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Social Feasibility Analysis in Low-Cost Sanitation Projects

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PREFACE

This technical note by Heli Perrett entitled "Social Feasibility Analysis in Low-cost Sanitation Projects" is intended to improve the working relationship of sociologists or anthropologists with engineers or financial/ management specialists, and to make sure that the findings of the sociologist or anthropologist become an integral part of the project plan. It discusses the eight key questions that should be answered to ensure that the sanitation technology and activities will be appropriate to the men, women and children in the project area, and result in benefits to them.

As stressed in this note, social feasibility analysis needs to pay particular attention to women: their perceptions of what constitutes acceptable sanitation may differ from those of men, and women are of course by far the most important influence in determining household hygiene practices and in forming the habits of their children.

The note is one of a series of informal technical papers prepared by TAG1/ which are being published by the World Bank as a joint contribution with the United Nations Development Programme to the International Drinking Water Supply and Sanitation Decade. The papers were originally prepared as internal discussion documents and the views and interpretations in them are those of the author(s) only. The wider distribution of these documents does not imply endorsement by the sector agencies, governments, or donor agencies concerned with the programs, nor by the World Bank or the United Nations Development Programme.

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1/ TAG: Technology Advisory Group established under the United Nations Development Programme Global Project GLO/78/006 (renumbered on January 1, 1982; now UNDP Interregional Project INT/81/047, "Development and Implementation of Low-cost Sanitation Investment Projects"), executed by the World Bank.

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SUMMARY

Social feasibility analysis is an essential social input into low-cost sanitation project work. It helps to make sure that proposed activities will fit in with the project population's habits and social and cultural environment, and where they do not, suggests changes. In order to do this, field data is collected and analyzed, to check the assumptions made by the project plan about how people will respond or participate.

Eight questions which are central to social feasibility analysis in low-cost sanitation projects:

Question 1: Do the intended beneficiaries want improved sanitation?

Question 2: Are the beneficiaries able and willing to pay for sanitation improvements?

Question 3: Are the beneficiaries able and willing to contribute labor and/or materials towards the cost of sanitation improvements?

Question 4: Do people's likes and dislikes fit those of the technology options to be provided?

Question 5: Are the technology options to be provided compatible with the project populations's existing defecation practices and related habits?

Question 6: Are the planned locations of latrines acceptable to beneficiaries?

Question 7: Are the planned sharing arrangements acceptable to beneficiaries?

Question 8: Do the project projections about the rate at which new latrines will be built or existing ones improved match beneficiaries' capacity to change their habits or to adopt new technologies?

These questions, and the ways in which the answers to them interact with other aspects of project design, are discussed in this note.

1. Social feasibility analysis is a planning technique that can be used in low-cost sanitation projects or programs to ensure that the activities to be implemented will be acceptable to the people concerned and will be compatible with their social and cultural environment. This note discusses the nature of social feasibility analysis, the process for carrying it out, and suggests key questions on which it should focus.

2. The discussion is addressed to a dual audience: on the one hand, to engineers who are planning or implementing low-cost sanitation programs, and who may need to look into social feasibility themselves if there is no sociologist or anthropologist on their team; on the other hand, to sociologists or anthropologists who may need additional orientation in order to carry out these activities in such a way that their professional contribution responds to the needs and interests of engineers and institutional and financial specialists.

The Nature and Timing of Social Feasibility Analysis.

3. Social feasibility analysis, as the term is used in the present context, does not have a long history in development planning. Recent interest in it by organizations such as the World Bank can be viewed as an indirect result of increased lending for large projects directed to the rural and urban poor, and the subsequent recognition of the "human" risks inherent in such lending. This has led to greater interest in the contribution that social sciences such as sociology, anthropology and social psychology can make to better planning and implementation of projects. This interest, in turn, has made it more important to draw specialists in these disciplines more into the mainstream of development activities, and to bridge the gap that has in the past tended to prevent a useful dialogue between them and technical specialists such as economists and engineers.

4. Social feasibility analysis is a technique intended to help bridge this gap and to create a more immediately relevant and active role for specialists in the human side of development.

5. In low-cost sanitation planning, even more than in many other sectors, a strong argument can be made for ensuring that social feasibility analysis is an integral part of the planning process because of the large number of social, cultural and behavioral factors in sanitation programs which can make the difference between success and failure.

6. Because of the comparative novelty of the technique, it is important to establish the parameters of the discussion in this paper. Social feasibility analysis establishes the extent to which the project is likely to be socially feasible. That is, how well or how inadequately the project is consistent with what the project's intended beneficiaries, both female and male, want, into how they act, think, and feel and with what they are likely to be able or willing to provide in terms of payment, labor or other inputs.

7. Ideally such feasibility analysis takes place in two steps corresponding to two of the usual stages of project preparation in the sector: pre-feasibility and feasibility:

Step 1: pre-feasibility stage: checks alternative project ideas with what is known about the project area people and their situation, and helps to select a project that is likely to work in "human" or "social" terms.

Step 2: feasibility stage: further develops the social compatibility of the project through making sure that the technology options proposed, the institutional arrangements, financing plan, implementation schedule, operation and maintenance proposals, and so on, have all taken the project's beneficiaries and their behavior and social and cultural environment into account.

