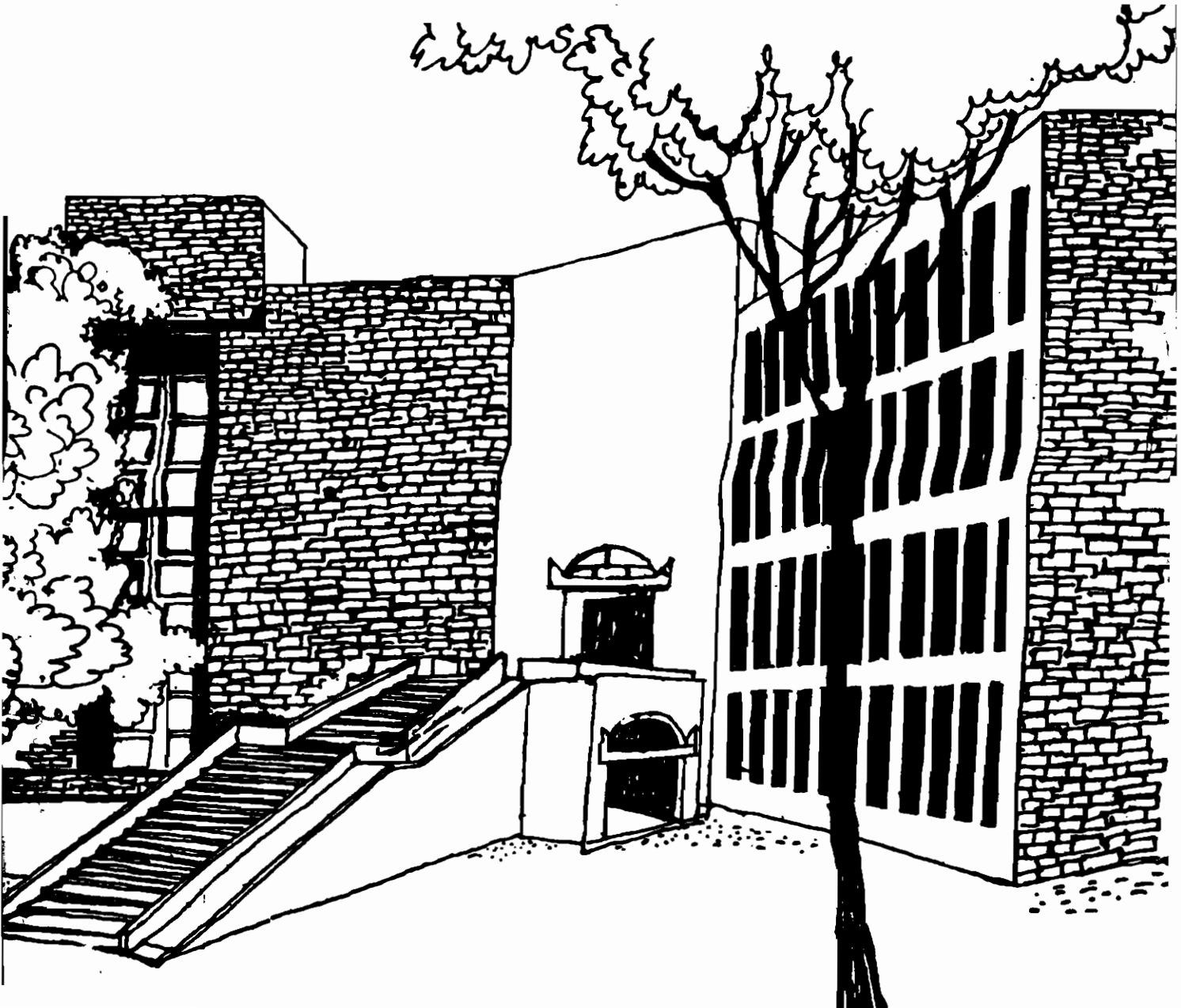




# Working Paper



**HARNESSING MULTIPLE MENTAL MODELS  
AND CREATING OPPORTUNITIES FOR LEARNING  
ABOUT HUMAN RESOURCE ISSUES AMONG  
DISTRICT HEALTH OFFICERS**

