

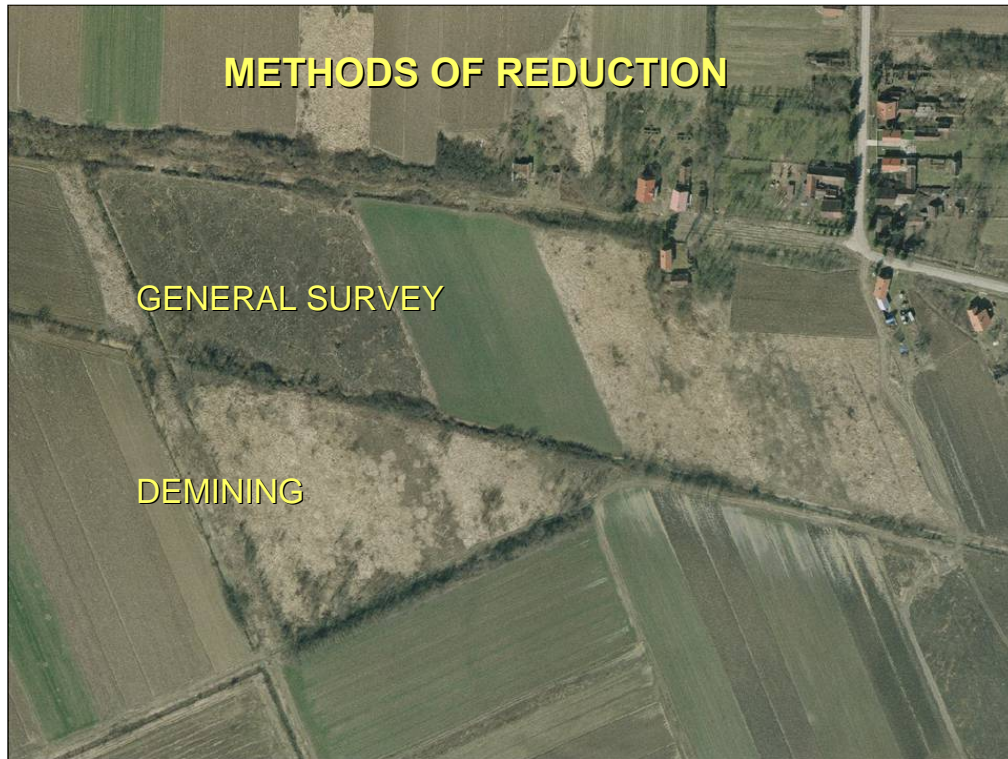


Croatian Mine Action Centre

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There are other methods of reduction but in this presentation I will concentrate on this two.

Background is digital ortofoto

General Survey

- Preparation of General Survey
 - ⇒ Analytic
 - ⇒ Logistic
- Collecting and verification data on the field
- Reconstruction of MSA
- Registering General Survey to MIS
- Reporting on survey results
- Verification of General Survey results

1. detailed analysis of previously collected data and preparation of initial analytical background (map) on MSA status for the field General Survey.

Analytic preparation is carried out through preparation of the following documents:

- working topographic maps
- a list of data to be collected, updated or verified by field General Survey.
- list of persons believed to possess the original data on placing the minefields and other missing data on MSA status
- marking situation,

2. Collecting and verification

Establish contact with person (persons) planned to have conversation

Execute the comparison of geographical-topographical data shown on the map with real field

situation

Precisely establish the existence of safe routes and previously demined surface areas

Carry out MSA marking with mine warning signs

Results of General Survey & criteria for inclusion

→ Inclusion to the MSA

- existence of original data on mine-laying
- no reliable information on complete removal of mines from demined surface area
- occurrence of mine incidents
- existence of fortification facilities and fortification barriers with indicators of mine contamination
- mines and UXO were found on previously demined surface
- people familiar with war activities and/or the users of surface areas express a doubt in their mine contamination with the visible sense of insecurity (fear)

Results of General Survey & criteria for cancelation

→ Cancelation from MSA

- no data on mine-laying and demining
- no mine incidents
- no fortification facilities and fortification barriers showing mine and UXO existence
- areas and buildings had not been used for military purposes or had not had any other military significance
- no explosions of ERW on areas previously affected by fire
- statements mentioned above are confirmed by field data collection through conversations with contact persons and/or other General Survey methods

