is allowed to go ahead.



Environmental Impact Assessment can be defined as:

The process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made.





Objectives off EIA

- To ensure that environmental considerations are obviously addressed and incorporated into the development decision making process;
- To anticipate and avoid, minimize or offset the **adverse** significant biophysical, social and other relevant effects of development proposals;





Objectives off EIA

- To protect the productivity and capacity of natural systems and the ecological processes which maintain their functions; and
- To promote development that is **sustainable** and optimizes resource use and management opportunities.





Faculty of Medicine

Family and Community Medicine

كلية الطب
قسم طب العائلة
والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

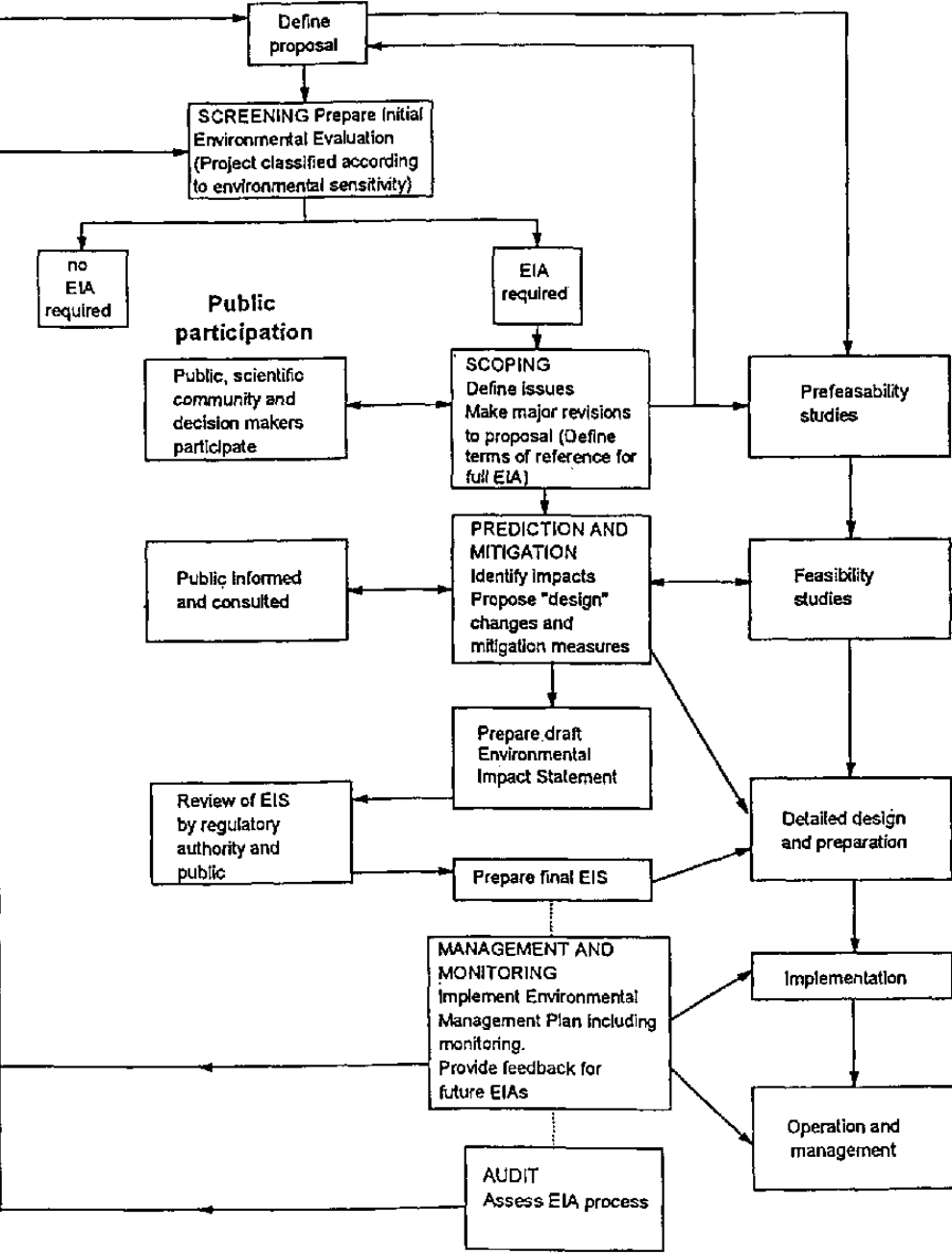
The EIA process should be applied:

1. As early as possible in decision making and throughout the life cycle of the proposed activity;
2. To all development proposals that may cause potentially significant effects;
3. To biophysical impacts and relevant socio-economic factors, including health, culture, gender, lifestyle, age, and cumulative effects consistent with the concept and principles of sustainable development;
4. To provide for the involvement and input of communities and industries affected by a proposal, as well as the interested public;
5. In accordance with internationally agreed measures and activities.



EIA process

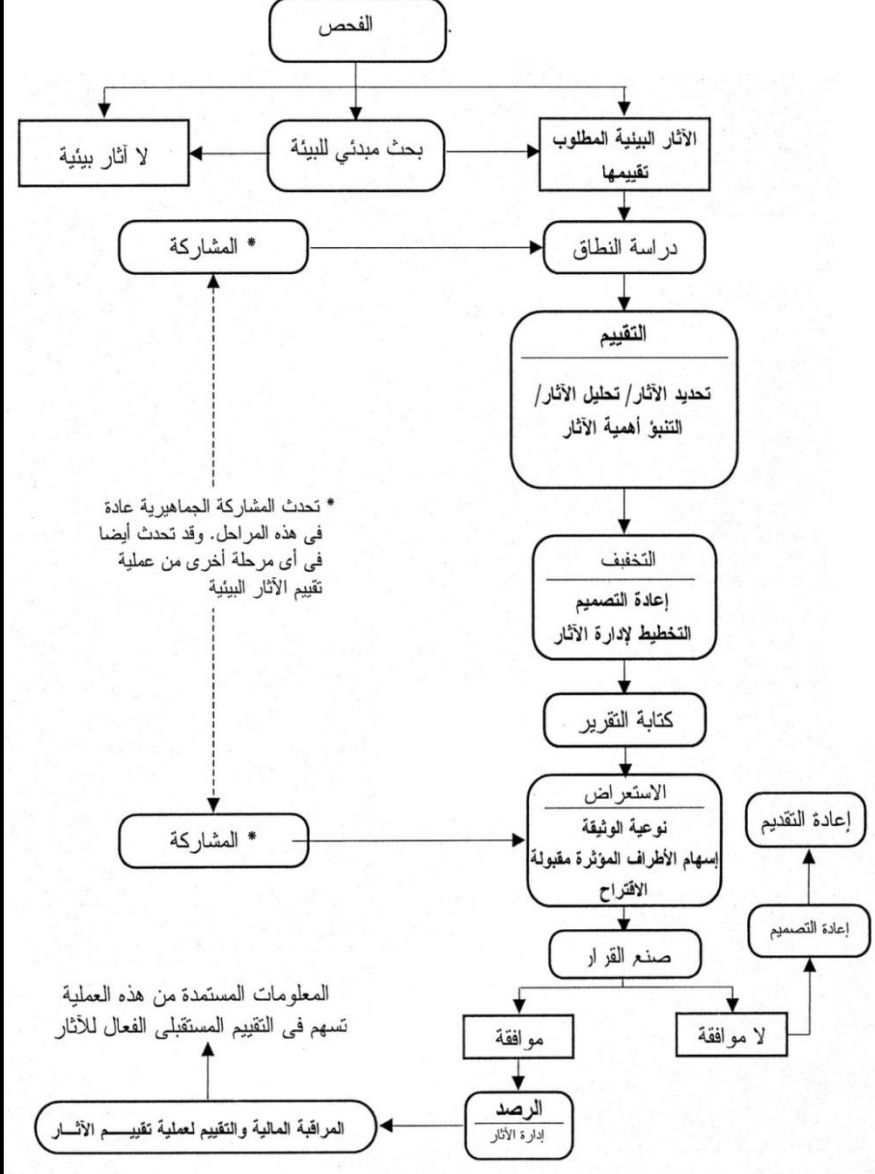
Parallel Studies



تحديد الحاجة

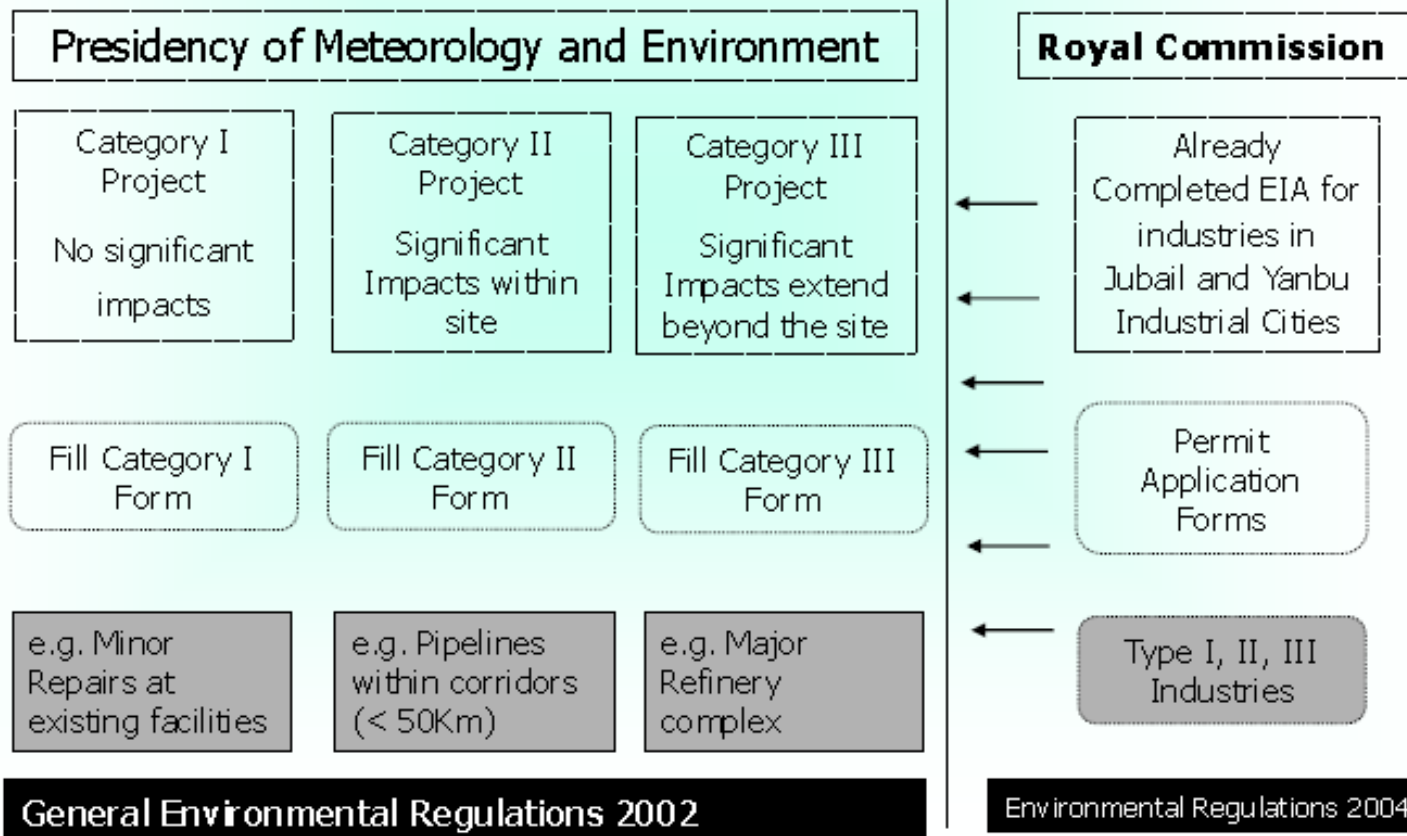
وصف المشروع

الفحص



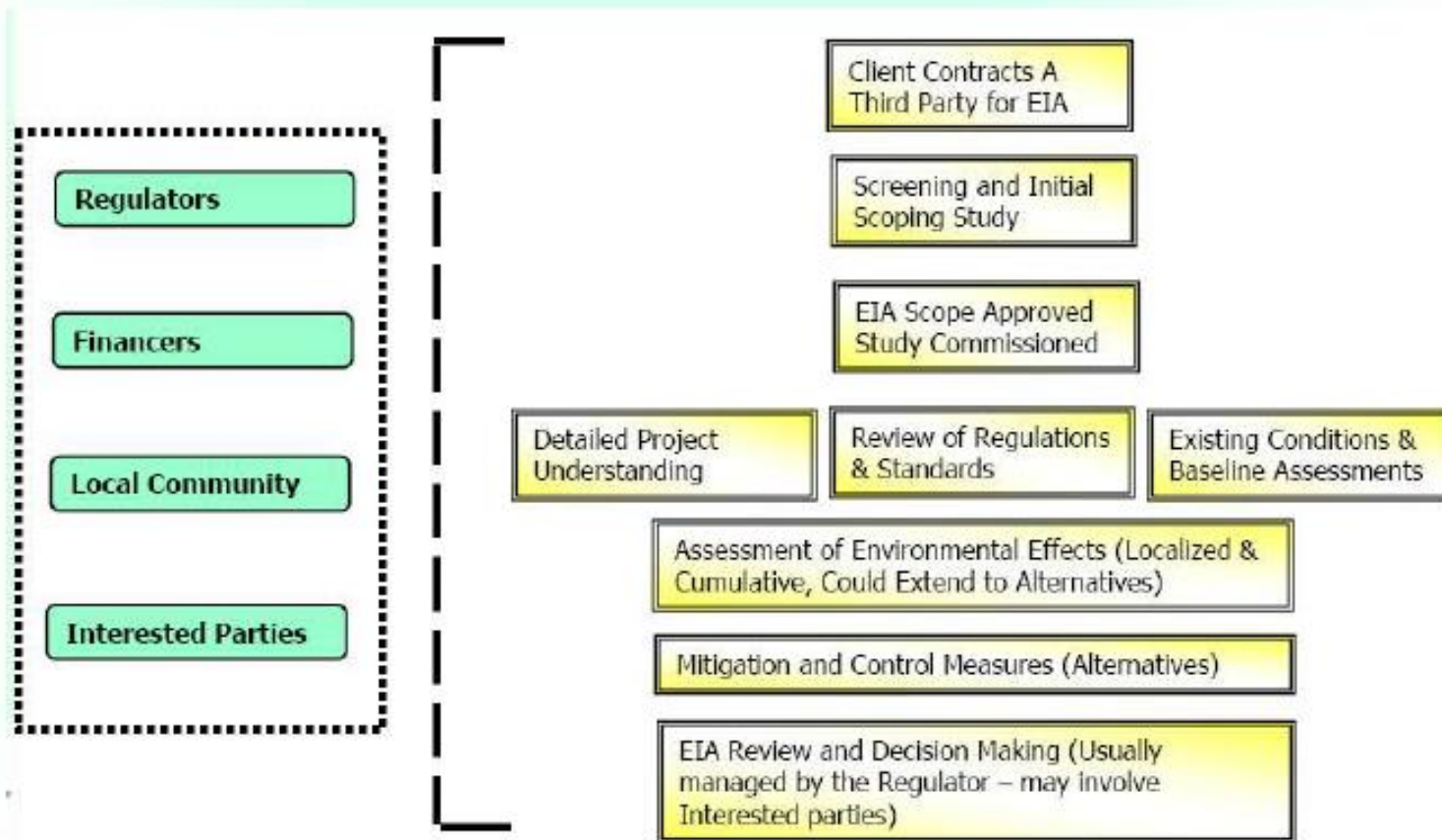


What are the EIA requirements in KSA?