**By**

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**RUNNING HEAD: Training DHOs using SSM**

**Harnessing Multiple Mental Models and Creating Opportunities for Learning  
About Human Resource Issues Among District Health Officers.**

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### Abstract

This paper describes and evaluates the experience of using soft systems methodology (SSM), a problem structuring method of soft operations research (OR), to create learning opportunities about “people issues” among District Health Officers working in the government health system. A one-day workshop on human resource issues was facilitated using SSM. The workshop was part of a ten-day training program, titled "National Health Programmes and Management issues in health organisations", for District Health Officers from two states of India, Uttar Pradesh and Gujarat. SSM was preferred over a simple discussion or a question answer session because it allowed participants to engage in self-learning and co-ordinate multiple perceptions of a given situation. Rich picture building one of the tools of SSM was used for facilitating the workshop. The use of SSM helped generate a creative learning situation and provided both the participants and the trainers an opportunity to understand human resource issues faced by those working in the government health department.

Training a group of highly qualified doctors and senior administrative staff in behavioural issues, perceived as a non-technical subject, is a challenging task for any trainer. It is mandatory for the program to be informative, relevant, challenging, interesting, and stimulating. The paucity of time, perception of training as a non-serious and non-essential activity, lack of in-depth knowledge of the trainer about the context of the trainees, and the inherently ambiguous nature of the subject matter are all hindrances in the way of designing an effective training program.

A ten-day training programme titled "National Health Programmes and Management Issues in Health Organisations" was held for District Health Officers (DHOs) from two states of India, Uttar Pradesh and Gujarat in Ahmedabad. Out of the ten days the first author was assigned to teach basics in people management in four sessions on one day. The method adopted for conducting this one day long workshop and its effectiveness is described in this paper.

The paradigm adopted for this training program was that of self-directed learning. In the self-directed paradigm there is a facilitator or a team of facilitators and a client group within which each individual has his/her own perception of the nature of the problem and solutions to the problem (Dash, 1999; Lane, 1992). The goal of the workshop was to co-ordinate a discussion about people issues, to structure the issues identified, and provide opportunities for the client group to collaboratively find out solutions to the existing problems.

The paradigm chosen combines the techniques of Systems Dynamics and the tools of Soft Operations Research (OR). Soft OR builds models prepared with the participation of the people involved in problem analysis and decision making. The models thus

constructed reflect perceptions of the issues involved and are seen as subjective intellectual constructs. These models are then used for understanding the real world.

Different problem structuring methods (PSMs) have been proposed in soft OR. These include Hypergame Analysis, Interactive Planning, Metagame Analysis, Soft Systems Methodology (SSM), Strategic Assumption Surfacing and Testing (SAST), Strategic Choice Approach (SCA), and Strategic Options Development and Analysis (SODA). The underlying aim of all the problem solving methods is to provide improved means for members of the group to interact, examine commonalities in perceptions, guide argument and debate among group members, develop images of a future acceptable to all group members, and lead group members towards an acceptable direction for action (Rosenhead, 1989).

SSM was developed to accommodate "messy, ill-structured, real-world problems" where methods used by systems engineering did not work (Checkland, 1985). Systems engineering requires defining of goals and objectives. However, in the real world problems, such as faced by managers, defining the objective may not always be possible. SSM seeks to introduce a process which is typically described as a continuous cycle of learning, which might be implemented at the level of an individual or a group (Checkland, 1985). SSM begins with finding out about a problem situation followed by developing root definitions (RD) using CATWOE elements. The CATWOE elements refer to the relevant human stakeholders in building the model. Conceptual models are then built based on the RDs. These conceptual models are used as the basis for debate and argument about the problem situation (Checkland, 1985). The debate is supplemented by comparing conceptual models with perceptions of the real world. This debate is used to

find grounds for suitable changes that meet the two criteria: systematically desirable and culturally feasible (Checkland, 1985). Based on these comparisons and finding of common ground the model is again changed to make it suitable for implementation (Checkland and Scholes, 1990). SSM assumes that there are multiple realities and individuals view them from their own experiences and assumptions. Thus, SSM attempts accomodation of conflicting interests.

