Chapter G-1

The reluctant managers

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We, the unwilling,
led by the unknowing
are doing the impossible
for the ungrateful
(part of a lament found on office walls and noticeboards in England)

G-1.1 IS THERE A PROBLEM?

This chapter is concerned with the plight of the solid waste management engineer in India. The motivation for including this chapter, and the observations included herein, have come from contact with a very small sample of people, and so it is not possible for the authors to make general statements for the whole of India. However, it is very probable that some of the observations are true about the situation in many of the larger cities. Nevertheless, the chapter starts with a number of questions, and if the answer to all of them is "yes", the reader is advised to spend his or her time on something more relevant - this chapter is only for readers who must answer in the negative to at least one of these questions.

- ◊ Does the solid waste management organisation operate according to the principle that the workforce (including the engineers) are its most valuable resource?
- ◊ Could most of the engineers and managers within the solid waste management section be described as well-trained and experienced in the many aspects of this subject?
- ◊ Are most or all of the solid waste management engineers working in this field because they have deliberately chosen to do so?
- ◊ When given the opportunity to transfer to another section, do most municipal engineers prefer to stay within solid waste management (provided this does not mean sacrificing promotion)?

If the reader must answer "no" to one or more of these questions, then there may be an idea or suggestion in this short chapter to indicate the way to making an improvement.

Why does it matter if engineers are reluctant to work in solid waste management?

(Please note: The masculine pronouns "he", "him" and "his" are used as a shorthand to refer to both male and female managers. Women are taking senior management responsibilities in the solid waste management industries of many industrialised countries, and the shorthand use of the masculine pronouns is not intended to suggest that this field of management should be dominated by men.)

Most people deliver their best work if they are enthusiastic about what they are doing. A reluctant manager is more concerned to find ways of arranging a transfer to another responsibility than to develop his skills and work in the best way possible. Enthusiasm is a vital quality for good leadership, and leadership is an important part of the solid waste manager's job because large workforces are involved. A relatively long-term commitment is necessary to encourage the manager to put in the necessary effort to increase his knowledge of the tasks facing him, since very little of the necessary knowledge would have been acquired during a university course. For all these reasons, reluctant managers cannot be as good as committed managers.

Why is solid waste management viewed unfavourably?

(These comments are based on interviews conducted with engineers currently and previously involved in waste management, and on observations.)

There are many answers to this question - some are obvious and some more subtle. Nothing can be done about some of the reasons, but definite action can be taken about others.

Some of the more obvious reasons why engineers seek to avoid solid waste management are that:

- ◊ Solid wastes are unpleasant and potentially hazardous to health, and this is widely understood by all of the community. (In contrast, wastewater is more unpleasant and hazardous, but since the general public are less aware of it, and are less likely to see wastewater engineering in practice, it may excite less antipathy in the public mind.)
- ◊ The manual collection of solid waste is associated with the lower socio-economic strata, and so the whole operation is viewed in a negative way as a result.
- ◊ Solid waste management is rarely taught in university courses at anything more than a very superficial level, and so it may be seen as an activity which is not really engineering, and less than professional. (In fact it is a challenging and multi-faceted subject, as shown by the failures around the world, and the growth of the solid waste management industry in the industrialised world.)
- ◊ To many people solid waste management is a simple business. This is partly because many refuse collection operations are in the full view of the public. Members of the public often regard themselves as experts in the subject, not realising the technical and management challenges that it poses. This gives them a low opinion of the discipline of solid waste management.

