

Case studies

1.1 Introduction

These case studies have been collected as part of a project to bring issues of social exclusion in the practical development of infrastructure in low-income countries into the core of project planning and design. They have been used to influence and illustrate the guidelines that have been produced as part of the research.

The case studies are being set out here to provide a resource for engineers and the trainers of engineers. They can either be used as a supplement to the training notes produced under the project or used separately to provide illustrations of the overlap between gender issues and the development of infrastructure.

One of the problems in collating the case studies has been the lack of *engineering* issues. There are many case studies of the importance in considering the needs of men and women in the development of infrastructure, but these have come from gender studies rather than mainstream civil engineering. This leads to the impression that gender issues lie outside of the core of project development and design, forming a specialist area requiring specific expertise. In contrast, many engineering examples do not bring out social issues explicitly, so there is a gap between “gender” knowledge and “engineering” knowledge that these case studies and associated books and booklets aim to bridge.

1.2 The studies

The case studies have been kept short, to make them accessible and useful as part of larger initiatives. They have been edited slightly to bring out the engineering issues, rather than other aspects, such as politics or rights based actions. A comment is provided to expand on some the lessons that can be drawn from the case study.

The studies are grouped according to sectors:

- water resources;
- water supply
- sanitation
- solid waste
- transport
- irrigation
- construction
- management and organization
- emergencies
- hygiene activities

Within each section, the case studies are grouped according to the project cycle (planning, feasibility, design, construction, operation and maintenance, evaluation).

1.3 Other project outputs

- For a short introduction on infrastructure and its impact on people, see *Building with the Community* (WEDC 2002)
- For guidelines on how on engineers can include gender issues in their work see *Infrastructure for All* (WEDC 2002).
- To train engineers and technicians to meet the needs of men and women see *Developing Engineers and Technicians* (WEDC 2002)
- Website: <http://www.lboro.ac.uk/wedc/projects/msgender/index.htm>

1.4 Referencing

The case studies have been provided by a wide ranging group of people over several years. Some are personal observations or have been extracted from published or unpublished reports. Attempts have been made to identify the originator of these extracts, but this has not always been possible. If you know the original source of a case study, please contact Brian Reed (details below), in order that credit can be given.

1.5 New Case studies

If you have examples of engineering issues that have a gender or social exclusion aspects, that you think would be useful additions to these case studies, please contact Brian Reed (details below).

1.6 Acknowledgements

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|------------------|-------------------|------------------|
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Brian Reed, Editor

b.j.reed@lboro.ac.uk

WEDC,
Loughborough University,
Leicestershire,
LE11 3TU
UK

SOLID WASTE MANAGEMENT

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Case study 1

Building on women's expertise

1.1 Background

Putting gender awareness into practice depends on the co-operation of many people. The following story comes from Commune IV, a part of Bamako, Mali with 200,000 people, where one of the pilot projects covers community participation and strengthening the role of women in waste management.

In Mali, where women are not entitled to own land nor to participate in the management of public affair matters - this being strengthened by Islamic beliefs - the majority of the Malian population is Islamic. This does not imply, however, that women in Commune IV nor in any other part of Bamako, are fully dependent on men. Women often contribute a significant share of the household income. Others are elected as members of neighbourhood committees, and some women manage a small enterprise in waste collection.

The influence of traditional ideas of respect and leadership is strong in Commune IV. The Chiefs and their Advisers carry great authority.

1.2 Action

In this pilot project on community participation a large number of people participated in identifying the issues, problems and potential solutions, and generated plans for further action. The six members (2 women) of the action research project team were highly respected people and had been selected to represent both the inhabitants and the small waste collection enterprises. Some of the representatives were Advisers to the Chiefs. The working procedure was that the members of the team first talk about an issue among themselves, and then go out to discuss the matter with all the influential people in their area. The role of women is one of the topics discussed in this manner.

Participation of women in assessing the situation

Participatory Urban Appraisal techniques were used. These techniques rely on extensive public discussions and the results are recorded on charts. It is important that both men and women participate in the debate. At first the project team did not think it necessary to pay special attention to ensure the equal participation of women. The participatory assessment was thus made during several public meetings, in which large groups of men and small groups of women participated. Beautiful and informative charts were produced.