A conceptual model built using SSM is not always expected to be implemented or operated on rather it is sometimes only used to facilitate a debate among the users and designers of the model. The models are rather used for appreciative enquiry (Checkland, 1985), as a learning system (Checkland, 1985), or a systems inquiry (Checkland and Scholes, 1990).

SSM was used in this training program as a means to coordinate the process of "appreciation" and sharpening views (Checkland and Scholes, 1990). It was used as a method that would lead to an examination of problem situations in a way that it would lead to asking 'what' and 'how' level of questions (Checkland and Scholes, 1990).

#### **Rich pictures as a tool for SSM:**

One of the tools used by SSM namely rich pictures was used during this workshop. In the past this method has been largely used with groups or task committees set up for finding solutions to specific problems (Ellis & Green 1996). Making rich pictures is a beginning of developing an understanding of all the factors influencing a given problem which is the first step for developing conceptual models in SSM. According to Flood and Jackson (1991), "a rich picture is ... a cartoon-like expression which, in the



spirit of such representation, allows for certain issues, conflicts, and other problematic and interesting features to be accentuated" (pp 172-173, cited in Ellis & Green, 1996).

In the use of rich pictures the group draws a picture of what they think the problem is, what are the various factors that contribute to the problem, who are the main stake holders, and what are their roles. During this phase the group comes to a common understanding of all the aspects of the problem under discussion. They thus come up with a representative model.

In the training program described in this paper the group did not go to the next step of articulating root definitions after drawing rich pictures. They rather moved on to the portrayal of the problem situation in a structured manner with the help of the facilitators to be able to articulate answers to questions such as "what are the things we can do about the issues faced by us"? "How would it be possible to change my situation"? "How do others address such issues in their workplace". This was done because the goal of the workshop was not to find a solution to a given problem but to create an opportunity to learn about the human resource issues in the workplace and learn ways of handling some of them. SSM has been similarly adapted in a program for facilitating discussion in a multi-agency steering group (see Gregory & James, 1996).

#### **Description of participants and the context of their job**

The District Health Officers or Chief Medical Officers (CMOs) are middle level managers responsible for the implementation of various government health programmes in rural areas at the district level. They are all qualified doctors. Many of them reach this post through promotions from the post of the Medical Officer of Primary Health Centres (PHCs).

Typically, a DHO is responsible for about 40-50 PHCs of one district. The DHO has a team of supervisors at the district office level to provide assistance in monitoring the activities of these PHCs. Their work involves numerous field visits to the PHCs. The health department in India is highly centralised. Most of the health programmes have a standard strategy and design sent from the centre to all parts of the country for implementation. The task of the district office is to compile reports sent in by the PHC and forward them to the State office. Till recently all the programs were target driven and performance in each program was assessed against targets given by the State.

The District Office also plays a major role in communicating the policies of the state to the local centres through meetings. The DHO is the link between the team working at the PHCs and the State Health Department. As a middle level management team the district office has to satisfy many stakeholders such as community members or clients who receive service, employees under the district office like the Medical officers, supervisors, PHC workers, elected members of the District Panchayat, and the State level authorities. The multiplicity of stakeholders and nature of task makes problems experienced by the DHOs very complex and with many inter-linkages with sub systems of the larger system.

### **The workshop**

The workshop began with a thirty-minute orientation lecture by the first author about the various themes that organisational behaviour traditionally studies. A quick-check to ensure that the topics mentioned were relevant to the DHOs was conducted by opening the floor for discussion. As was expected participants enumerated how issues such as motivation, power and politics were very relevant in their context.