It is possible to do something about some of the other reasons. Amongst these reasons for the unpopularity of waste management as a career are:

- ♦ Senior municipal managers may have, and transmit ,a low impression about waste management. Some engineers complained that solid waste management seemed to be given the lowest priority in terms of allocation of funds, provision of staff housing, and staff recruitment. In one case that was investigated, overtime payments were not made to engineers except at the lowest grade, with the result that drivers who worked overtime could earn more than engineers with a university training, also working many hours of overtime themselves.
- ♦ The working conditions of professionals in the solid waste management sector may be worse than in other engineering disciplines. For example:
  - ⇒ Staff may be required to work long and unpopular hours. Refuse collection operations often start early in the morning, often well before office workers think about leaving their beds. In congested cities it is often necessary to operate three shift working, 24 hours a day. A good manager will feel obliged to be familiar with all aspects of the operations for which he is responsible, and so this will require working for long hours and at unpopular times.
  - ⇒ Any solid waste collection and disposal operation must be prepared to receive complaints. The complaints may be the result of shortcomings of the staff, action by the public, unavoidable mechanical problems, inadequate resources, or even weather conditions. Many organisations have developed offices to handle complaints, and give a high priority to taking action on these complaints and informing the public about what has been done. However in some countries - and India may be one of them - the residence telephone numbers of solid waste managers are available to the public, and senior municipal officials and representatives are in the habit of contacting waste management and transport engineers at any time, at their homes or offices, about something which could be handled in another way, through a more formal procedure. Such phone calls, coming at night or early in the morning, add to the stress of the job, and so make it less acceptable.
  - ⇒ Solid waste management is a labour-intensive industry and often heavily involved with labour unions. These two factors combine to make the task of managing the labourers difficult and time consuming. Comparisons, presented in earlier chapters, between the salaries of municipal labourers and those in the private sector testify to the strength of the unions and the struggles with municipal authorities that they have won. The working hours of municipal labourers are also much less than those in the private sector, again suggesting that there have been many industrial conflicts and strikes. Engineers, often at quite a junior level, are often the first point of contact when a dispute arises - or, to use more confrontational language, the front line of the management side. Often they are not equipped to handle such situations. The theoretical training that an engineer receives makes him familiar with mathematics and machines, but not with conflict resolution. This is another reason why engineers may seek to avoid solid waste management. (This is not an argument for employing medical doctors for managing waste collection and disposal, as is the practice in some places - an engineer with experience on a construction site is more qualified to handle labourers than a medical doctor - apart from the technical aspects. The point is that any

science or technology graduate has not learned skills of negotiation from his university course.)

⇒ The physical working environment may be unpleasant. An engineer required to work on a dump site may find himself in an atmosphere of smoke, dust and odours until he is able to effect improvements. Mechanical engineers may find themselves in old and poorly equipped workshops and garages, perhaps without the necessary facilities and equipment.

- Transport is a major component of solid waste management. This is emphasised in Mumbai by the fact that all municipal transport is under the Solid Waste Management Department. Mechanical engineers may feel frustrated by problems such as bureaucratic procedures regarding the procurement of spare parts, and by the difficulties of maintaining a wide variety of complex vehicles. If some of these vehicles were purchased against the advice of the engineer, or without referral to him, he is likely to feel even more frustrated and discouraged.
- Engineers complained that they were required to spend too much time on paperwork. They may begrudge the time they need to spend on routine form-filling that could be done by a clerk, and the effort devoted to the writing of reports that no-one seems to read.
- The lack of training was mentioned as another problem; new machinery was acquired but no training was provided concerning how to maintain it.

Having defined the problem, and reviewed briefly some of the reasons why engineers try to avoid solid waste management, it is necessary to identify possible solutions.

G-1.2 WHAT CAN BE DONE?

Perhaps the first step should be to make a more thorough investigation of the situation, to see if the factors suggested by this very introductory investigation are indeed significant. Such a study would have to be conducted with a high degree of anonymity, so that engineers and managers would feel free to speak openly and honestly, and might be conducted by graduate students at a college of management. Such a study might be helpful in convincing top management that action should be taken, and in suggesting the steps that should be taken.