Specific criteria for cancelation

- **Agricultural land**
- Arable land and gardens – more than 2 years
- Grassy orchards – more than 4 years
- Vineyards (and vineyard plantations) – more than 2 years
- Grassy vineyards – longer than 4 years
- **Meadows and pastures**
- Meadows mowed on a regular basis – more than 4 years
- Pastures and other areas intended exclusively for cattle grazing – more than 5 years
- **Forests**
- Rivers, other water surface areas with riverbank zones and embankments
- Houses and farm buildings with house yards
- Roads

a) Arable land and gardens cultivated by ploughing over and/or digging down to the depth of 20 cm or deeper *for longer than the period of two years.*

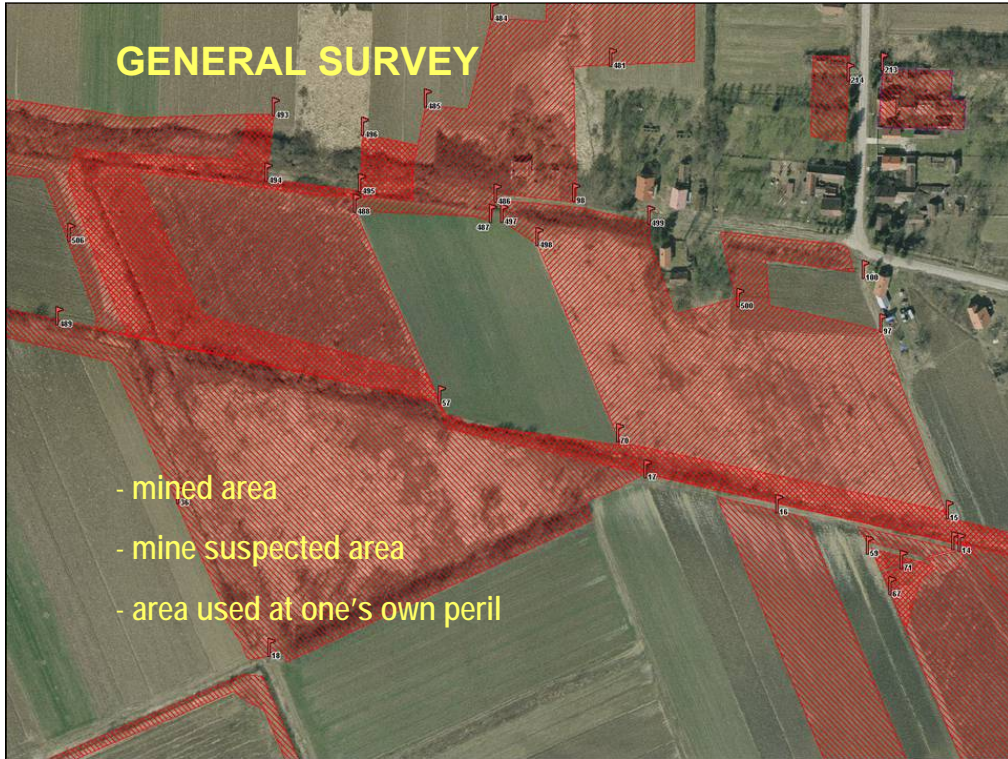
b) Grassy orchards maintained by regular mowing and/or grazing *longer than the period of four years.*