The DHOs were then asked to participate in a group exercise to introspect about and discuss the “People Issues” in their respective workplace and make a pictorial representation of all the issues to be later presented to the larger group. The participants were told that this exercise was designed such that rather than an expert telling them how to solve their “people problems” they would be facilitated to think about the issues and offer solutions for some of the issues during the course of the day.

Participants were explained that they would work with assigned group members in small rooms where chart paper and coloured pens were kept ready for use. First, they were asked to think and take notes for ten to fifteen minutes individually about the people related issues that they faced at their respective work place. Second, after each individual in the group had finished making notes they were to share their notes and then collectively draw a picture that depicted the commonly shared people issues in their workplace. If there were some unique issues that were left out and were perceived to be important by the group then they could be listed in the corner of the chart and put up for discussion after the main picture had been presented. Third, the groups were asked to choose a spokesperson to present the picture to the larger group. Fourth, after completing their pictures they were to put up their charts in the large room where the workshop had started in the morning.

A total of 90 minutes were given to complete the pictures. The charts with rich pictures were put up on the wall for all to see during lunch break and before the discussion started.

In order to make homogeneous groups, since two states of India were represented, the Officers from Uttar Pradesh formed separate groups and so did the Officers from

Gujarat. The Officers from each state were further divided into Officers from adjacent sub-districts with the assumption that their problems might be similar. The participants were thus divided into groups of 3 or 4 based on nearness of location of work. There were seven groups in all.

Both authors were available to answer questions during the time allocated for drawing the pictures. The authors moved from one group to another and listened to the discussions in all groups. This served three purposes, (1) it allowed the authors to keep the discussion in the groups on track, (2) encouraged participants to use their "right brain" to draw the pictures, and (3) it also served as input for conceptualising and summarising the discussion at the end of the day.

In the beginning the Officers were reluctant to draw pictures. They were worried about their poor skills in drawing but once they started they came up with creative rich pictures. Some groups made more than one picture. One group depicted their problems as thorns of a cactus plant. Another compared their organisation with an over burdened camel cart with deflated tyres. The pictures of some of the groups were more detailed compared to the others. Some of the pictures are included in Appendix A.

Each group was given approximately 15 minutes to explain their rich picture. However, most of groups took more than the allotted time. After each presentation the facilitators categorised the important issues with inputs from the entire group. The categorisation was written on a blackboard. This helped in drawing up a comprehensive model of the issues raised by all the groups.

After all the groups had made their presentations and the categorisation was completed the participants were given a twenty-minute tea break during which the

facilitators spent time thinking about how to structure the ensuing discussion. The objective was to make the discussion useful and allow the group to leave with a better understanding and skills of handling people issues in their contexts. The issues brought out by the groups are summarised in Table-1. As is obvious from Table-1 the participants did not strictly adhere to discussing “people issues” but expressed other organisational problems that they felt caused some of the people problems. Given the limited time available for discussion and also the complexity of the issues presented by the participants it was decided that the problems listed would be classified as issues that the officers could solve at their level and issues that were not directly under their control. It was thus decided that after dividing the list of issues as “under our control” and “not under our direct control” a moderated discussion of how to address “under our control” issues would be lead with the first author bringing in theoretical inputs as and when required. It was decided that the discussion would focus on the extent, importance, and nature of the problem and DHOs would be invited to share their experiences of dealing with some of the issues. This stage was the second and adapted stage of SSM where rather than developing root definitions the issues were structured, prioritised, and alternative solutions explored.

