

# Experiences with workforce participation in risk analysis

Karen Peirens

# Mission statement

Invest in people at work  
via  
The promotion of health and safety at work  
With core activities  
Research, information, advice, training  
Attention to  
Scientific and practical relevance, quality  
In cooperation with  
The different stakeholders

# Dissemination and cooperation



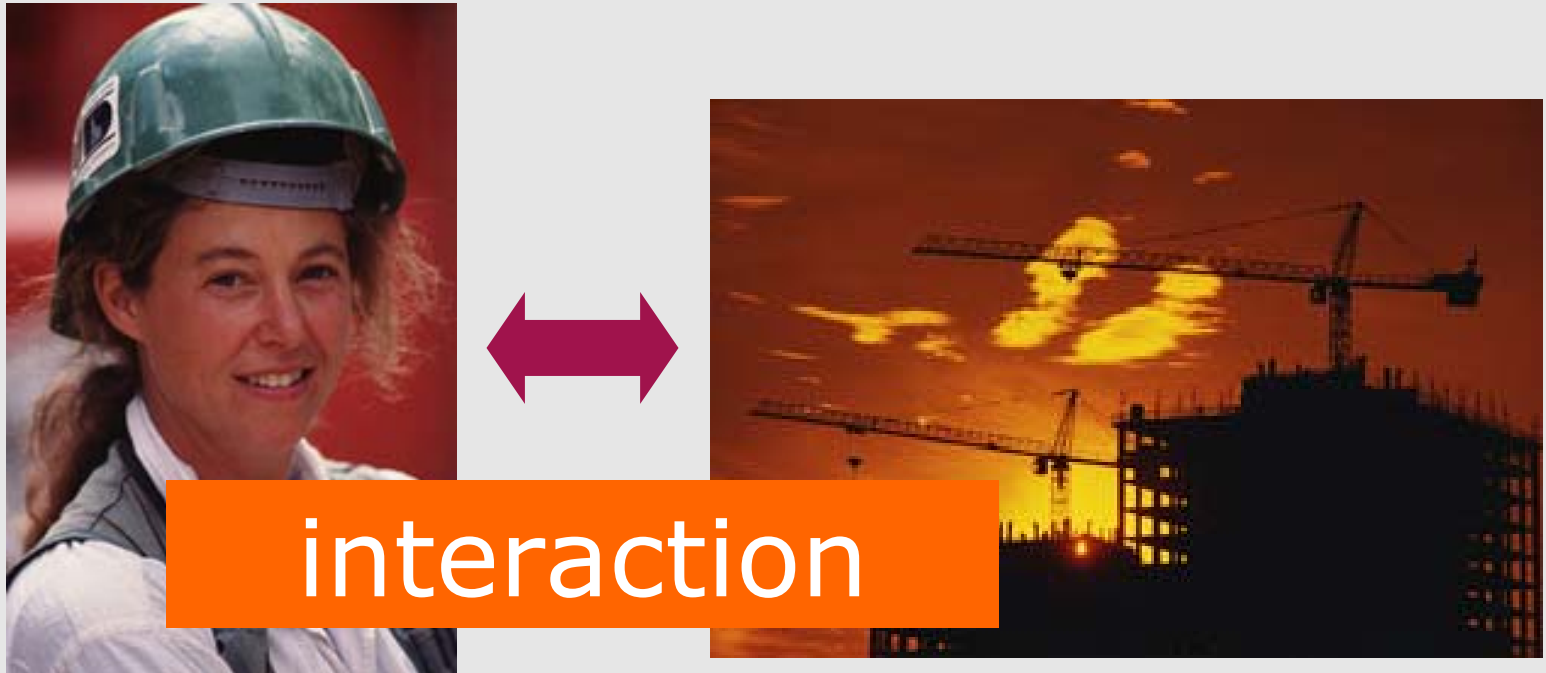
# Workforce participation in risk analysis

1. Framework
  - Legal
  - Conceptual
2. Method
3. Cases
4. Conclusion

## Legal Framework 'PRA'

- Law on Wellbeing (4/8/1996): actively involves employees in prevention policy (chapter. II, article. 6), information, training
- Wellbeing Policy (KB 27/3/1998): employers develop dynamic risk management systems based on risk analysis with the participation of everybody

# Conceptual framework



## Man-Work system

# System failure

- Incidents, accidents, error, decrease in quality or production, social conflicts, absenteeism, discomfort...

