Integrated Survey

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Integrated Survey

"…is any survey in which data of different kind, coming from different sectors, have to be gathered, coordinated and considered in such a way that a coherent result may be expected." (Mohrmann, 1969)

Two Approaches of Integrated Survey:

- The purely scientific approach
- The practical approach

Different disciplines

Purely Scientific Method:

- All possible facts and data gathered by experts of different disciplines
- The aspects of human and natural resources are of interest
- Time and cost are secondary importance
- No influence by economic, social or political considerations
- No prejudgement of the ultimate use of the survey

Mobile Laboratory

Purely Scientific Method (cont.)

- every expert takes profit from the other sciences
- willing to share special knowledge with the rest
- work closely nearly all the time in field studies
- communicate and coordinate regularly

Communicate and coordinate regularly (day time)

Work closely nearly all the time (night time)

The Practical Approach

- Influence deeply by the practical purposes
- Serve (e.g. the rural and industrial development) of a certain area
- Limited in time, budget, and available experts
- The execution of development projects is ultimate aim
- The watch-word is efficiency

The Practical Approach (cont.)

- Define purposes and survey priorities in advance.
- Influence by economic, social, political and financial considerations.
- Framework has to be clearly drawn up
- Coordination of the team work are interdependent

Framework has to be clearly drawn up

Social consideration

Coordination of the team work are interdependent

Distinction between two approaches

- No absolute distinction
- Many surveys comprise both interests
- Some survey with practical ends, gathers as many scientific data as possible
- These data are not of direct use but can be of interest to subsequent objectives

What has to be done first?

1) Preparation of the survey
2) Basic material
3) The logistics
4) The budget
5) The execution of the survey
6) The integration of local assistance
7) The report

1) Preparation of the survey

Outline of working methods

- Purpose of the survey
- Then to define working method

Phase and Scale are governing factors

Out of Balance in Scales

- Detailed soil survey in provisional master plans
- Very precise large scale topographical maps in overall development programmes
- Highly detailed inventories of human resources in fast-changing social structures of demography

Large Scale Topographical Map

Phase

Most surveys have to be divided into phases

- Preliminary Investigations
- Overall Inventory
- Semi-Detail Surveys
- Detailed Surveys
- Execution of the projects and follow-up

Phase (cont.)

- Careful planning of the different phases of survey and design are importance
- Every phase has to be a coherent entity at a certain scale, ending in maps, reports and recommendations

Phase (cont.)

- It is sometimes desirable to cover the period between two phases with small teams for instance to continue observations (hydrology)
- Ovoid starting experts off on a phase

Preliminary Investigations

Study of these available reference material

- Publications, reports, maps, aerial, satellite and other material photographs
- Rapid field prospect: discussions with local officers, experts etc

Results are the operational outline of the survey and budget.


THAILAND
MYANMAR
Chiang Rai
LAOS
Chiang Mai
Doi Ithanon ▲ 2590m
Lampang
Vientiane
Mekong River
Udon Thani
Sukhothai
Yangon (Rangoon)
Mae Sot
THAILAND
Ubon Ratchathani
Prasat Hin Khao Phanom Rung Historical Park
Nakhon Pathom
Ayuthaya
Chachoengsao
Bangkok
Ko Si Chang
Pattaya
CAMBODIA
Andaman Sea
Ko Samet
Phnom Penh
Gulf of Thailand
Ho Chi Minh City (Saigon)
VIETNAM
Ko Pha-Ngan
Ko Samui
Surat Thani
Nakhon Si Thammarat
Phuket
Krabi
INDIAN OCEAN
Songkhla
Hat Yai
Thaleh Ban National Park
Sungai Kolok
MALAYSIA
0 200 km
0 120 mi
© Lonely Planet