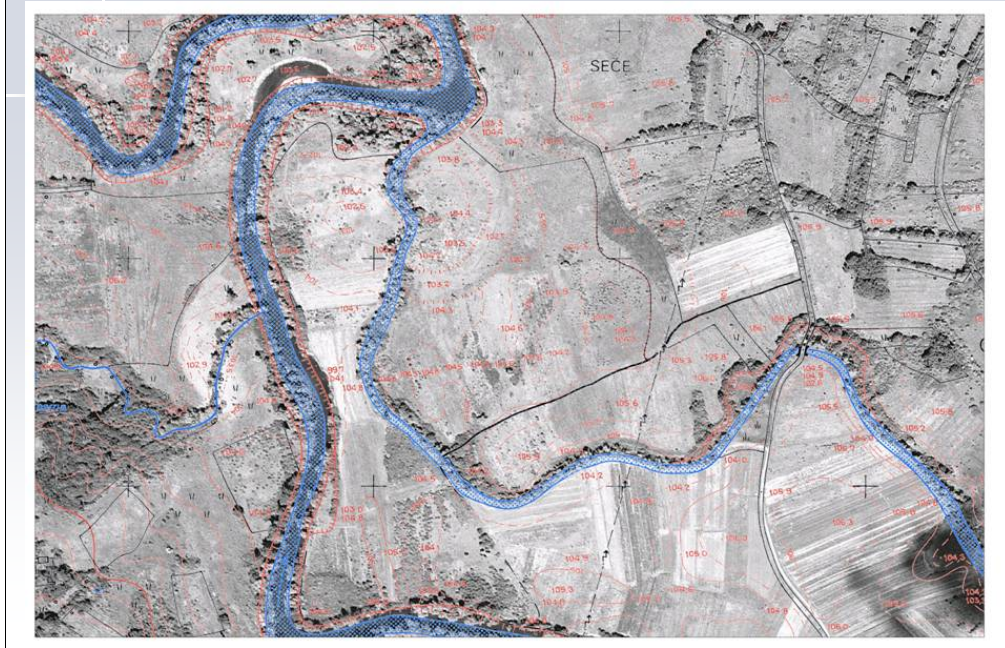
c) Vineyards (and vineyard plantations) cultivated by ploughing or digging down to the depth of 20 cm and deeper *for longer than the period of two years.*

d) Grassy vineyards maintained by regular mowing *for longer than the period of four years.*

a) Meadows - if mowed on a regular basis low to the ground, mowed grass or hay being collected and removed from the surface area (by driving away or burning off), *for longer than the period of four years.*

c) Pastures and other areas intended exclusively for cattle grazing – if the cattle grazing is continuous on the entire surface area, shepherds and other population move around surface area, *for longer than the period of five years.*