It could be beneficial for some senior executives to study the waste management industries in a number of other countries. In some European nations and in the USA, waste management is one of the major industrial sectors. The majority of professional staff in this field are probably happy to consider that they will be working in solid waste management for the rest of their careers. There are professional associations dedicated to solid waste management. There are conferences and exhibitions. The majority of solid waste management professionals in many such countries are working in the private sector; it would be useful to investigate whether the public sector is able to provide working conditions similar to those offered by large private sector organisations in such countries.

At first, the subject area of greatest need is engineering - engineers are needed both to operate and maintain machinery and to construct landfills. As the industry develops there will be growing needs for geologists for landfill location and design, chemists for hazardous waste management, social scientists for creating more public awareness, economists, general environmentalists and even marketing specialists. However, in this chapter the term "engineer" will be used to represent any professional specialisation.

In seeking to suggest solutions, first some general aspects will be considered, and then more specific points.

A key objective is that engineers should want to devote all, or a large part, of their working lives to solid waste management. This may seem like an impossible aim, but with a combination of incentives, support and motivation it may be possible.

Incentives may be seen as a way of catching the engineer's interest. The most obvious incentive is pay. Compared to the solid waste management budget, or even the money that can be saved by good management, the pay of the engineer is tiny. If it is not possible to pay at a higher basic rate, there should be a special allowance payable. The pay and benefits package should be attractive in

comparison with what is offered by the private sector. Apart from the value of the money itself, a person's salary is a statement of the value the organisation attaches to the individual. Other incentives include the provision of attractive housing and a car. A volunteer soldier is better than a forced conscript.

Support takes many forms, and mostly comes from senior officers. One of the major problems faced by many waste management engineers is managing the labour force. In this task they need support in terms of training and advice in labour relations and conflict resolution, but they also need the active support and involvement of their superiors during times of crisis, such as when a strike is threatened. It has been suggested that labour officers should be more involved in labour disputes, leaving the engineers to spend more time and energy on the technical matters for which they have been trained.

Support can be provided by a superior only if he knows how to provide that support. Many senior personnel, never having had this kind of support themselves, will need to learn how to support their subordinates, and so effective management training may be needed at a high level.

Support includes training. Training should aim to impart skills as well as knowledge. Training will be received more effectively by someone who knows that he will need the benefits of the training over a period of many years (rather than someone who is hoping to be transferred to a different posting very soon), and practical training is best given by someone with many years of experience, so for both reasons it is important to attract engineers to make a career in waste management. Training should be closely related to the needs of the job and to the actual working situation - many courses seem to be very general and theoretical. In addition to developing skills, training can also increase confidence and communication skills, which are essential if an engineer is to convince a senior decision-maker concerning a technical decision.

Motivation is the heart of the issue. Staff can be motivated to some extent by money and fear, but job satisfaction and the best results are obtained when a person is working *because he believes in the importance of what he is doing, and that he is able to do the work well.* Some of the ways that the importance of a staff member's contribution can be communicated are:-

- ◊ Helping the engineer to appreciate the health, social and environmental benefits of good solid waste management;
- ◊ Expressions of appreciation from superiors;
- ◊ Clear and (when possible) positive reactions to reports and suggestions;
- ◊ The gradual giving of responsibility, as the ability of the individual to take such responsibility develops. Responsibility is a two sided coin - one side is authority to take decisions, and the other side is appreciation or blame for the results of these decisions. It might be useful for municipal corporations to review the authority that they give to their professionals - often the authority invested in managers of a certain rank is quoted as the amount of money they can spend, and these amounts may be very small in relation to the work they must do. Expenditures should always be accounted for and should be scrutinised at intervals, but the authority to make decisions on spending should be increased in many cases. It is useful to consider the costs involved in keeping a refuse collection vehicle in the garage when it is needed on the streets, and to use this as a guide to the authority that a garage manager should have. Delegation of authority means that people must be allowed to make mistakes; when a mistake is made guidance should be provided so that the same mistake is not made twice. Mistakes are virtually inevitable. Even senior decision-makers make mistakes from time to time.
- ◊ Input into decisions A clear way of showing appreciation for the skills of the engineer is to invite him to participate in decisions which are related to his competency and experience. It is not enough to have a token engineer on a committee for specifying or selecting equipment, it is important that the committee have the benefit of practical knowledge of the equipment under consideration. Operations and maintenance engineers should have the opportunity of evaluating the equipment under consideration before the decision is made. Real weight should be given to the technical considerations presented by the engineer. In this way the engineer will understand that his contribution and skills are valued by the organisation he works for.