Discussion with local officers

Discussion with experts

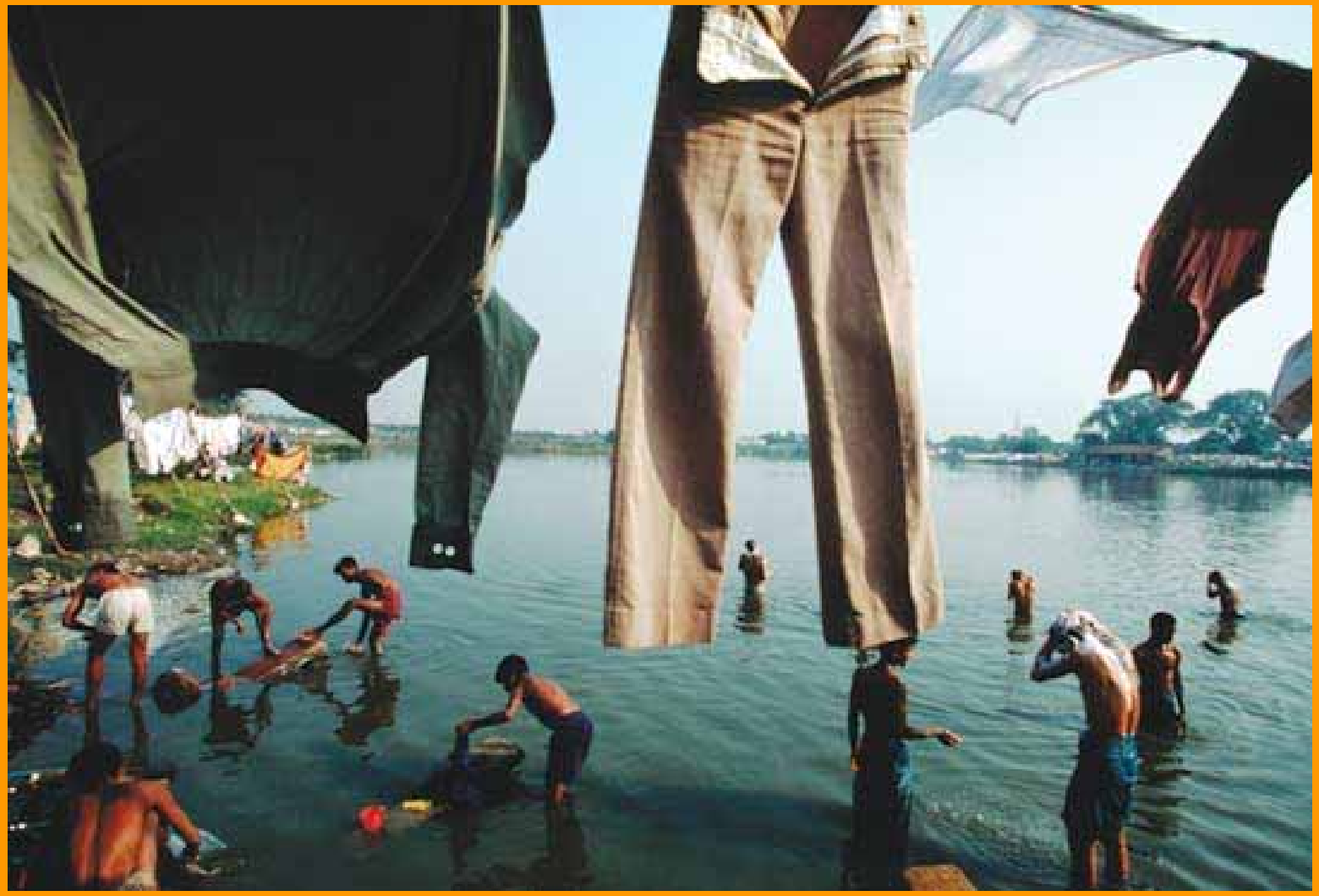
Overall Inventory

An assessment of the natural and human resources of the region on general and social situation of the physical infrastructure

-examination of some sample areas using large scale maps

-alternative development possibilities is made

Social situation



Social Situation

Semi-detailed Surveys

In selected areas

- Medium and large scale map (1:50,000 to 1:100,000) used

- Feasibility studies(technical, economical, financial) of possible development projects in the select areas.

Map scale 1:50,000

Detailed Surveys

Of the projects which have been selected

- Map with precision of 1:5,000 to 20,000 used
- General design of the projects, financial estimates, economic justifications

Detailed survey

don't stop your curiosity,

Follow up the survey

- Every science has its own standards, methods and criteria; and
- It is the task of the leader to coordinate them

Follow up the survey (cont.)