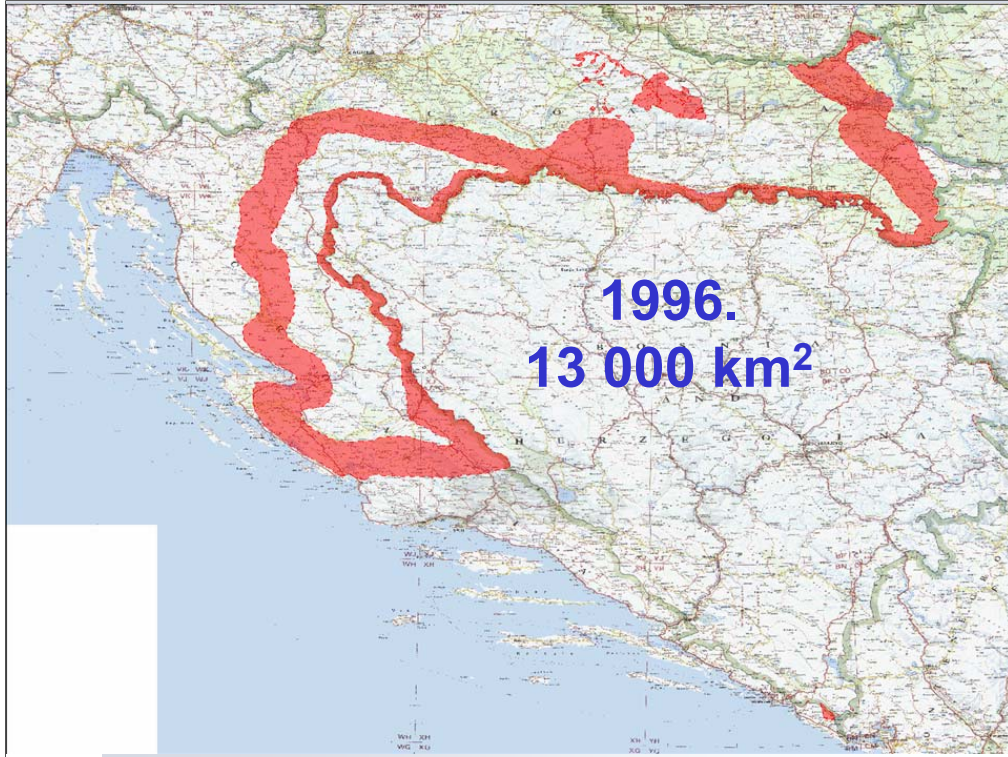


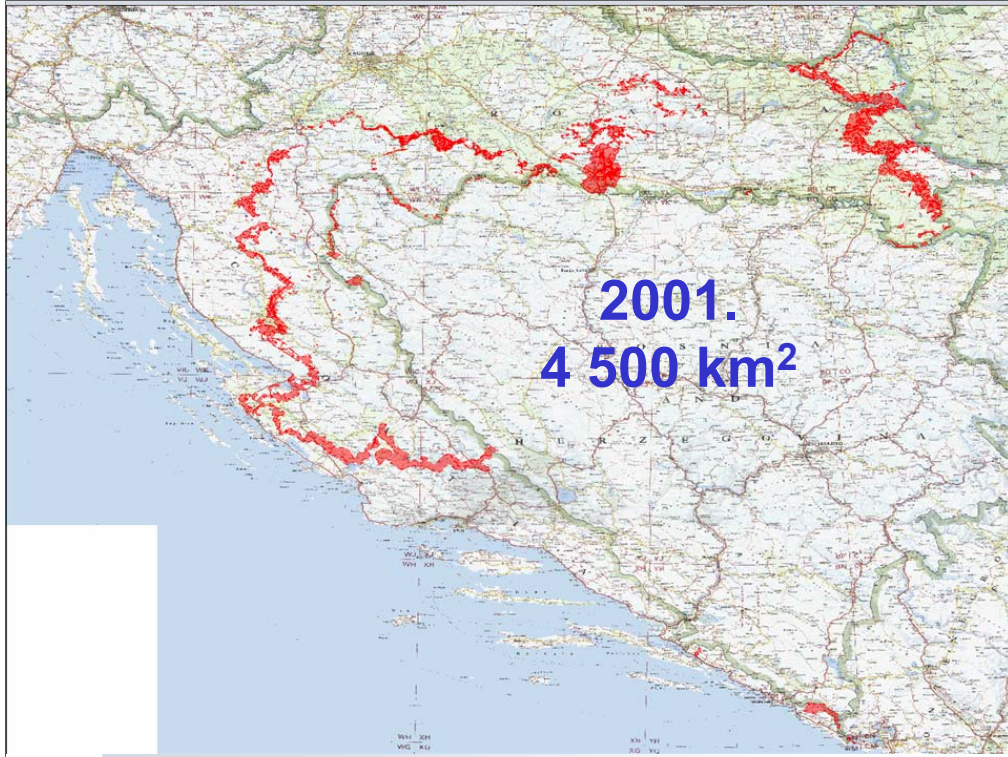