8. However, practice is rarely as tidy as theory. For budgetary or other reasons, it may not be possible for the social scientists who would carry out such analyses to be involved at early stages of project preparation; they would become involved only later, at the feasibility stage, with the result that the bulk of social feasibility work is carried out then. The disadvantage of this approach is that the "human" or "social" criteria may therefore be omitted in selection of the best project idea at the earlier pre-feasibility stage. It is also likely that a certain amount of social feasibility analysis will be needed during the implementation stage, as further elaboration of engineering designs at this point and the detailing of other aspects of the project may also require review from a social perspective.

The Process of Social Feasibility Analysis

9. Social feasibility analysis is an iterative process. Its central activity is identifying all assumptions - usually implicit - that are made by the project about how people will respond or participate, and checking these with available information to decide whether or not such assumptions are likely to be borne out in practice[1]/. If the evidence suggests that the assumptions are incorrect, then recommendations are made for possible changes. Where the social scientist involved does not have a good understanding of the technology, financing or other aspects, he or she will need to make recommendations in consultation with a specialist on the team. As stressed in this note social feasibility often gives special attention to women, not only because they are also users of sanitation facilities but because they play an important role in forming their children's habits, and in the cleaning and operation of latrines.

10. This process relies on two very different kinds of information: one about the project itself and the second about the project population and its environment. The first type of information simply requires good cooperation among members of the planning team as the project develops. The second - social information - may require some additional work. If there already exists a good social data base for the project, then social feasibility analysis will of course use it. Such background data collected for project

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1/ See TAG/TN/01 "Methods for Gathering Socio-cultural Data for Water Supply and Sanitation Projects" by Mayling Simpson-Hebert.

preparation purposes can be called a "social assessment" or "social diagnosis", in that it tries to find out the social context of the project. In practice such data is often not tied into project planning, and making this link then becomes the role of the feasibility analysis. However, where no such data base exists, then a "rapid social assessment" will need to be the first step in carrying out the social feasibility analysis. But under such circumstances only the essential information needed to make practical project decisions will be collected, since social feasibility analysis usually operates under fairly serious time and budget constraints. A rapid social assessment would therefore rely, wherever possible, on existing information, available through sources such as surveys carried out by research institutes, the background data or evaluations of other projects in the same geographic area, census data, studies by anthropologists, and so on. Often such information would be checked or supplemented by spot interviews and observations.

11. Social design follows on from and is directly linked to feasibility analysis. Social feasibility analysis is therefore the central and indispensible part of continuous social input into low-cost sanitation project work: it forms the bridge between background social data collection and the social design of the project. Table 1 (page 4) summarizes these different social inputs into low-cost sanitation project work, and their linkages to each other and to engineering.

12. The main steps in social feasibility analysis are as follows:

Step 1:	Review project plan to identify key assumptions it made about how people will respond or participate.	
Step 2:	Collect essential background information on project population and its environment (i.e., the type of information needed to check the assumptions made in the project plan).	Omit if adequate data base already exists.
Step 3:	Specify any incompatibilities between the sanitation project plan and its social context.	
Step 4:	Review problems with engineers or other specialists (e.g., financial, institutional).	Reverse order with 5 below if sound recommendations can be made without prior review.
Step 5:	Recommend solutions to incompatibilities.	

13. Diagram 1 (page 5) illustrates the above process and shows how it is linked to design of communication support as well as monitoring and evaluation activities. The two abbreviated examples below will help to clarify it further.

