

Use of scientific methods in occupational health practice

- 1. What can be done, generally speaking?**
- 2. What do we want to achieve in relation to OSH?**
- 3. How is OSH organized nationally & internationally?**
- 4. What are “research” and “scientific methods”?
Where does research take place?**
- 5. Historic development of OSH research in Sweden.**
- 6. Which OSH issues are important in India?**
- 7. What can we do in this workshop?**

What can be done, generally speaking?

- **Study & register**
- **Disseminate**
- **Action for change**
 - Prevent risks
 - Control risks
 - Protect the worker
 - Mend injuries & cure illnesses
- **Disseminate**

What do we want to achieve? How?

Accidents and diseases due to work can and shall be avoided, health for all promoted

Prevention is the preferred action

The employer has the main responsibility

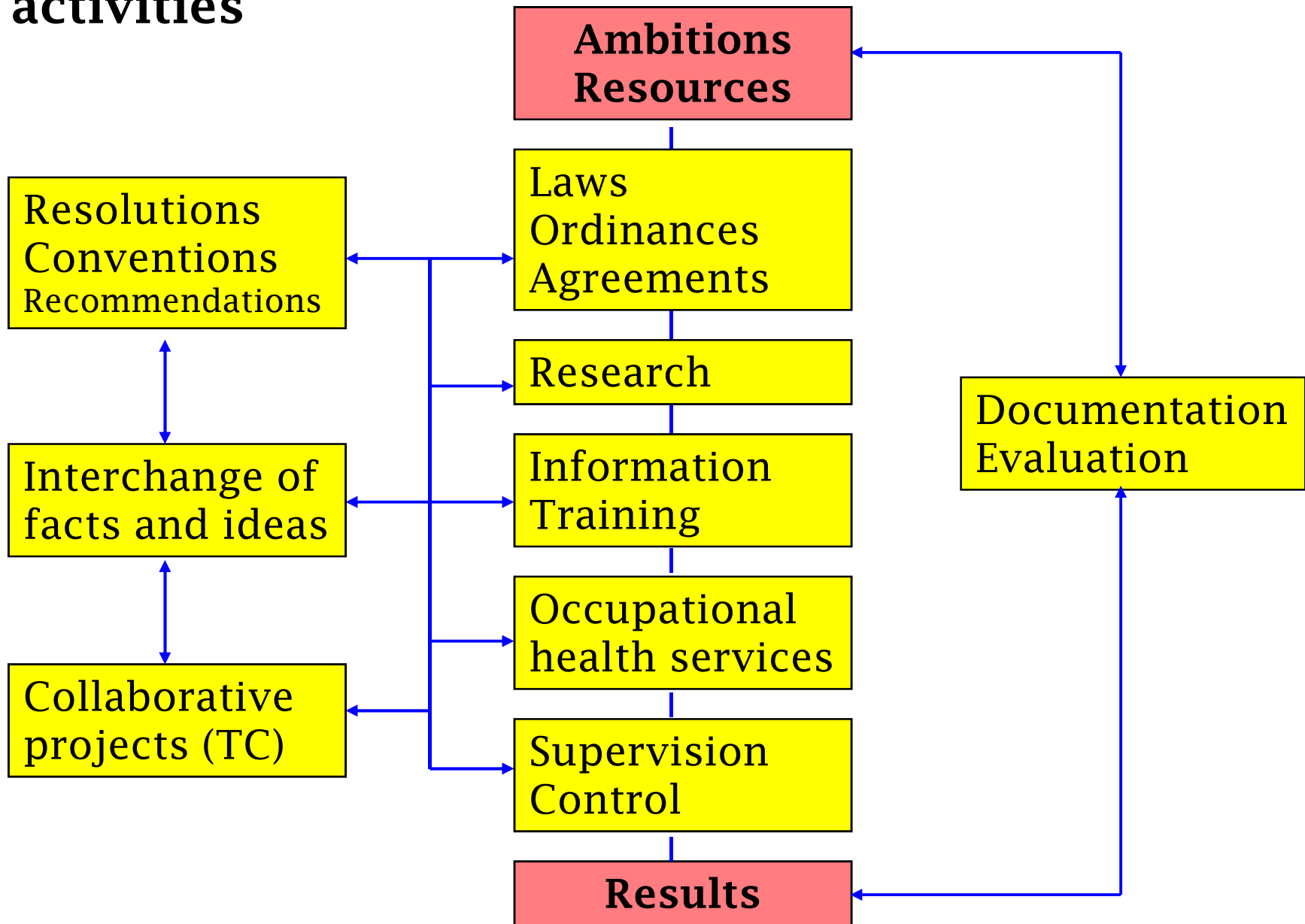
Workers and government shall cooperate with the employer to achieve OSH

Injured and diseased shall be compensated and rehabilitated

How is OSH organized?
- nationally & internationally

International activities

National activities



**“Research” and “scientific methods”
- what is it?**

Where does research take place?

Research

- search again
- careful search

- systematic investigation
to increase the knowledge

- the creation, collection and
analysis
of data on work, OSH and
production

Why research?

Occupational accidents and diseases
shall be avoided

(prevention is the preferred action)

Scientific methods

Basic research, applied research, interventions, action research; Physiological studies, psychological studies, medical studies, toxicological studies, epidemiological studies; ergonomic studies; Disciplinary (basic or applied disciplines), multidisciplinary, interdisciplinary and transdisciplinary studies; Quantitative and qualitative studies; Comparative studies, explorative studies; Case studies; Risk assessments; Expert- or self-rating of exposure, health effects, et cetera.

Epidemiology; Occurrence of disease
Case-control studies, Cohort studies,
Cross-sectional studies, Longitudinal
studies, Case-referent studies, Registry-
based studies, Descriptive studies,
Analytical studies, Prospective studies,
Retrospective studies, Intensity and
duration of exposure, Risks & risk
measures, Relative risk or risk ratio,
odd ratio, Prevalence, Incidence,
Cumulative incidence, Precision and
random errors, Validity and systematic
errors, Confounding factors, et cetera.

...the essence of "scientific methods"?

A scientific method consists of the systematic collection of empirical data, and the formulation and testing of a hypothesis

A systematic way to study something and learn about how this something is related to other things

hypothesis?
a proposed explanation
for an observable
phenomenon

Where does OSH research take place?

At enterprises

Occupational health services

Regionally

Clinics of occupational medicine

Labour inspectorate

University departments

At national level

University departments

National Institute of Occupational Health

What can we do in this workshop?

Demystify "research" and "scientific methods"

Discuss objectives for applied OSH research

Stimulate to application of systematic efforts for preventing OSH risks

The process

The solution

The problem

The institution

Which OSH issues are important in India?

Dr. Shyam Pingle, January 2010:

Some of the major occupational risks are accidents, silicosis, musculoskeletal injuries, pneumoconiosis, chronic obstructive lung diseases, pesticide poisoning, byssinosis, asbestosis, and noise induced hearing loss.

The increasing proportion of females in the workforce adds to the traditional OSH issues. They are subjected to indoor air pollution due to biomass fuels and double burden of home work and occupation.