Execution will be different in case of :

- detailed studies of sample areas,
- intensity of different kinds of study,
- choices of the sample areas,
- extensive professional knowledge insight into purpose of the survey

Water quality measurement

Flow measurement

Fisheries Resources

Coastal Resource

Forest Resource

Wildlife resource

The composition of the team

- Too small? Underestimate the problems and difficulties of other disciplines.

The balance of the survey is lost, the result is incomplete and often additional investigations are need at a later stage

Too small (only two)

The composition of the team (cont.)

- Too big? Possible exaggerated commercial interests, aim at perfectionism, faulty inclination to scientific ambitions.

waste of time, material, knowledge, difficulties in directing and coordinating the team and integrating the results.

Too big group

The Team Leader :

following qualities are more important than professional knowledge

- Judgement
- Psychological insight
- Tact (diplomacy)
- Intuition
- Seniority capacity to carry things through
- Adaptability
- Directness
- Decisiveness

Water measurement

The Team Leader (cont.)

- Staying power
- Healthy & fitness
- Physical adaptability to bad climates and the primitive life
- Fair knowledge of each of the disciplines (too much specialisation is dangerous)
- Economic and social insight is important,
- Proficiency in languages
- Constructive and methodical thought and work
- Writing ability

Of course..this ideal team leader will seldom be found.

The Time Schedule

- careful not to let any team member start in site before his field activities are fully prepared and the basic information is made for other members
- better to wait until adequate aerial or satellite photos are available before the field study

Practicality in solving the problem

- In planning the phases, each phase being more or less a complete achievement in itself.
- Preparing the decisions clear and concise as possible, say alternative solutions

Preparing the decision clear and concise

Practicality in solving the problem (cont.)

- once the time is up, without the official decision being made, the team will continue in the way it had in mind
- it is difficult to finish in time that part of the work which depends on other persons
- do not under-estimate the time spent in the office

2) Basic Material

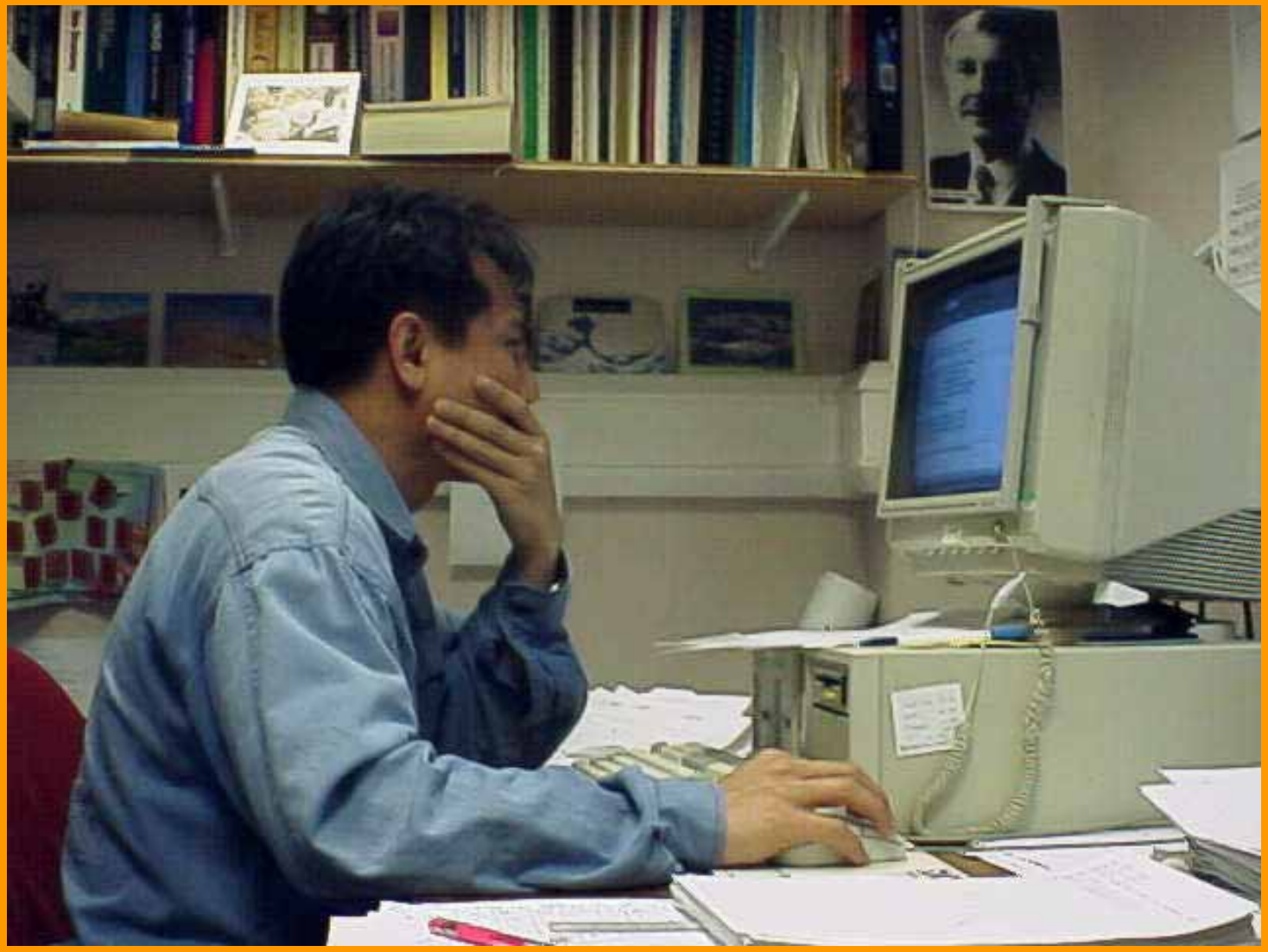
Must be gathered at as early a stage as possible.