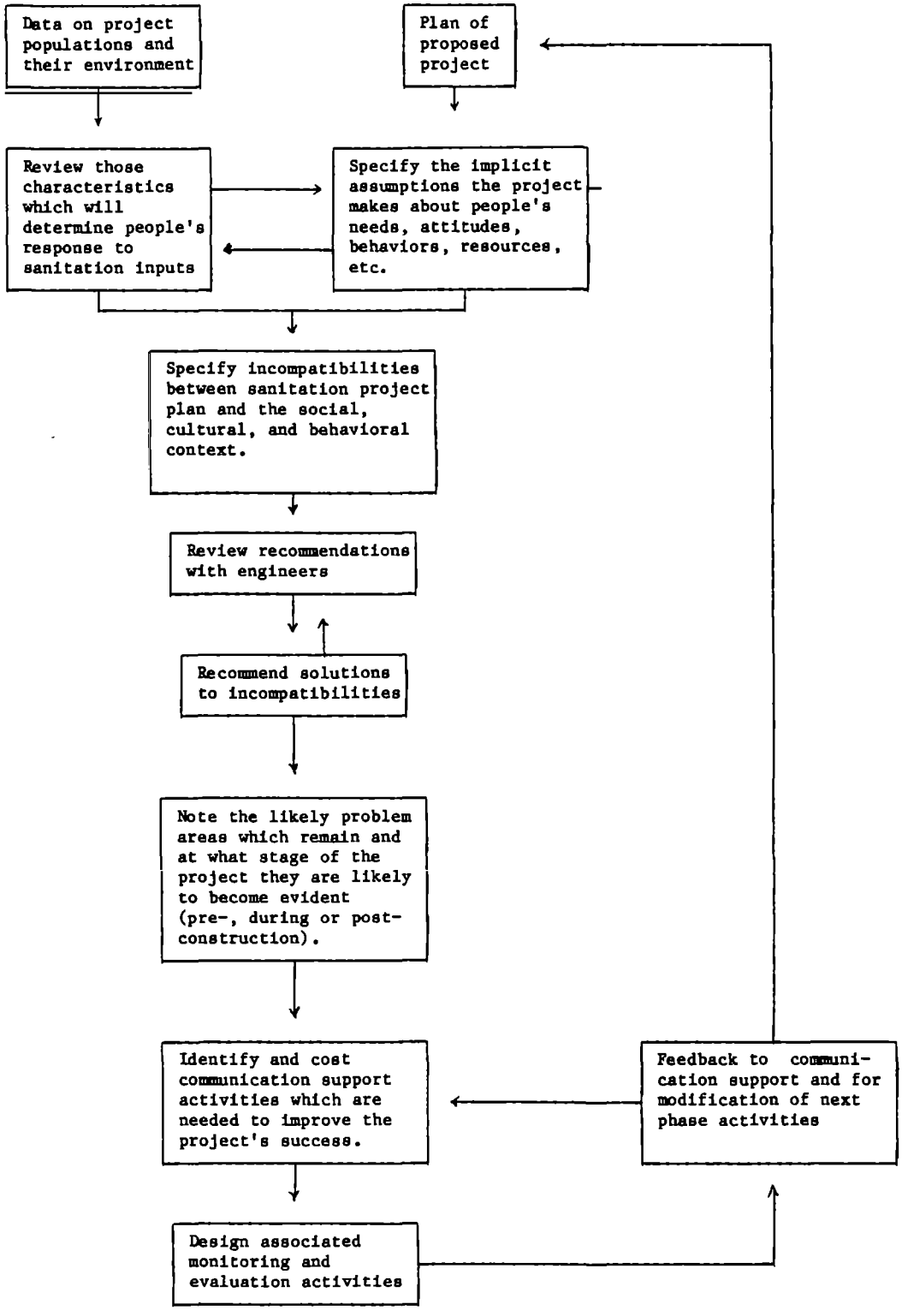
TABLE 1: Types of Social Input that can occur in Low-cost Sanitation Projects

Input	What it does	Timing	Functional Linkage to Engineering	Linkage to Other Social Inputs
1. Social Assessment [or Rapid Social Assessment]	Collects, organizes and interprets useful social, cultural, and behavioral information about the project population and its environment.	During sector work or the early stages of project work. It can also occur as a rapid social assessment during feasibility work at later stages: (2) below.	Provides the basis for any consideration of non-engineering aspects in engineering decisions.	Lays the basis for social feasibility work. Can also prove useful in designing communication support or health education components.
2. Social Feasibility Analysis				
(a) During early stages of project planning. (Pre-feasibility Report)	Helps to identify the initial idea for the sanitation project and makes sure that it will work in social terms.	Ideally should take place at same time as engineering pre-feasibility work; sometimes is combined with social feasibility analysis: (b) below.	Directly linked to engineering pre-feasibility work and should help to decide what kind of project is needed most, and whether a cash or labor contribution would be indicated.	Builds on social assessment, where it exists.
(b) During later stages of project planning (Feasibility Report)	Reviews the compatibility between the engineering design and the project, its populations and social environment.	Should occur as an iterative process during engineering feasibility work.	Checks assumptions made by engineers about how people will participate and respond, in order to recommend necessary changes in any aspect of the project design.	Builds on social assessment. Lays basis for communication support design by defining objectives for it.
3. Social Design				
(a) General social design of project	Adapts project technologies and implementation strategies to social, cultural and behavioral environment.	Later stages of project preparation, linked to social feasibility analysis, and during early implementation stage.	May suggest modifications in engineering design.	Builds on social feasibility analysis most specifically, but also relies on information available in social assessment.
(b) Design of communication support activities	Identifies and details a package of information, motivation and education (IME) activities which will "sell" the sanitation improvements and also ensure that they will have the desired impact.1/	Towards latter part of project preparation process, following feasibility analysis.	The IME component has to be closely coordinated with engineering construction schedule.	Builds on social assessment and feasibility analysis, and attempts to make up for what social design has not been able to do in ensuring project success.
(c) Design of social monitoring and evaluation activities.	Monitors how response materializes to the sanitation project, how well latrines are used, and studies what effect project has had on beneficiaries and their environment.	Design of social IME activities usually done in conjunction with design of communication support activities where these exist.	Often helps to explain the cause of engineering findings, particularly where people play a part in any problems experienced.	Builds on all previous work but especially social feasibility analysis. Feeds back into next cycle as project undergoes expansion or replication.

1/ See TAG/TN/02 "Planning of Communication Support (Information, Motivation and Education) in Sanitation Projects and Programs" by Hali Perrett.