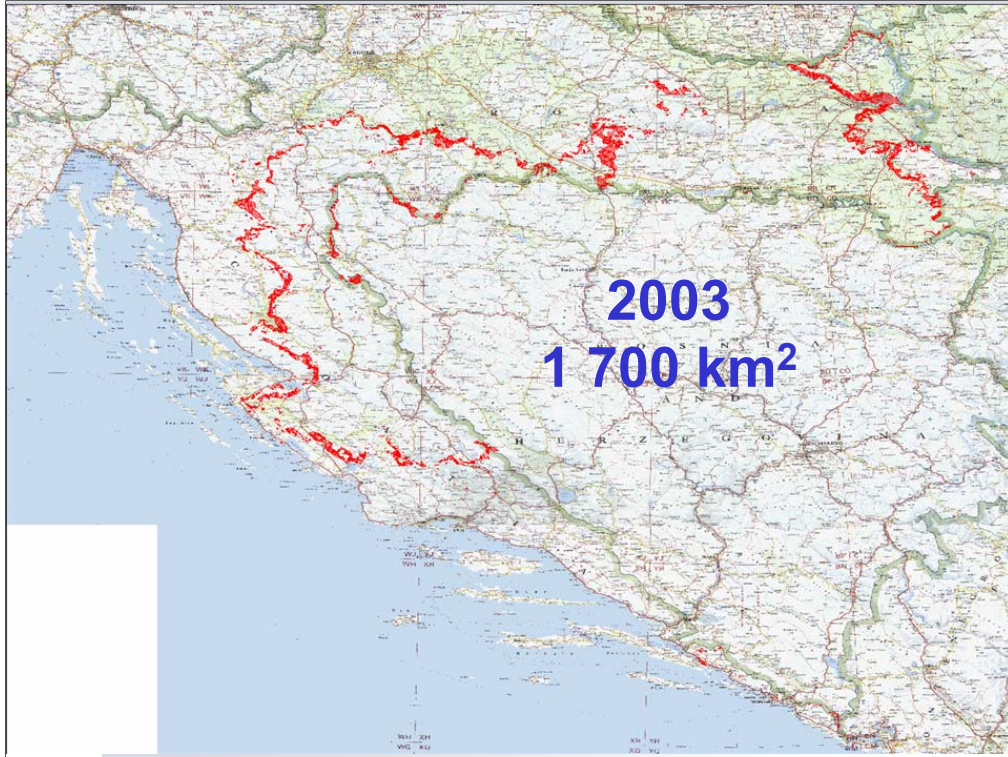
Shows changes in the area. Old maps more than 30 years and digital ortofoto.