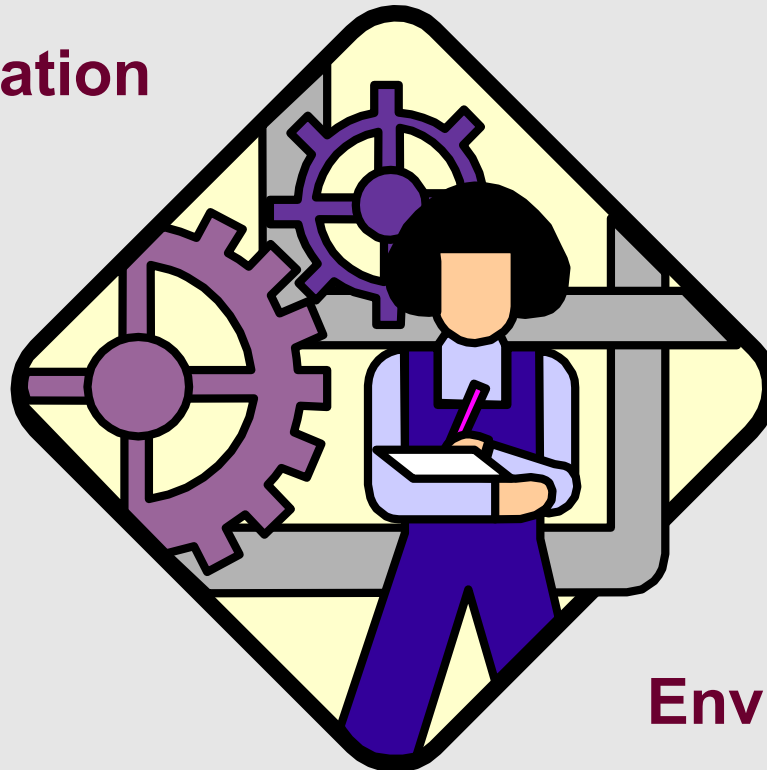
HUMAN ERROR ?

# System - HEEPO

Organisation

Human factor

Equipment



Product

Environment

# How to approach the system?

- Objective methods ('What if' analysis, checklists, computer simulation models, Kinney etc.)
- Person-oriented approach: medical monitoring of workforce
- Subjective approach: person as dosimeter



PRA helicopterview

# Participatory risk analysis

participation of workers in  
prevention actions



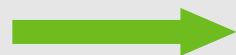
increasing prevention performance

- 75% working conditions
- 25% human behaviour

# Participatory risk analysis

Goal: to look at the realities of one's own work

- Evaluate **dangers, hazards** and **prevention measures**
- Make employees **ready and able** to:
  - Recognise dangers and risks: perception
  - Evaluate risks
  - React appropriately (report, behave safely)
- Optimise work processes – work organisation



Participate in prevention policy

# Participatory risk analysis

- Raising awareness among workers
- Improve intrinsic motivation:
  - responsibility,
  - own choice,
  - experienced profit
  - appropriate means
- condition: sufficient support

# Methodology

Depending on:

- Type of activity
- Type of risks
- Company size
- Aim of the project (global – specific)

Step by Step

# Step-by-step plan

1. **Get commitment** from the management
2. **Inform employees**
3. **Task analysis** per department and per job

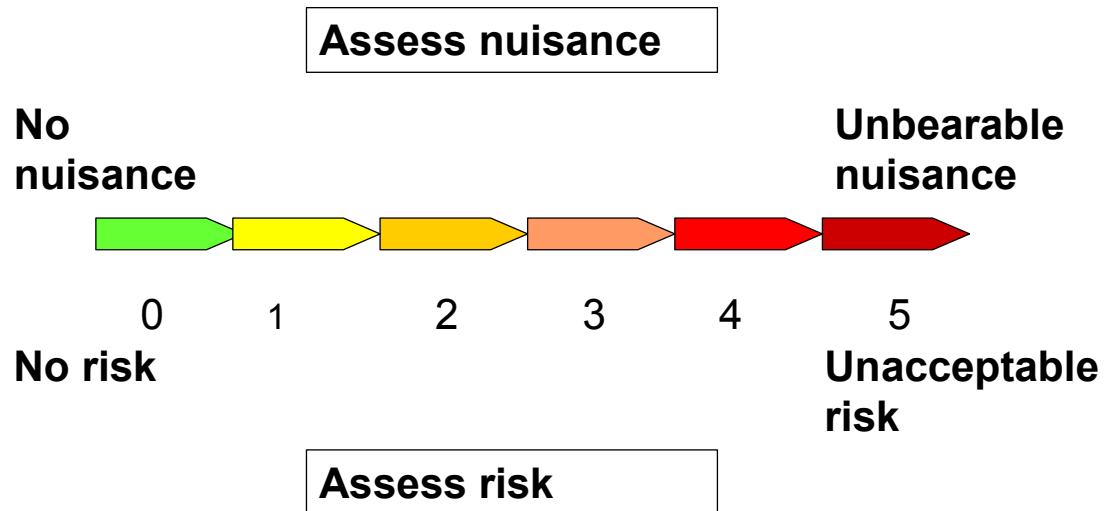
Starting from process and task analysis

# Step-by-step plan

## 4. Developing screening instrument (questionnaire, interview guidelines etc.)

- Defining risk domain
  - Safety: falling, electricity, fire, explosion, machines etc.
  - Ergonomics: manual handling, working positions, machine controls and displays etc.
  - Environment: exposure to dangerous substances, dust, noise etc.
  - Health risks...
  