DIAGRAM 1

THE PROCESS OF SOCIAL FEASIBILITY ANALYSIS



Example A:

Project design	-	provides for ventilated improved pit (VIP) latrines;
Assumptions made	-	that VIP latrines (a) should be designed for squatting rather than sitting; (b) fit in with project population's other practices and habits; and (c) are liked by the population;
Rapid social assessment	-	reviews existing information on project population's practices, likes and dislikes, taking any major internal differences into account; spot interviews some representative people in area to double-check information; conducts field visits to see whether there are any existing VIP latrines in the area that people have built themselves or which have been provided through earlier programs, their design, how they are being used, and what the experience with them and level of satisfaction has been;
Some important feasibility findings	-	there are some incompatibilities between latrine design and the habits of people: about 60% of the project population do not have baths or bathrooms in their houses, nor are likely to have them in the near future; the people are in the habit of bathing in latrines, letting the water drain into the latrine pit and their preferences back this up in that they say they like spacious latrines. Most of these families use solid anal cleansing materials (coarse paper, corn cobs, etc.);
Recommendations made:	-	that the project plan considers effects that the addition of bathing water might have on the VIP technology; these might include (a) making any necessary changes in technology options selected (e.g., lining the pit to ensure stability); and (b) allowing sufficient space in the latrine for bathing for those who want it.
Final results of social input	-	the revised project design provides two different sized latrines, so that those who bathe in latrines can have a suitable technology and structure. (The decision

was made to change the technology rather than attempt to get people to stop bathing in latrines because the latter would be likely to have limited success in the short or medium term.)

Example B

Project design - states that, for the construction of school latrines, teachers and parents will provide the labor for digging the pits and for erecting the superstructure.

Assumptions made - (a) teachers and parents are interested in having school latrines; (b) teachers and parents are willing to provide labor when needed; (c) they will have time available when their labor is needed; (d) manual digging of pits is technically possible; and (e) teachers and parents are used to working together under such arrangements, so labor can therefore be easily organized.

Rapid social assessment - reviews data base on population characteristics, checks reports of experience of similar past attempts by other programs and conducts interviews with expert "informants" (such as school teachers, community leaders) to find out what they think.

Some important feasibility findings - (a) teachers have some interest in latrine improvement (although it ranks lower than improving the school building and providing better teacher housing), but parents have virtually none; (b) teachers are willing to organize children to dig pits but not to do it themselves; some parents feel that provision of labor for digging is up to the government since that is the party interested; (c) the ground is fairly hard and rocky in about half the areas; (d) parents would not have time available, as the time the pits would have to be dug conflicts with harvesting (when there is a severe labor shortage in the area due to off-farm work of able-bodied males); (e) there is no previous experience (except in two out of fifty schools) of teachers and parents working together to provide such manual labor and there are no organizational arrangements which might support it; and

(f) while individual households may dig their own small latrine pits quite successfully, there have been previous bad experiences in digging bigger pits (on "self-help" projects for rural clinics), which are more likely to reach rock or to collapse.

Recommendations made: - that parents and teachers not be expected to provide labor for pit-digging but that other options be considered, such as use of small local contractors, or that the project use smaller pits (for individual latrines) which appear to enjoy greater support.

Results of social input - plan discards labor input of area people.

14. It should be noted that the preceding examples have stopped at the point where recommendations are made to engineers and the design is modified. However, in most low-cost sanitation projects the social input should not terminate here. Because of technical, financial or other considerations, the extent to which the project plan can be modified may fall short of what would ideally be called for in social terms. If nothing else, the expected rate of adoption is usually faster than would occur under "natural" conditions. Therefore, the remaining gap between the social situation and the project plan has to be dealt with through well designed and executed promotion, motivation and education activities. Such "communication support" is the subject of another Technical Note in this series and will therefore not be detailed here.2/ Because human behavior is always hard to predict even with a good social feasibility analysis, monitoring and evaluation activities should also check on it, and are an important part of the total social input into a low-cost sanitation project (see Diagram 1).

Key Questions to be asked in Low-cost Sanitation Programs

15. Experience to date suggests that there are probably at least eight questions to be examined during social feasibility analysis in the case of most low-cost sanitation projects. This is not to imply that there are not others, but these are likely to be the most commonly occurring ones:

Question 1 - Do the intended beneficiaries want improved sanitation?

Question 2 - Are the beneficiaries able and willing to pay for sanitation improvements?

2/ See TAG/TN/02 "Planning of Communication Support (Information, Motivation and Education) in Sanitation Projects and Programs" by Heli Perrett.

Question 3 - Are the beneficiaries able and willing to contribute labor and/or materials towards the cost of sanitation improvements?

Question 4 - Do people's likes and dislikes fit those of the technology options to be provided?

Question 5 - Are the technology options to be provided compatible with a project population's existing defecation practices and related habits?

Question 6 - Are the planned sitings of latrines acceptable to beneficiaries?

Question 7 - Are the planned sharing arrangements acceptable to beneficiaries?

Question 8 - Do the project projections about the rate at which new latrines will be built or existing ones improved match beneficiaries' capacity to change their habits or to adopt new technologies?

16. The questions above are phrased in general terms; in actual practice they will become increasingly specific towards the later stages of project preparation, and this is one reason why the process of feasibility analysis is iterative. If a good background social data analysis has preceded the social feasibility analysis, then it may answer the first three of the above questions. However, more often than not, social feasibility analysis needs to reexamine the data as the project itself becomes better defined.