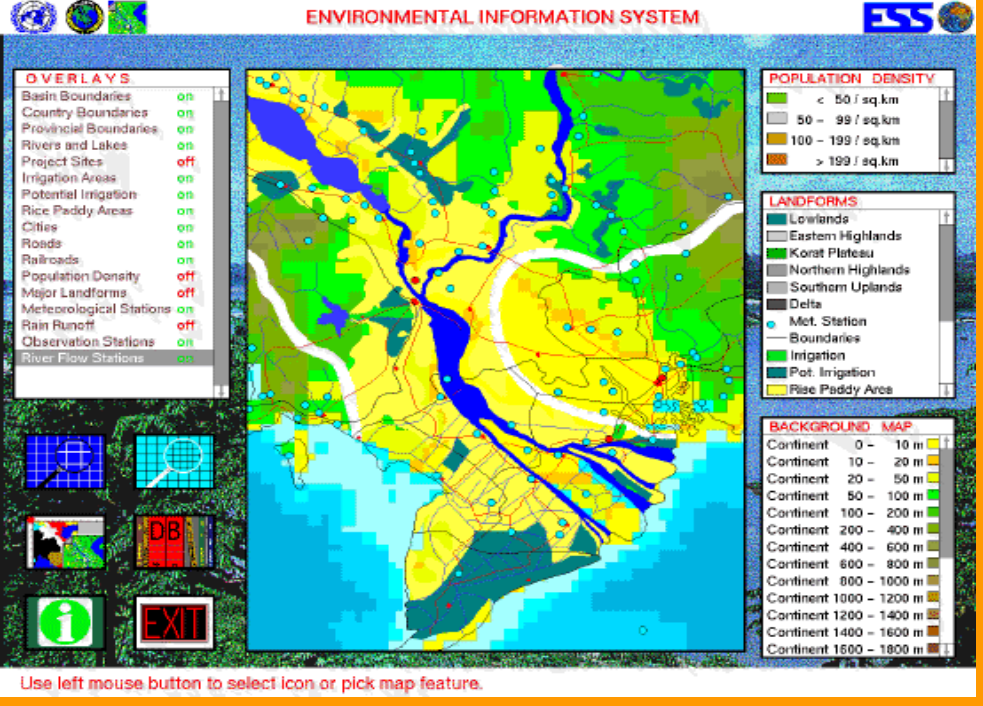
- Aerial and satellite photographs
- Reports
- Publications
- Topographical maps
- Hydrological and climatological data
- Results of earlier soil surveys
- Data from agricultural experiment stations etc.
- Demographic and statistics

Basic Material (cont.)

- Useless to discover it without reading up the available material
- The necessary material is not always available locally.
- Contact libraries, int’l organisations, etc
- Always mention the original source!