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Insert Table 1 about here

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After the tea break the framework for discussion was described to the participants and they were asked to comment on it. The participants agreed to the framework and were enthusiastic to share some of their experiences at handling some of the issues. After

**deliberation** five key issues classified as "under our control" were chosen for discussion.

**These were:**

- **Building trust in the clients/ improving the image of government health services**
- **Motivating the staff in the Primary Health Centres**
- **Co-ordination with other related non-health departments**
- **Garnering support and co-operation at the local level**
- **Finding ways of shielding themselves against unwanted intervention by politicians**

**Other issues like improving the reporting system, improving the logistics and supply, filling up vacancies, and bringing in greater decentralisation into the system were some problems which needed long term interventions and co-operation from higher authorities.**

**The participants decided that though they had valuable suggestions for all these "other" issues but they did not have the power to take decisions and thus they would not discuss those in this workshop.**

**The participants and the facilitators pondered on various ways in which the issues under consideration could be addressed. Many participants were amazed at the commonality of experiences. Energetic sharing of how some of them had solved a problem gave ideas to others. They expressed their willingness to try out some of the solutions in their own context. The first author also provided theoretical inputs on motivation, trust building, team work etc in a conversational style. Most participants agreed that they could make small changes and undertake efforts to make a difference to their working environment and thereby enhance their own productivity and satisfaction. The workshop ended at this point. Structured feedback was collected from the participants.**

Table 2 provides an overview of the design of the workshop. The time spent on each activity is also specified.

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Insert Table 2 here

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## **Discussion**

### **Choice of SSM over other methods of training**

SSM was preferred over a simple discussion or a question answer session because the facilitators hoped that rich picture building would help generate a creative learning situation and also facilitate a deeper search and analysis of the problems being discussed. It would give the trainers a realistic understanding of the people problems from the perspective of the DHOs.

Use of SSM helped in bringing the work situation right inside the classroom. Using this methodology for training also did not require the facilitator to give the “ideal” solution to the problems but left it to the participants to search for a solution once the problem was identified and defined.

It must be noted that SSM was adapted to suit the requirements of the group and the overall program design. It was used not to solve any specific problem but to explore problems, especially, “people issues” in health organisations with the help of the people involved and thus use it for appreciation in the “Vickerian” sense (Checkland, 1985). The exercise was stopped at the stage of creating mental models and then structuring them for discussion to answer pointed questions. This was done because of several reasons. First, the workshop itself was a small part of a larger program designed as a refresher course.

The group was not mentally prepared to focus on specific problems and prepare a conceptual framework to be implemented later. Second, the building of a conceptual model for implementation would not be viable because the model was not conceptualised by those who worked together at the workplace. However, collectively articulating the issues and discussing ways and means to solve the problems proved to be a fruitful exercise for the DHOs to explore and understand Human Resource issues in their contexts. It also helped the DHO's to structure their thoughts about the problems they faced and realised how they all faced similar issues across regions within their state and also with other states. Drawing of pictures and discussing them triggered the process of sharing experiences about failures and successes of their attempts to handle the various people related issues in their work context. This sharing resulted in collective learning in the group. Collaborative learning has been found to be much more superior to passive teaching and learning situations and it also enhances critical thinking (Gokhale, 1995; Rau & Heyl, 1990).

#### **Effectiveness of the training design**

It was felt at the end of the program that the design of the workshop had been successful and effective.

Subjective measures: Having been with the group since morning it was not difficult to notice the increased cohesiveness among group members at the end of the day. Even though it had been a long day most participants looked energised and enthusiastic as the workshop came to an end. The participants continued to discuss some of their experiences with others even after the workshop had ended.



Objective measures: Analysis of the feedback and comparison with feedback from other sessions also revealed that the participants rated the session as very good and expressed that they had learnt most from this one-day workshop.

It is argued that ownership by the participants and direct relevance of the discussion to their context made this training design more relevant and effective. In this workshop the facilitators only spoke in the beginning and at the end of the session. From the five hours of the total session time they spoke for a maximum of one hour. More than four hours were available to the participants to discuss, cross-question, draw, and to explain their viewpoints. It also was a very rich learning experience for the facilitators. It was an opportunity to understand the world of the DHOs as they see it.

**Some Limitations:**

The use of SSM was found to be successful with this group. This group comprised of qualified Medical Doctors who have many years of formal education and training in abstraction. It is not known if this method would work with people with less than 4 to 5 years of schooling. This is something that needs to be discussed and tried.