Interest in Sanitation Improvements.

Question 1: Do the intended beneficiaries want improved sanitation?

17. In some situations improving household sanitation becomes compulsory, and the law may support and enforce it. However, in the majority of cases sanitation improvement is largely voluntary. Therefore, householders must be sufficiently interested to agree to the change. At the same time, it is not uncommon to find that the very people who most need latrines (or improved latrines) are the least interested.

18. One of the first tasks of social feasibility analysis is therefore to check the implicit assumptions made by the project planners about the "felt need" of the women and men in the project area. For instance, in a particular situation, it may be that currently only 25% of the households have latrines, most of which are insanitary. The initial project concept is that over a five-year period, the remaining 75% will be provided with improved latrines and the existing latrines improved. Particularly where a list of applicants does not exist and the program does not provide for associated promotion or motivation activities, it is the task of social feasibility analysis to estimate whether this expected demand for improvements is likely to materialize.

19. The answer is not simply to conduct a survey asking people whether they are interested. Surveys are expensive and create delays. Conducting such a survey too early in the project development process can also have negative effects, such as arousing unrealistic expectations, or can lead to frustration because of the long wait before anything is done (or the project may not materialize at all, or may completely change its focus). Also, such expressions of interest are very likely to be misleading, especially in the absence of information on costs or other obligations by the householders, or if the technology is unfamiliar. "Positive" response may merely be politeness towards the interviewer. A more indirect approach is therefore required, as a first step. When feasibility analysis does look into this question, it should not only assess the extent of interest of the population (or of different sub-groups) in low-cost sanitation, but obtain an idea of what constraints stand in the way of interest so that project design can take them into account. For the same reason it should also establish some of the factors which serve as positive incentives for accepting improvements.

20. Among constraints to user interest in low-cost sanitation is the "social invisibility" of traditional practices (as in Nepal and Bangladesh), where others simply pay no attention to someone squatting in the field or the side of the road. Another factor which limits interest is the often greater concern for other things, such as improvements in water supply (in many rural areas and low-income urban areas throughout the world water is scarce or piped supplies are intermittent during certain times of the year), or better drainage (as in some favelas in Brazil or lower-income settlements in Haiti which become badly flooded during the rainy season), or simply better food and clothing (as among some of the very poor in parts of Bangladesh). Still another constraint is the fact that other natural alternatives (such as open fields, roads which have become accepted as special "sanitation lanes", etc.) are easily accessible, cost nothing, are reliable and have been used for so long by their ancestors that people see nothing particularly unpleasant about them. Finally, interest can be constrained by the unattractiveness of the technology offered, the associated costs, or a lack of good examples of low-cost latrines actually working in practice or being serviced properly.

21. On the other hand, factors which have been found to encourage people to seek such improvements include: the desire for privacy (especially for women, as in some predominantly Muslim countries such as Egypt and Bangladesh); the prestige value associated with having such services (as found in rural Egypt, Nepal, as well as in some African countries); the increasingly crowded living conditions which limit access to private open space (as is happening in many urban slum areas); and concerns about adverse effects of a polluted environment on one's own and one's family's health.

22. Interest in improved latrines will vary between different sub-groups in a given project area, with the more moneyed and better educated families generally being more anxious and ready to sign up or agree to participate (unless they wish to have a higher technology); women are sometimes more interested than men. In some countries religious factors also become strong motivators. Such differences should be looked for during feasibility analysis, as they are likely to affect the types of people that the program will serve, at least initially, and also affect the rate at which the improvements can be expected to take place (question 6). Such differences are particularly relevant when the program is specifically directed to a

particular sub-group which appears likely to be less interested than others, and indicate a need to develop special motivation activities to increase the level of interest and speed up the rate of change among them (see Diagram 1).

23. Interest in low-cost sanitation (as well as in anything else) can obviously be volatile; high at one point in time and virtually non-existent the next, or vice versa. For instance, it could be that people were interested in having latrines, but did not care for the type of latrine eventually offered; or it could be that early latrines were built too close to the inadequate foundations of houses because of space constraints, resulting in weakening of the foundations and damage to the houses. When such damage becomes evident in a few houses, it could well result in a sudden and sharp decline in interest among other families in the neighborhood, for bad news travels fast. Similar results may occur where it becomes clear that latrines built earlier are not receiving emptying services.

24. Towards later stages of project development initial broad questions on interest are superseded by more specific questions on a project population's likes or dislikes of the technology (Question 4 below) and on likely rates of acceptance (Question 6 below). However, it is important that such general questions be posed early on, to prevent mistakes in project design which would prove costly to correct later.

Ability and Willingness to Pay.

Question 2: Are the beneficiaries able and willing to pay for sanitation improvements?

25. If the cost of a sanitation project is to be recovered directly from the beneficiaries, then these people must be both able and willing to meet these costs. The questions of what level of cost recovery is "affordable" is hotly debated, and falls outside the scope of this note. However, in most cases social feasibility analysis should at least review the willingness side of this question, since it falls squarely into the social domain.