Reading up all available material





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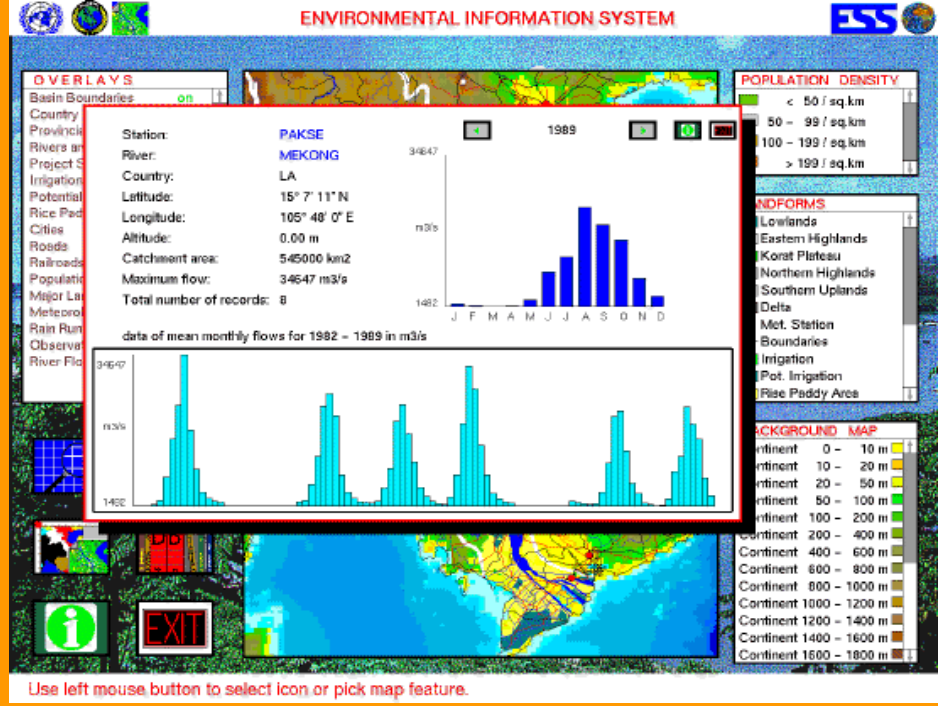

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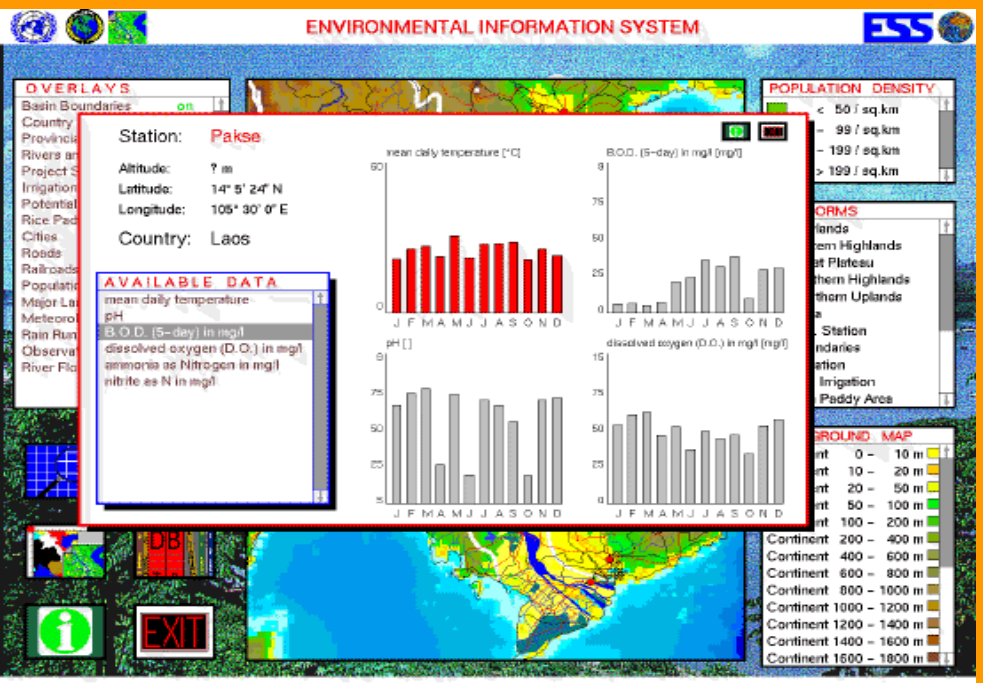