Also it is felt that this design may be best suited with a group size of 15-30 participants, and when there is more than one facilitator running the workshop. With much smaller or much larger groups it may not be possible to conduct an intensive workshop of this nature. Innovations to design would be necessary if one had larger or much smaller groups for training and/or could only afford one facilitator.

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Table-1

**Organisational Issues as Expressed by the Participants**

<b>Problems as expressed by the groups</b>	
<p><b>Workload</b></p> <ul style="list-style-type: none"> <li>. Too many meetings</li> <li>. Time bound programmes</li> <li>. Pressure from above</li> <li>. Too many programmes</li> <li>. No work experience of staff</li> <li>. Too many reports/lack of uniformity in reports</li> <li>. Too many patients per doctor</li> <li>. Too many vacancies increasing the workload.</li> </ul>	<p><b>Human resources</b></p> <p><b>Motivation Issues</b></p> <ul style="list-style-type: none"> <li>. Grassroots level staff is tired/overburdened</li> <li>. A feeling of Frustration in staff</li> <li>. Frequent transfers of doctors and workers</li> <li>. No co-ordination between staff &amp; within departments</li> </ul> <p><b>Staff Training</b></p> <ul style="list-style-type: none"> <li>. Job description of DHO- no time for technical work</li> <li>. Lack of Administrative training for officers</li> <li>. No PSM training for DHOs.</li> <li>. Lack of skilled staff/no skill updating/on the job training or refresher training.</li> </ul> <p><b>Staff Evaluation and Control</b></p> <ul style="list-style-type: none"> <li>. Officers have no control over lower staff (because of political interference)</li> <li>. Inadequate staff evaluation</li> <li>. Bad work culture</li> <li>. No role in selection of the staff</li> <li>. Lack of accountability</li> </ul>
<p><b>Outside Influences:</b></p> <ul style="list-style-type: none"> <li>. Political interference</li> <li>. Frequent visits of ministers disrupting the work</li> <li>. Judicial interference.</li> <li>. Media non-co-operation, blackmailing by media</li> </ul>	<p><b>Organisation Design and planning:</b></p> <ul style="list-style-type: none"> <li>. Dual Administration</li> <li>. Centralised planning.</li> <li>. Planning done by non-technical people</li> <li>. Slow communication flow at lower levels</li> <li>. Disparity in urban and rural infrastructure</li> </ul>
<p><b>Administrative Issues:</b></p> <ul style="list-style-type: none"> <li>. Financial crunch</li> <li>. Delay in budget allocations</li> <li>. Defective Logistics/insufficient drugs</li> <li>. Material like medicine below standards</li> <li>. Inequitable geographic/PHC distribution</li> <li>. Lack of maintenance and repair of equipment and buildings</li> </ul>	<p><b>Community Issues:</b></p> <ul style="list-style-type: none"> <li>. Lack of education of the people</li> <li>. Religious beliefs/superstitions</li> <li>. People do not co-operate</li> <li>. They do not trust the government health system</li> <li>. Have become dependent on subsidies and incentives</li> <li>. Poverty of the people</li> </ul>
<p><b>Other issues:</b></p> <ul style="list-style-type: none"> <li>. Truth is not appreciated in the system-cooked up reports</li> </ul>	