Components of an EIA (The EIA Process)





EIA Report: Key Issues to be discussed

- Project Description
- Project Justification
- Project Alternatives
- Policy and Legal Framework
- Baseline Conditions (Air, Soil, Water, Flora and Fauna, Marine, Communities, etc – as appropriate)
- Impact Assessment (can include modeling)
- Mitigation Measures
- Monitoring Requirements





STRATEGIES FOR PREVENTION AND CONTROL FOR OCCUPATIONAL DISEASES

Every year millions of people in the European Union (EU) are injured at work or have their health seriously harmed in the workplace. Occupational accidents and diseases cause great human suffering and loss and the economic cost is also high.

Prevention is the guiding principle for occupational safety and health (OSH) legislation in the EU. In order to avoid accidents from happening and occupational diseases from occurring, EU wide minimum requirements for safety and health protection at the workplace have been adopted across the Member States.



Role and necessity of prevention and control strategies

- The concepts of **risk assessment** and **risk management** are fundamental to prevention and control of risks to safety and health in the workplace.
- **The key aspects of risk assessment** include making sure all relevant risks are taken into account, checking the efficiency of the safety measures adopted, documenting the outcomes of the assessment and reviewing the assessment regularly to keep it updated.
- Workers have a right to reduction in ill health and accidents given that these things can be prevented or reduced if risk assessment and risk management are done.



Principles of prevention and control

1. prevention of risks,
2. protection of safety and health, assessments of risks,
3. elimination of risks and accidents,
4. the informing, consultation, balanced participation in accordance with national laws and / or practices
5. training of workers and their representatives,
6. general guidelines for the implementation of the said principles.
7. obligations of employers, employees and other groups

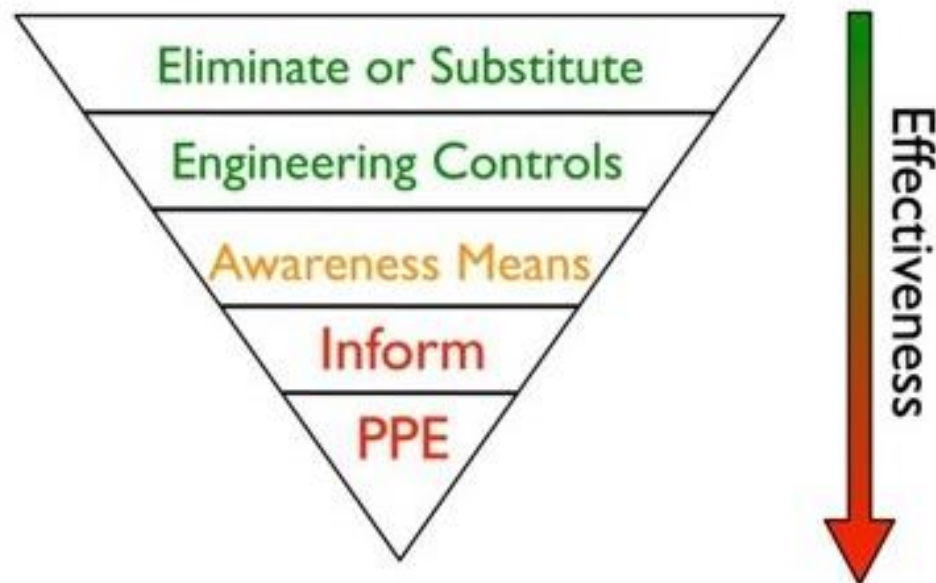
Risk assessment

- Step 1: identifying hazards and those at risk
- Step 2: evaluating and prioritising risks
- Step 3: Deciding on preventive action
- Step 4: Taking action
- Step 5: Monitoring and reviewing





Hierarchy of prevention and control measures





Step 1 Elimination:

Elimination of hazards refers to the total removal of the hazards and hence effectively making all the identified possible accidents and ill health impossible. The term 'elimination' means that a risk is reduced to zero without a shifting it elsewhere. **Elimination is the ideal objective of any risk management.**

This is a permanent solution and should be attempted in the first instance. If the hazard is removed, all the other management controls, such as workplace monitoring and surveillance, training, safety auditing, and record keeping will no longer be required.