- Individual and written
- Task analysis
- Scoring system

## PREVENT - PRA scoring instrument



## Assessing risk on the basis of risk scores

0 = No risk / No nuisance

1 = Small risk / Light nuisance

2 = Risk / Nuisance

3 = High risk / Discomfort

4 = Very high risk / Serious discomfort

5 = Unacceptable risk / Unbearable discomfort

# Questionnaire example

Theme: health score	Description of the risk/causes	Solution – suggestion for improvement
Task 1 <input type="text"/>		
Task 2 <input type="text"/>		
Task 3 <input type="text"/>		
Task 4 <input type="text"/>		

# Step-by-step plan

## 5. Carrying out the inquiry, during training sessions

- in a group of 12 people
- guide Prevent
- Anonymous
- During working hours (weekend, night, day shift)

# Training session

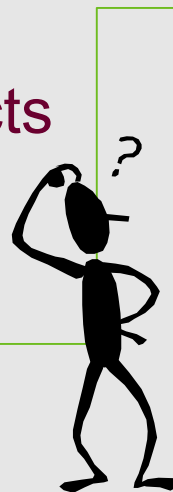
- Awareness raising, attitude, behaviour
- Risk assesment
  - Each theme is explained and illustrated (photo, film)
  - Each participant receives his or her own questionnaire
  - Solution oriented

# PRA analysis: supporting the prevention policy

falling etc.  
machines etc.  
health hazards  
ergonomic hazards  
hazards in the  
surrounding  
environment  
dangerous products  
stress

for each theme assess risks  
for your own tasks:

- indicate score
- state causes
- look for solutions



HEEPO principle

# Step-by-step plan

## 6. Analysis and processing of the data: report

### Quick wins

#### Quantitative:

- overview of the averaged scores and the weighted averages for each activity and theme, per job and location etc.

#### Qualitative:

Per activity / per job etc.

## 7. Discussion of the results

- objectivity
- determining quick wins
- selecting priorities for action plan

# Step-by-step plan

8. Presenting the report to the management

9. Informing employees

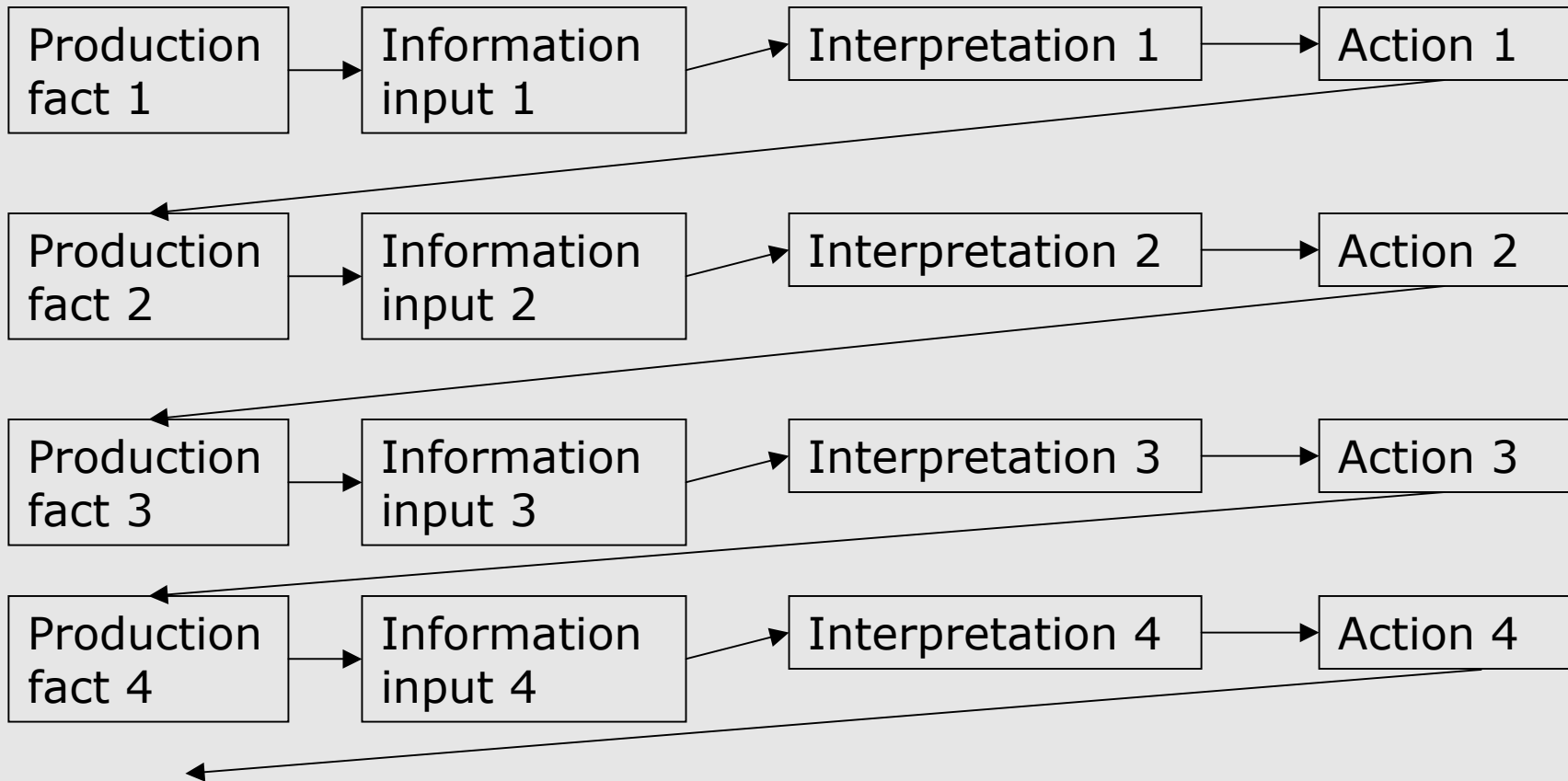
10. Finalising the action plan and integration into policy