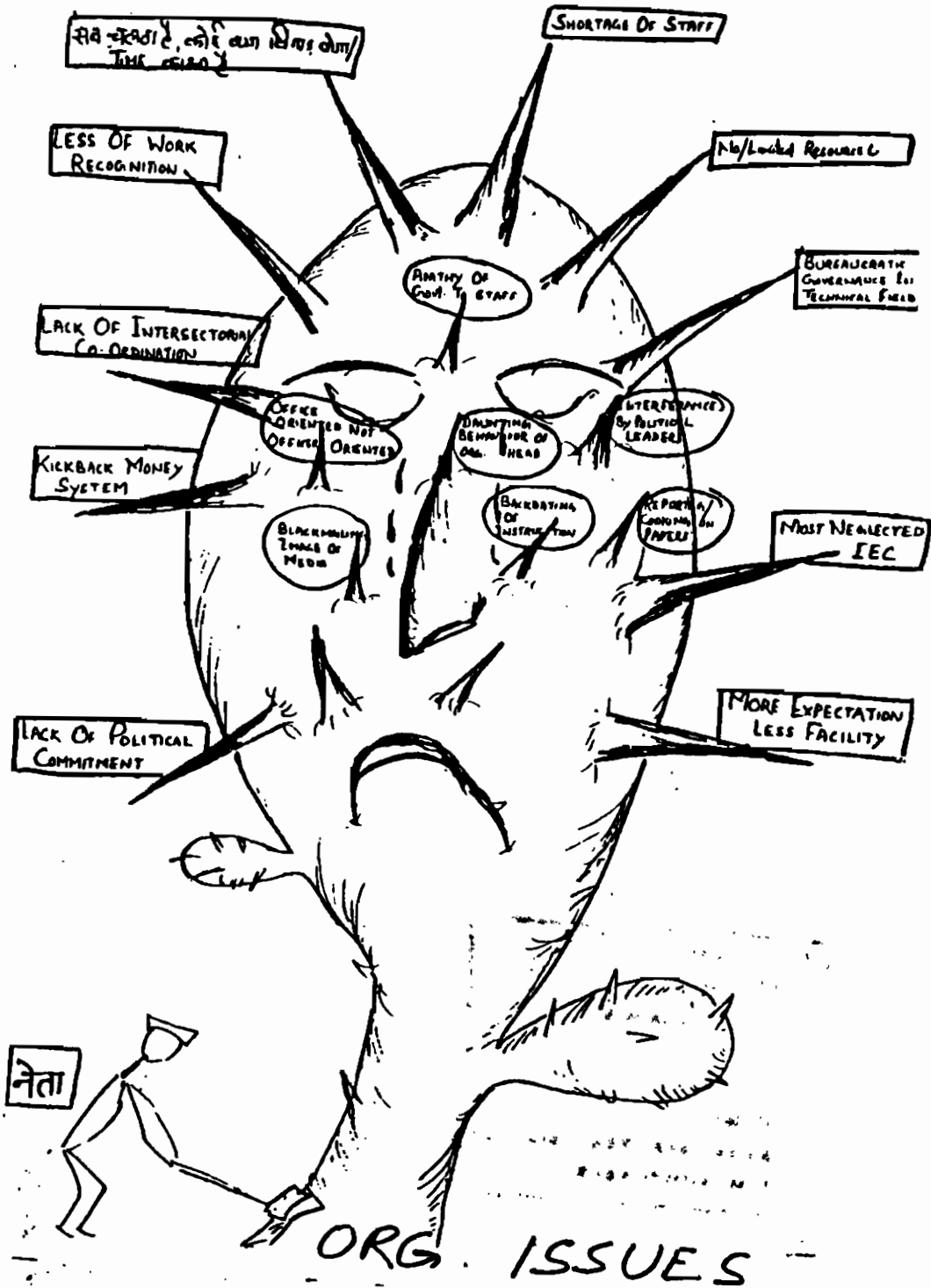
Table 2

**Overview of the One-day Workshop on People Issues**

<b>Activity</b>	<b>Time allotted</b>
Overview and introduction of topic	30 minutes
Dividing in groups and giving instructions	30 minutes
Drawing of Rich Pictures (tea was served while groups are drawing pictures)	90 minutes
Lunch (Charts put up in the large room for participants to look at after lunch)	45 minutes
Presentation of pictures by each group and also categorisation by facilitators	120 minutes
Tea break (during which facilitators plan the discussion session)	20 minutes
Discussion session	60 minutes
Feedback	15 minutes