At the end of this series of meetings, the Chiefs stated that it was now high time to hear the points of view of women, as they were aware that their voice was under represented in these general meetings. They themselves set the example of organising separate meetings for women in their own areas. This produced a new set of charts, now expressing the views and experiences of women regarding environmental sanitation in their area. The charts showed similarities as well as differences with those made by men.

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Some examples of differences in assessment of the same situation by women and men include:

- In one area the women said that the centre of power lies with the municipal authorities; the men said it lies with the Chief (this particular chief had not exercised his function for a long time due to illness).
- Women pointed out that a particular illegal garbage disposal site was used by the market vendors, not by themselves. Men were not aware of this distinction.
- Women refused to include a specific disposal site, as it was no longer operational: the site had been sold by the municipality. Men had included it, as it still was "officially" there.
- Women denied the existence of drainage gutters in one area: being broken, they did not function at all.
- Women know more details of the soil composition because of their agricultural activities.

As the project team commented: men only know the official reality, while the women express what value this has for their own daily life.

The conviction had grown in Commune IV that it is advisable for each area to establish an Association for Environmental Sanitation with a legal status. The project team suggested having at least two women among the committee members. This was later backed by the Chiefs voicing the opinion that women being responsible for the family's health and the cleanliness of their house and streets, should be elected to the executive committees. Afterwards a woman was elected president of the association in a very conservative area of Commune IV.

1.3 Comment

This case study demonstrates three issues:

- A cursory examination of the society would show that women would not have a voice, but specific action led to their opinions being heard and women taking a leadership role.
- The women knew more about the issue than the men; if the project had proceeded after the first round of consultations, some issues would not have been addressed.
- Both men and women, those in authority and those without a voice need to be involved if society is going to move forward together

Case study 2

Roles in the informal waste sector.

2.1 Background

The work of urban women with waste materials is relevant to three principal areas:

- the use of waste to meet household needs;
- informal work in waste recovery and recycling; and
- women's role in municipal solid waste services.

“Through their household roles and informal and municipal work, women acquire distinct insights into attitudes to waste and waste behaviours that until now have not been used for environmental improvement”.

2.2 Action

Points identified in low-income areas included:

- Women may play a major part in assembling the construction materials for a shelter.
- Children often predominate in the lowest levels of waste picking.
- The male / female ratio for the various jobs varies with cultures and societies.
- It is rare for women to rise up in a waste trading system unless she is part of a successful family business.
- The lowest jobs in municipal cleaning are often practically reserved for women. In some countries of South America, women street cleaners are routinely subject to sexual abuse.
- The working conditions of women sweepers are often very poor - they may have no footwear or gloves and no adequate implements for sweeping or waste collection. Fear of losing the valued municipal job, among other things, means that few complain about the situation, or request childcare services or maternity leave.

“by harnessing the knowledge that people have of their wastes, the activities of waste gathering and re-use rather than being seen as largely problem-ridden, can be recognised as having environmentally friendly elements”

2.3 Comment

- Women and men are involved in the informal sector in a range of activities. Project planners should make use of their knowledge and experience.
- Roles within the informal solid waste sector are often separated by gender, with women and children frequently working at the lowest levels.

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Source: Furedy, C (1990) Women and solid wastes in poor communities, WEDC Conference, Hyderabad, India

Case study 3
Culturally sensitive solutions to
household collections

3.1 Background

A community based organisation, Jinnah Welfare Society, in Shadab Colony of Faisalabad decided to use a self employed sweeper to collect the solid waste from 80 to 100 houses that previously did not have any solid waste collection. It was arranged that he would be jointly paid by the households through the CBO.

3.2 Action

The sweeper encountered problems with entering peoples' houses due to restrictions placed on him by Purdah (a cultural practice separating women and men). In this way he wasted a lot of time. He solved the problem however by involving his wife and his son. His son helped to sort the materials on the cart and his wife collected the waste from the houses as she was not restricted by Purdah and could enter the houses freely.

3.3 Comment

- Working together in groups as community-based organisations can help solve lack of service problems.
- Solutions need to be culturally and gender sensitive to be effective.