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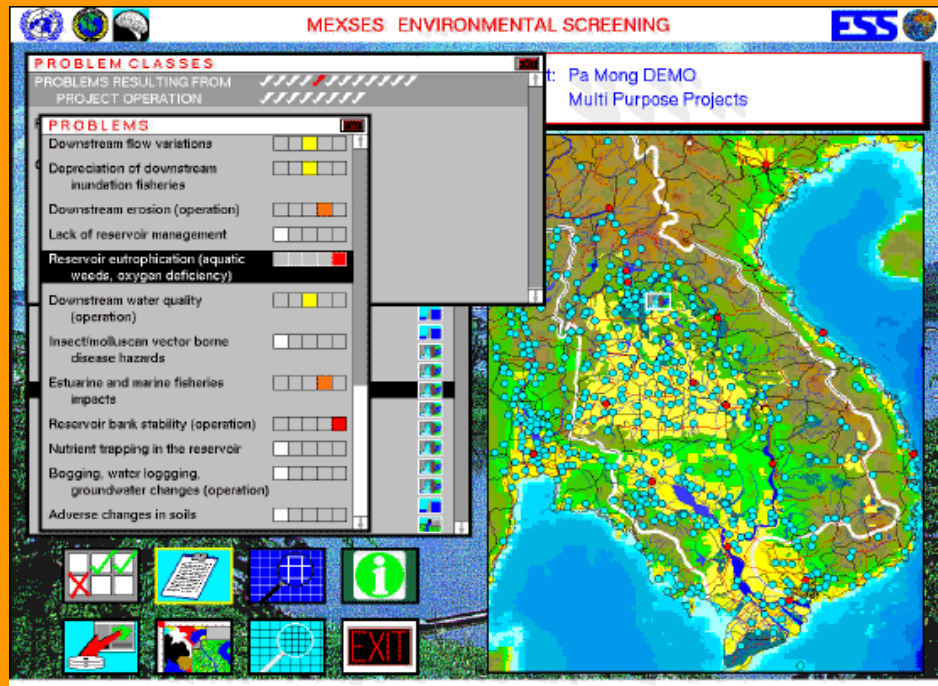

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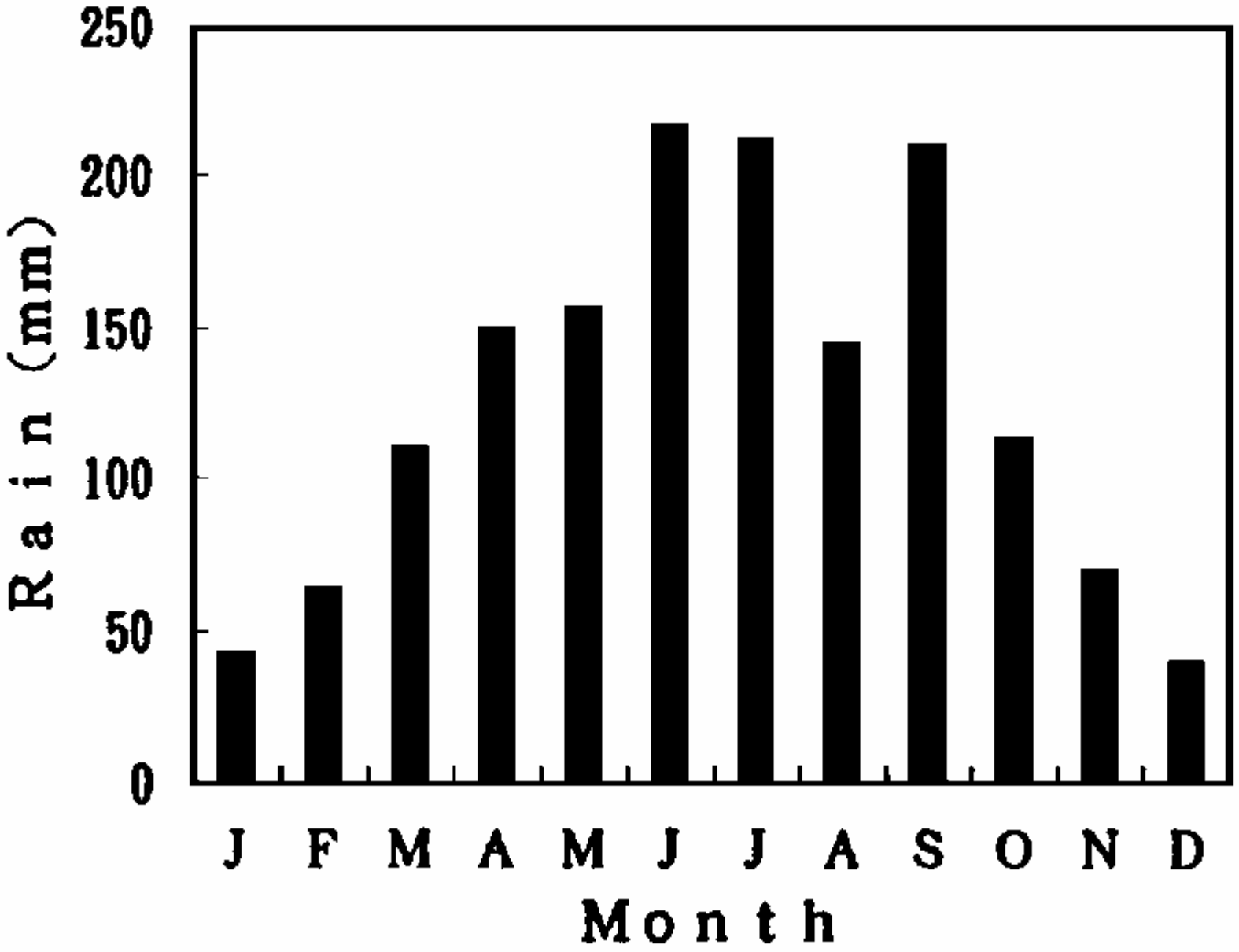