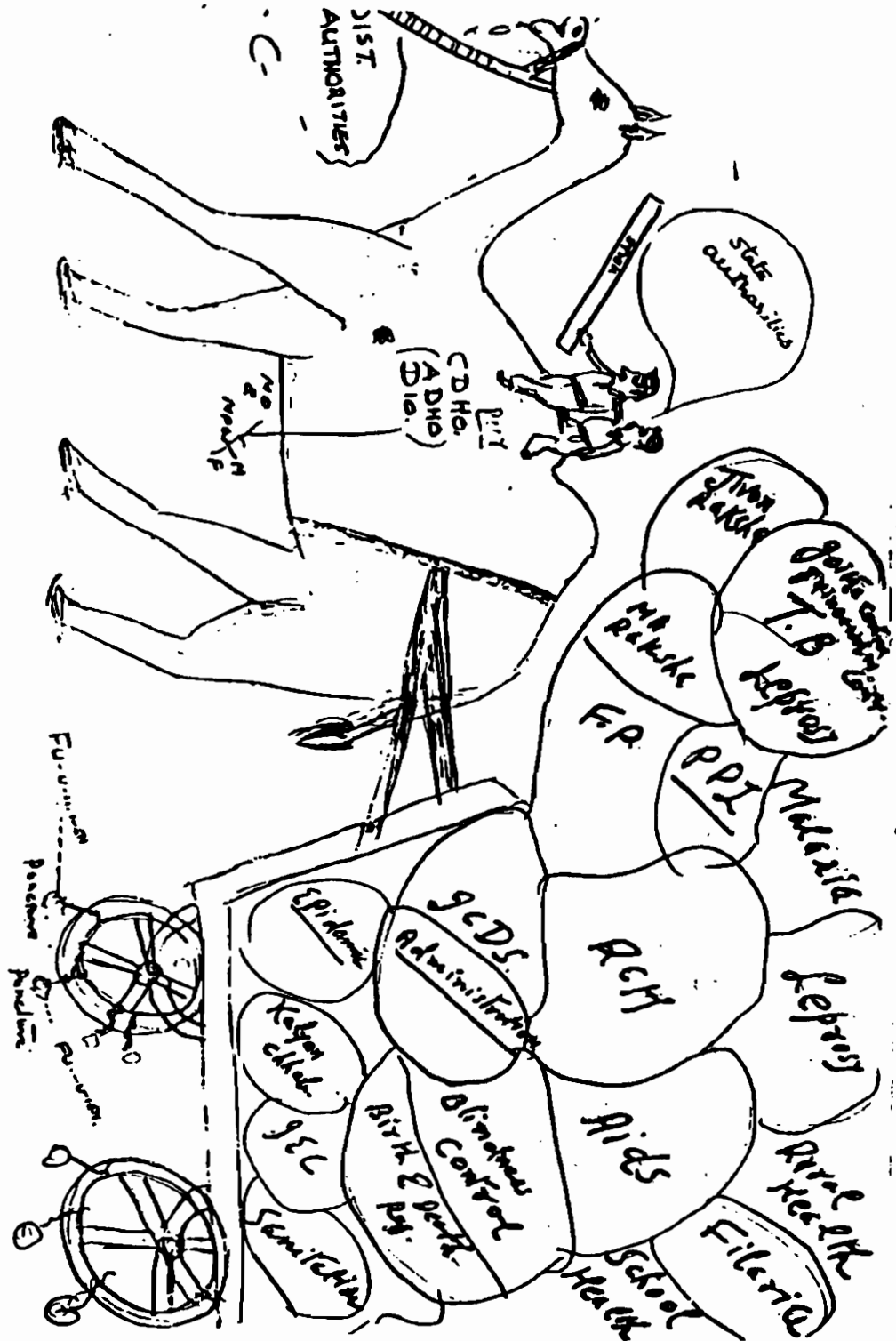
Appendix A (1)

A Sample of Rich Pictures drawn by DHOs of Uttar Pradesh



Appendix A (2)

A Sample of Rich Pictures drawn by DHOs of Gujarat



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