26. Willingness to pay will modify capacity to pay (as determined by factors such as income and expenditure, or as estimated through proxies). Some of the specific factors which social feasibility analysis should review when trying to check on willingness to pay should include those summarized below.

27. Tradition, or previous experience with payment or non-payment for latrines or similar services will create certain expectations which will affect willingness to pay. For instance, when the government has no set policy for cost-recovery, it may be that the project's population is aware of another program operating in a nearby area that provides latrines free to householders or to which a very minimal contribution is made. Similar problems may arise when, in the early stages or pilot phase of a program, householders are encouraged to participate by being provided with free latrines or latrine components, while later participants are expected to pay; or if area people are provided with housing virtually free and are then expected to pay for latrines.

28. Beliefs or expectations which affect willingness to pay for sanitation can include a conviction that it is the government's role to meet such needs. This may be an outcome of previous experience (as above), or the belief that the classes of people who have more money (and therefore better accommodation) are provided with sewerage (or many other municipal services) at no cost at all or at a minimal cost only, or that since the government is the interested party (because the initiative came from it and not the people, and no subsequent attempt was made to get beneficiaries' participation in planning) then the government should pay for it.

29. Caution in investing scarce funds can also be a limiting factor when there is uncertainty about control of benefits, life-span of the latrines or other similar aspects. For instance, beneficiaries may not have secure land rights, they may not have confidence in the unfamiliar technology, or they may not feel that they have sufficient guarantees on life-span or emptying, and therefore they will be unwilling to risk what, to them, would be a considerable capital investment.

30. Competition from free alternatives such as open fields or flimsy surface latrines may influence willingness to pay where owners have no major objection to the alternatives and are unaware of associated health risks.

31. Opposition from local leaders to payment for such services has been known to occur where such leaders have been elected on a platform which included free services, or where they oppose the project for other reasons (such as the fact that they were not initally consulted and feel that it usurps their authority).

32. Limited interest in improvements will obviously affect how much people are willing to pay, even when they can easily afford to do so. A particular case in point is occupiers of rented property: the occupiers may not wish to improve someone else's property unless they are secure from eviction, while the owner may not wish to invest in improvements because he is forbidden by law to increase rents correspondingly, or in practice may not be able to collect any rent increase. Equally, where payment has to be made for regular maintenance (e.g., municipal emptying), the occupants may not feel that they can bear the expenses, while the owner may fear having his property left with overflowing latrines; in either event, there will be reduced enthusiasm for the project.

33. Financing arrangements, such as the level of grants available, whether credit is provided or not, the period of amortization, interest rates, monthly payments, the collection system employed, and so on, will also affect willingness to pay.

34. It does not necessarily follow that if latrines or latrine components can be offered free it is better to do this. They may be more readily accepted, as free goods usually are, but not necessarily put to the proper use. In the early phase of one latrine program in Bangladesh (subsequently modified) it was found that latrine slabs were being used as doorsteps and washboards. (Equally, forcing people to construct latrines as a precondition for receiving some other more valued service - typically water supply - does little or nothing to ensure that the latrines are actually used.)

35. Therefore, the frequent procedure with low-cost sanitation programs is to expect only some minimal payment even from the very poor. Where cash is very limited, contributions in labor or kind might be requested. This is the subject of the next question.

Willingness and Ability to Contribute Labor or Materials.

Question 3: Are the beneficiaries able and willing to contribute labor and/or materials towards the capital cost sanitation improvements?

36. If the low-cost sanitation project or program assumes that beneficiaries will contribute labor (e.g., for pit digging, erection of the superstructure) or materials (such as stones, bricks, sand, wood, or other local materials), then social feasibility analysis should check on these assumptions and specify the types of arrangements which might be used to organize and channel such contributions.

37. For instance, if people are expected to dig the pits for their own household latrines, the following points may need to be checked against available background information: Will they know how to locate and dig them as required? Who will be doing the actual work (taking into account factors such as any absence of male heads of households, and whether householders would hire others or do it themselves)? Will they have time available (checking with peak occupational periods), or how much will it cost them to hire someone else? Is such manual labor culturally acceptable? (It is not in some countries and with certain religious groups.) Can such labor inputs be coordinated with arrival of latrine components and the government's contribution to building the latrine? (Or is there a chance that the rainy season will arrive or pits cave in before the outside assistance materializes?)

38. On the other hand, if parents and school teachers are expected to contribute labor for pit digging and erection of superstructure of school latrines, some of the questions above may be raised together with several others, such as: Will parents and teachers be sufficiently motivated towards improving sanitation to be willing to help? Will they feel it is their responsibility to do so (or that it is the government's)? Will women as well as men become involved? Is there some kind of social organization which can take the ultimate responsibility for organizing such activities and seeing them through? Can people easily travel the distance to the work-site? Do teachers and parents have a sufficiently good relationship to work together on such a project?

39. If community input is expected for cleaning and maintaining a public latrine in a given area, the following types of additional points may be relevant: Will local leadership or a local organization take an active part in encouraging and making sure that cleaning and maintenance continues? Will local people be willing to contribute to it even if the facilities are open to the general public (that is, to passers-by from outside the community)? How would the cleaning and maintenance actually be organized (a person paid by the community to do the work, rotating responsibility among households, or some other means)? If any major technical problems should occur, will there be a backup to community efforts, or how will they be solved? Will petty cash be available for purchase of necessary materials?