Other points

- It would be useful to review the official telephone calls that are received by engineers and managers in their homes outside office hours, and also those received in the office during working hours, to determine whether an unnecessary burden could be removed from managers by routing complaints to a special department, and by managing requests for transport from senior officials in a more efficient way. It may be possible to protect managers from many official calls at their residences by employing a duty officer to take calls and meet emergency transport needs outside normal office hours, or to provide managers with answering machines.
- Consideration should be given to the physical environment in which managers are working. Two particular aspects of this are waste disposal and maintenance facilities.
  - ⇒ An uncontrolled dump cannot be turned into a sanitary landfill without the on-the-spot guidance of a trained engineer or technician. However, because the environment at a dump site is so unpleasant, no engineer wants to work there. This situation has two results - one is that the dump is not improved, and the other is that large sums of money are spent (and mostly wasted) on expensive and unsuccessful alternatives to land disposal. One solution may be to provide an acceptable working environment for the engineer, such as an air-conditioned office (necessary since natural ventilation is not possible on a dump site because of the dust and flies) and an air-conditioned off-road vehicle.
  - ⇒ Careful attention should be paid to the requests for equipment from maintenance engineers. It may be possible to reduce the time required for certain maintenance tasks, and therefore achieve higher availabilities for the refuse collection vehicles, by providing basic equipment such as an overhead crane or an item of testing equipment.
- Time spent on paperwork and meetings often seems to be time wasted. It is important to have a clear concept of the purpose of each bureaucratic procedure, and the lowest level at which it can be performed. Requirements for form-filling and reporting should be reviewed periodically in order to check whether the information that is being provided is really needed and used. Part D mentions some of the reports and records that are part of a good solid waste management operations and maintenance section, and it also contains suggestions as to how recording systems could be simplified to reduce repetition and improve management effectiveness. It is always a great encouragement to a report writer to know that his report has been read, and to receive comments and suggestions. If there is no feedback concerning reports and records, it seems to be a waste of time to prepare them, and demoralisation sets in..
- Job descriptions are a useful management tool if used well. A thorough review of the tasks and responsibilities of managers, and the preparation of agreed job descriptions, can increase the effectiveness of professional staff, provided that the job description is seen as a tool to be used rather that a piece of paper to be filed.

Fortunately, India already has some solid waste management enthusiasts - people who see the existing and potential problems caused by solid wastes, people who know what can be done, and who want to do something to change the situation. If some of the recommendations of this chapter are carried out, there could be more of these people. As the number grows, so will the need for a mechanism for sharing news and information. There will be a need for an association of solid waste management, which would serve to encourage professionals to develop their expertise, by providing opportunities for meeting and sharing experiences and information. Such a body would benefit from links with organisations such as the International Solid Wastes Association - which currently is mostly involved with the North America, Japan and Europe, but which is concerned to be more involved with countries that are economically less developed. A newsletter, which could later grow into a journal, would also be a vehicle for disseminating ideas and information; in its early days it would need a sponsor since subscription income from a relatively small number of subscribers would not be sufficient to make it financially self-sustaining. If these recommendations are taken up, and an association is formed, it would not only improve the flow of information, but it would help to promote the concept of the solid waste management specialist as a motivated and fulfilled professional rather than as an unfortunate engineer who is obliged to serve a short length of time in the post that nobody wanted.