250
200
150
100
50
0
Rain (mm)
J F M A M J J A S O N D
Month

Necessary material is not always available locally

3) The Logistics

Organising the survey:

- Transport
- Housing or camping
- Field and Lab. Instrument
- Office material
- Food and medical equipment

Transport?

Transport?

Transport?

Water sampling

Water sampler

Field Instrument?

Housing?

Camping

Office material

The Logistics (cont.)

- It is sometimes necessary to limit the equipment for practical and economical reasons.
- Need a good transport, suites to local conditions

4)The Budget

- Estimate cost per day in the field & in the office: *cost of living, overheads, unforeseen items etc.*
- Consider carefully budget control within permissible limits.
- In larger teams it is advisable to have an administrator.

5) Execution of the Survey

Team Leader :PM

- Team leader has to be on the spot from the beginning
- has to be present certainly at the end of each stage
- has to participate in all important meetings with local authorities.
- follow the functioning of organisation

Meeting with local authorities

5) Execution of the Survey (cont.)

The Members

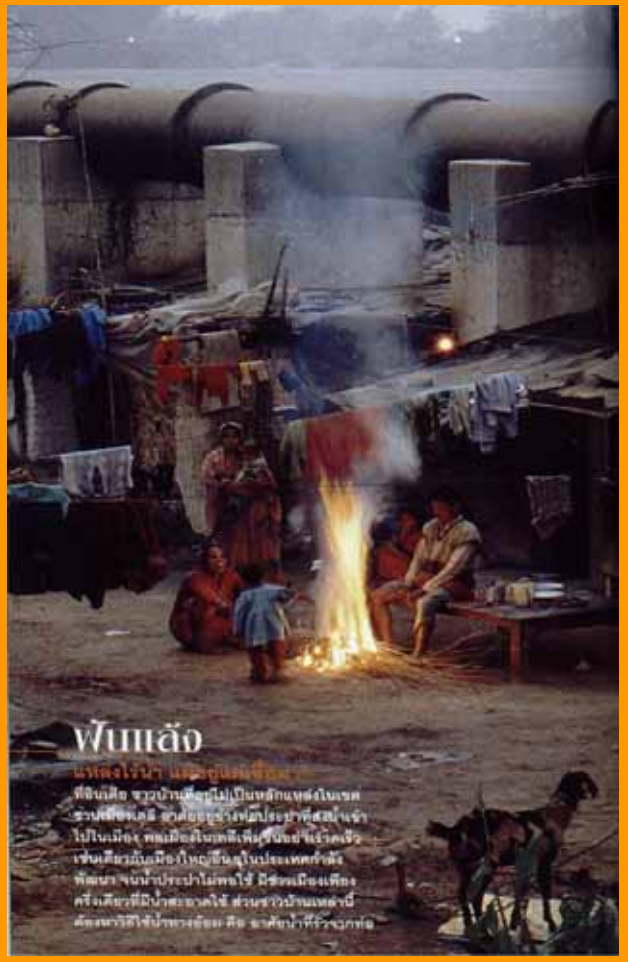
- Have to be checked regularly about the progress and the efficiency of the survey.
- Meet from time to time to exchange ideas and learn about problems and difficulties.
- Try to be useful to other members.