Technology Likes and Dislikes.

Question 4: Do people's likes and dislikes fit those of the technology options to be provided?

40. While clearly an important consideration in establishing social feasibility in low-cost sanitation activities, people's likes and dislikes are difficult to gauge. A conscious effort needs to be made to ensure that women's likes and dislikes as well as men's are considered and that children's special needs and preferences are also kept in mind. Among the most important aspects to check in the case of given technology, or on which to base criteria for narrowing down the kinds of technology options which might be offered to beneficiaries, are those noted below.

Convenience - seems to be a major factor in client satisfaction with a sanitation technology, at least in many areas.[2/] Convenience will be determined by such factors as the siting of the latrine and the distance people are willing to walk, which might vary between sub-groups according to sex, age or other criteria; convenience of access to water sources or regularity of the water supply will also influence beneficiaries' view of convenience, in cases where the technology is water-dependent.

Privacy - may be particularly important for women (e.g., in Muslim countries) but how it is defined may vary with different project populations, for instance, according to whether one can be seen entering a latrine by neighbors or people passing by, or the extent to which one's feet are hidden when inside, or the proximity of one latrine to another, and so on.

Comfort - includes such factors as the appropriateness of the seat or squatting plate provided, and the size of the latrine itself.

Attractiveness - may be expressed in many ways, for example: in terms of physical appearance, lack of smell, access to light and air.

Prestige value - may be important where owning a latrine or a particularly "modern" or well-finished one conveys prestige. But in some countries or areas owning anything other than a high-cost "western" latrine can also be associated with loss of status (e.g., in some parts of Brazil).

2/ For instance, a recent evaluation of a limited number of demonstration pour-flush latrines in Kirtipur, Nepal, found that 100% of respondents mentioned convenience as the reason for construction, whereas only 33% referred to health (together with convenience).

Reliability - in both operation and emptying may be a key consideration, especially if there have been unfortunate local experiences with past programs.

Safety - is often a matter of concern, especially for children, where squat-hole size can become an important factor in perceived safety. Sometimes adults may also want reassurances that the pit will not cave in or the superstructure collapse.

Limited space requirements - may be important in encouraging acceptance of a particular type of latrine, particularly where living space is at a premium, there is no provision of an area for a latrine within traditional living areas, or there is a high opportunity cost for the space which a latrine takes up.

Time and energy demands - may deter people from making full use of a particular technology, especially in the cases of more complex technologies such as biogas and composting latrines. The question is whether people will value the by-products enough to be prepared to operate a more complicated system. It is far better that they be aware of complexities in the first place rather than discover them later. It should also be remembered that it is usually women who will be responsible for latrine cleaning and many other related tasks.

Existing Defecation Practices and Related Habits.

Question 5: Are the technology options to be provided compatible with a project population's existing defecation practices and related habits?

41. Background anthropological data available for low-cost sanitation programs may provide information on customary defecation sites, times, social organization and related habits, attitudes and beliefs. Such information will be relevant for social feasibility analysis when the evidence suggests that: (a) such practices are likely to remain unchanged when new latrines are provided; (b) such practices are important enough to affect technology choice; or (c) they are likely to affect technology operation and life-span. As always, it is important to recognize any differences between male and female usages, different income levels or between other relevant groups.

42. Preferred posture is one of the most immediately useful kinds of information. If people are accustomed to squatting when defecating, there may be considerable reluctance to use a latrine which incorporates a seat. (On the other hand, experience in some rural programs in Africa indicates that, while people regard squatting as acceptable in the bush, they consider a seat an essential part of a "modern" latrine. These attitudes can best be determined through careful piloting.)

43. Information on traditional use of open spaces for defecation may or may not be directly useful for design. Obviously it serves to underline the need for facilities, but it may also have relevance for siting of any communal or shared latrines. For instance, in parts of Nepal where there are special defecation lanes for women, it may be appropriate to site a communal latrine for women in such a lane, but it would be completely useless to provide one for men in the same area, as it would not be used. On the other hand, it should not be taken for granted that people would generally prefer to have communal latrines located near traditional defecation sites (for instance, a recent evaluation of a primary school sanitation program in Lesotho suggests that local people preferred latrines to be located closer to the school than the traditional areas are at present). Where the existing practice is for everyone to engage in defecation at a set time (e.g., early morning) this may be important in determining the number of public latrine seats to be provided.

44. There is a surprising variety of materials used for cleansing oneself after defecation. In many Asian countries water is used for ablution; while this presents no problems for a water-seal latrine, it may have important implications for the design of the substructure or for siting of wells used for drinking water. In contrast, the use of solid cleansing materials (such as stones, leaves, sticks, sand or corn cobs, as is traditional in many rural areas throughout the world) will cause a water-seal latrine to stop working, but will not generally cause any difficulties in VIP latrines (although if people are used to throwing garbage into a latrine this may cause problems in urban areas, because the latrines fill up too fast and the solid waste material may not be easy to remove with the available emptying equipment).