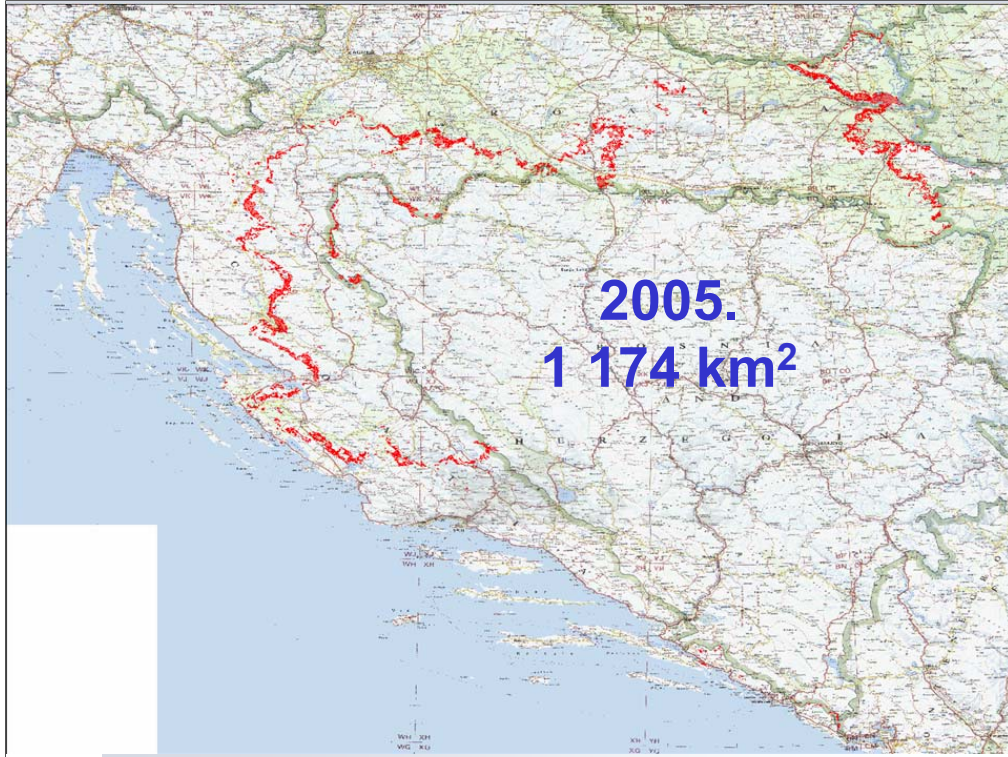


Digital ortophoto second generation scale 1:2000

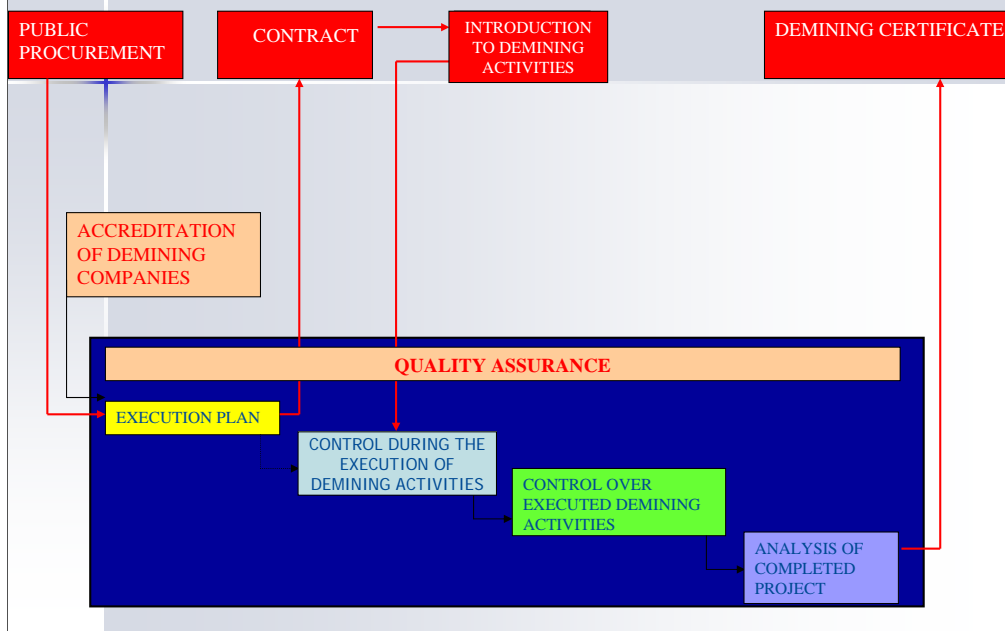








FLOWCHART OF THE PROCESS IN THE QUALITY ASSURANCE AND QUALITY CONTROL DEPARTMENT



Accreditation procedure

- Application for accreditation,
- Demining companies data registering,
- Data check-up and assessment,
- Issuing of competence assessment,
- Changing of the competence assessment

After receiving licence form MoI they have to apply for accreditation to CROMAC

Execution Plan Verification Procedure

- Study of the Project,
- Study of the offer,
- Study of the Execution Plan,
- Drafting the Execution Plan approval (decision), Article 22 of the Law

Study of the offer – is the offer in accordance with the accreditation data (deminers, equipment) and other regulations

Study of the execution plan – when they will start, position of the commanding post, ambulance, connections, methods that will be used, expected daily achievements etc.

WORK TO BE DONE BY THE QA OFFICERS:

- Check-up and verification of SOPs and Execution Projects of demining companies,
- Quality Assurance at least once a week during the execution of demining activities at the worksites,
- Planning and conducting Quality Assurance over the execution of demining activities,
- Development of stipulated documentation and record keeping.

WORK TO BE DONE BY THE QC MONITOR:

- Everyday supervision over demining activities underway at the worksite,
- Control sample search requested by the QA Officer,
- Daily inspection over the area searched during the execution of demining activities,
- Supervision over the internal control process,
- Development of stipulated documentation and record keeping.

QUALITY ASSURANCE DURING THE EXECUTION OF DEMINEING ACTIVITIES

- CHECK UP AT THE COMMAND POST
- Documentation at the worksite
- Safety measures
- Marking

- CHECK UP AT THE WORKSITE
- Applicability of methods from the execution plan
- Staff and the equipment at the worksite
- Safety measures
- Marking
- Sampling

- RECORD

QUALITY CONTROL OVER THE EXECUTED MINE SEARCH AND DEMINING ACTIVITIES

- Quality Control documentation receipt
- Enter the above-mentioned documentation to the list of documentation received
- Documentation study
- Quality Control planning

- **Authorized legal entity provides:**
- The worksite leader or his deputy
- Ambulance
- Means of communication

- **CROMAC provides:**
- Deminers
- QA Officer

DEMINEERING

Total sample control area comes to at least 0,5 % from the total demined area.

NUMBER OF CONTROL SAMPLES:

$$N = (P \times 0,005) / p$$

$p_{\max} = 50 \text{ m}^2$	For kindergartens, schools, hospitals, houses and yards, roads,
$p_{\max} = 100 \text{ m}^2$	For agricultural and forest areas and industrial zones,
$p_{\max} = 150 \text{ m}^2$	For gas pipelines, oil pipelines, water supply systems, power-transmission lines etc.

Repeated inspection of demined area:

If mines, UXOs or their fragments were found during the Quality Control over executed demining activities at the worksite, the Croatian Mine Action Centre will order a demining company that executed the above-mentioned activities to execute the activities all over again.





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