Step 2 Substitution:

Substitution means replacing the hazard by one that presents a lower risk. The elimination is immediately combined with a shift to another but much lower risk.

Often or usually thought of in the context of chemicals, the concept of 'replacing the dangerous by the non-dangerous or the less dangerous' can be applied much more widely;

With chemicals, substitution with a safer form of the same chemical, rather than replacing the chemical may offer a viable, safer option (e.g. pellets rather than powder).



Faculty of Medicine

Family and Community Medicine

كلية الطب
قسم طب العائلة
والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Step 3 Engineering Controls:

Engineering controls are **physical means that limit the hazard.**

These include structural changes to the work environment or work processes, erecting a barrier to interrupt the transmission path between the worker and the hazard.

Local exhaust ventilation (LEV) to control risks from dust or fume is a common example' as is separation of the hazard from operators by methods such as enclosing or guarding dangerous items of machinery/equipment.

Priority should be given to measures which protect collectively over individual measures



Step 4 Administrative Controls:

Also known as organisational measures administrative controls reduce or eliminate exposure to a hazard by adherence to procedures or instructions.

Documentation should emphasise all the steps to be taken and the controls to be used in carrying out the activity safely.

Particularly in respect of younger workers, social media is of growing importance as an avenue for disseminating safety messages and other information relating to occupational safety and health.

Improving the resilience of workers through measures such as workplace health promotion can also be a useful aspect of a holistic approach to prevention and control.



Step 5 Personal Protective Equipment (PPE):

PPE should be used only as a last resort, after all other control measures have been considered, or as a short term contingency during emergency / maintenance / repair or as an additional protective measure.

The success of this control is dependent on the **protective equipment** being chosen correctly, as well as fitted correctly, worn at all times and maintained properly.



Faculty of Medicine

Family and Community Medicine

كلية الطب
قسم طب العائلة
والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

ILO

Ratifications for Saudi Arabia

In 2019, the International Labour Organization (ILO) celebrates its 100th anniversary. [Learn more >](#)



International
Labour
Organization



Advancing social justice, promoting decent work

ILO is a specialized agency of the United Nations

Countries

Topics

Sectors

Search ilo.org

Home

About the ILO

Newsroom

Meetings and events

Publications

Research

Labour standards

Statistics and databases

Contact Us

Occupational Safety and Health >

[ILO home >](#) [About the ILO >](#) [How the ILO works >](#) [Departments and offices >](#) [Occupational Safety and Health >](#) [Country profiles >](#) [Arab States >](#) [Occupational safety and health country profile: Saudi Arabia](#)

[News and statements >](#)

[Areas of work >](#) [+]

[Sectors and industries >](#)

[Knowledge base >](#) [+]

[Country profiles >](#) [-]

[Africa >](#)

[Americas >](#)

[Arab States >](#)

[Asia and the Pacific >](#)

Occupational safety and health country profile: Saudi Arabia

International labour standards

NORMLEX

[Ratification of ILO conventions >](#)

Laws and policies

LEGOSH

[National regulatory framework >](#)



<https://www.ilo.org/safework/countries/arab-states/saudi-arabia/lang-en/index.htm>



References

1. https://oshwiki.eu/wiki/Prevention_and_control_strategies
2. ILO – International Labour Organisation, Global strategy on occupational safety and health, Geneva 2003. Available at:
3. Jump up Eurostat, *Health and safety at work statistics 2011*. Retrieved 20 March 2015 from
4. Jump up Merriam-Webster, Prevention. Retrieved 20 March 2015 from:
5. https://www.ilo.org/dyn/legosh/en/f?p=14100:1100:0::NO::P1100_ISO_CODE3,P1100_SUBCODE_CODE,P1100_YEAR:SAU,,2013