11. Follow up: by responsible for implementing the proposed solution / optimisation

## Case chemical production - checking process

- Start from activities
- Trace problems, together with employees
- Define causes of problems
- Make suggestions for improvement

# Process analysis



# Risk analysis focused on

- Information presentation
- Displays
- Controls
- Environment
- Communication

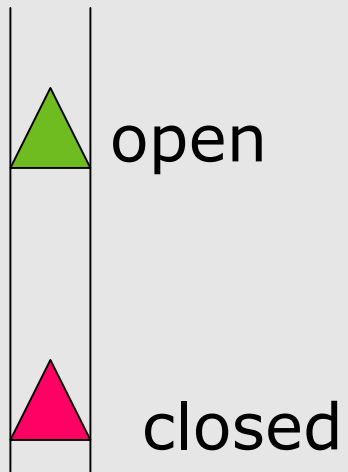
# Information presentation

- Detection of information
- Interpretation / decision-making
- Uniformity
- Standardisation
- Reading errors
- Substitution errors
- Memory failure

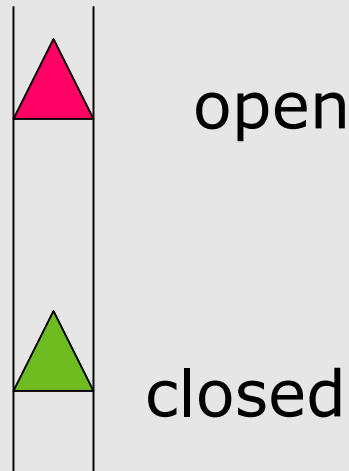
# Results

- Feedback for every step in process
- Detection of important risks
- Detection of lacking skills  
(training needs)

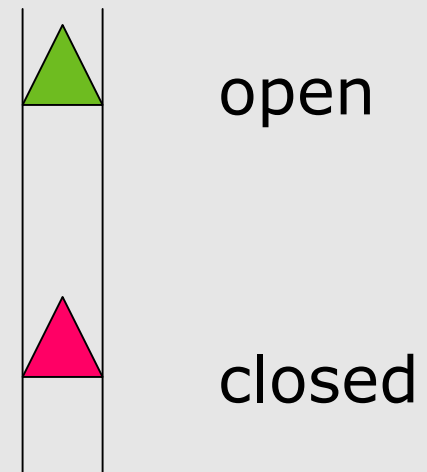
Plant 1



Plant 2



Plant 3



# Conclusions - PRA advantages

- **Involvement**
- **Health and safety awareness**
- **Lots of information**
- **Practical, dynamic, informal**
- **Starting point for changes**
- **Positive atmosphere / communication**
- **Management instrument**

# Conclusions: PRA pitfalls

- **Need for objectivity**
- **Complaint bank...** how do you prevent this?  
look for solutions
- **Frustration....** how do you prevent this?  
Commitment from the management

# Keys to succes

- Commitment management
- Communication

Top down

Bottom up