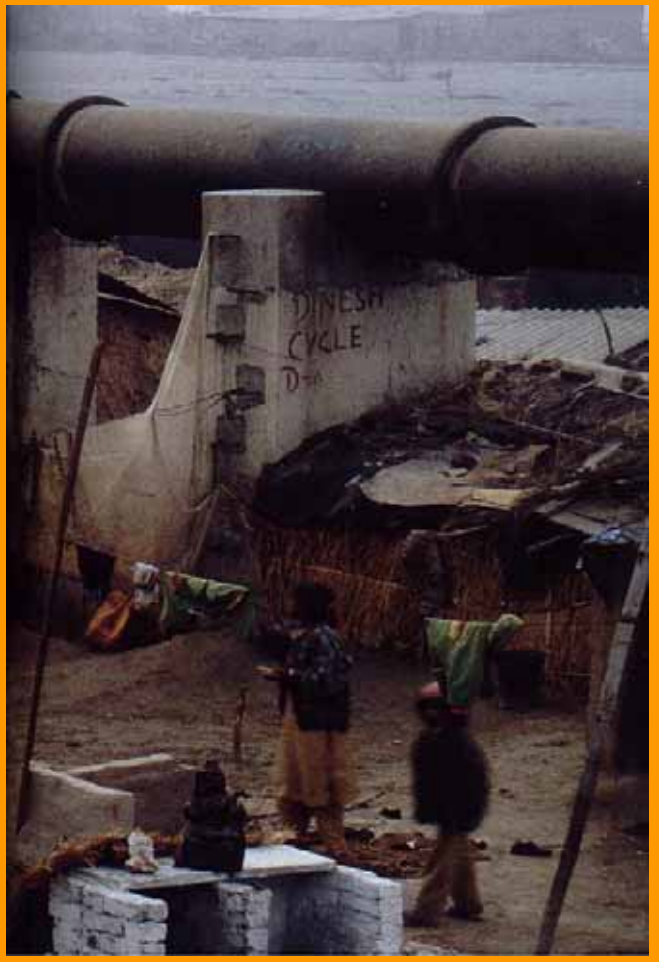
Exchange ideas

6) The Integration of Local Assistance

- To avoid of a development policy which ignores existing social structures, local services, opinions, and government policy
- Maintain close contact with the local authorities before, during and after the survey
- Do not awake expectations which cannot afterwards be realised.

No assessment to the resource





6) The Integration of Local Assistance (cont.)

- Local specialists can be most useful in many cases but can not be over-estimated
- Local lab. Can be great help but methods and precision might differ and lead to errors.

7) The Report

- Sufficient time is often not available for the report from the different members of the team
- Some members of the team are already occupied with other tasks.

7) The Report (cont.)

Preliminary reports

- Write about each part of the survey at the end of each stage
- Be criticized by team-leader and members
- Allow important changes of the text after coordination and integration

7) The Report (cont.)

Main Report

- First drafts of different parts of the final report have to be ready in time
- Limit the main report to the most important aspects
- All data, analyses and scientific details have to be given in the annexes.

Conclusions

Integrated survey of people with

different background, training, discipline, experience, languages,

is not easy but indeed most exciting.

Conclusions

- The success depends to a large extend on **careful planning**, constant checking and re-adaptation during the execution.

- A **spirit of cooperation** and **excellent guidance** are indispensable.

- **Balance participation** of local services and experts, with regards to **sound follow-up** conditions are essential to succeed.