45. Bodywashing practices can also have considerable relevance; for example, in parts of some African countries (e.g., Tanzania and Botswana) it is customary among some people without bathrooms to bathe in the latrine and pour the water into the pit. Such practices can have implications for technology selection, for substructure design, and for the size of the floor space to be provided. The amounts of water used for customary ablutions (e.g., in Bangladesh and India) will also be relevant for the technology choice and its operation.

Acceptability of Siting Arrangements

Question 6: Are the planned sitings of latrines acceptable to beneficiaries?

46. Siting of household latrines will normally consider such engineering factors as space available inside and outside the house, location of any wells, structural stability of buildings and so on. The "social" side of the question brings people's preferences into play and the taboos that are important to them in the siting of latrines. Acceptability of siting needs to consider the views of women as well as those of men. If such factors are not taken into account during the planning stage they can create problems and delays in construction during project implementation.

47. Sanitation programs have come up against situations, for instance, where people refused to have a latrine at the side of the house or in front of it because "it was not done". However, in other situations people have been known to insist that it be in front so that everyone can see that they possess a latrine, due to its prestige value.

48. In one town in Nepal where a low-cost sanitation program is being initiated (and this may also occur in other towns), it has been found that space in many courtyards and houses is limited and so it would be preferable to locate latrine pits outside the houses, under public footpaths or roads. However, this would not be acceptable in cases where these roads or footpaths are also routes of religious processions.

49. Again, people may have strong views on whether a latrine should be situated inside or outside a house, or on how close a latrine should be to a kitchen or to an outdoor area which during hot weather is used for cooking. They may also be wary of locating a latrine too close to a neighbor's fence or house, knowing that the neighbor would object.

50. Finally, what householders may consider as the appropriate distance from the house (not so close as to be "offensive" - even if they have been assured that there will be no odor - and not so far as to prove inconvenient) will vary from one area to another and will need to also be taken into account in deciding on siting.

51. In the case of multi-family, or communal, or school latrines, other factors may also need to be reviewed during social feasibility analysis. For instance, do the users prefer blocks of latrines or individual latrines? How close should male facilities be to female ones (or adults to 'boys and girls')? How should communal latrines be located with respect to traditional defecation areas, or with respect to public roads or public buildings? How close or far away should school children's latrines be from a school building?

Acceptability of Sharing Arrangements

Question 7: Are the planned sharing arrangements acceptable to beneficiaries?

52. Obviously the question of who shares the same latrine is a social and cultural one to be reviewed during social feasibility analysis. In countries such as India and Bangladesh, religion and caste affect such preferences. Even sharing between some family members may be a problem (for instance, in some Muslim countries sharing between fathers-in-law and daughters-in-law is frowned upon, and men may be prohibited from sharing with their mothers-in-law). Such separation may affect the numbers of household latrines desired by households who are materially better off and who can afford them, and may affect usage patterns among poorer households who can afford only one (since not all household members may end up using it).

53. Sharing between renters and owners in a single household or between a rented house or shack and the owner's house in a single compound (as occurs in Bangladesh) also becomes relevant if the planning looks beyond

construction objectives to actual use of latrines and so to the health benefits to be obtained from improved sanitation.

54. In the case of school latrines, the question of sharing between teachers and students and the surrounding community may need to be raised (for instance, if the surrounding community is not to be allowed access then latrines may need to be kept locked).

55. Where several families are to share a single latrine or group of latrines, the relationship between families will have to be considered and social feasibility analysis and associated social design will need to specify how such decisions (on siting, sharing in construction, responsibilities for cleaning and paying for maintenance, etc.) are to be made in practice in a given situation.

Likely Rate of Acceptance.

Question 8: Do project projections about the rate at which new latrines will be built or existing ones improved match beneficiaries' capacity to change their habits or to adopt new technologies?

56. No one would deny that human behavior is hard to predict. However, even a semi-scientific prediction is preferable to no attempt to review the assumptions made by the project plan about how a project population will respond.

57. There is a considerable amount of research, available theories and models in Rural Sociology and Development Communications on the diffusion of innovations and adoption of new technologies. These, together with good background information about a project's population, and segmentation of such a population into sub-groups, becomes the basis on which predictions can be made.

58. In practice, the following types of specific information will be more useful in predicting likely rates of adoption of low-cost sanitation: levels of modernity of a project's population (or sub-groups within it); situation-specific constraints and how these may affect acceptance by different sub-groups; remaining program-specific constraints and their effects; lists of applicants or other available data on expressed interest; estimates by community leaders or other people can give a general overview (e.g., community workers, health staff, volunteers in the area, etc.); previous experience among the population about rates of acceptance of other programs of planned change which might be considered as fairly comparable to low-cost sanitation. Also to be considered will be the nature and intensity of any promotional activities and how effective these are likely to prove to stimulate interest among men and women beneficiaries.

59. What social feasibility analysis can provide as a result of such analysis is a rough prediction of numbers and kinds of people who are likely to adopt new technologies in each year of the program. However, as already noted, such a prediction will be highly judgemental, and can only be made by

people with a considerable amount of development experience and a fairly good understanding of the project areas and people therein. The accuracy of such a prediction is likely to increase as more experience is gained in planning and implementing large-scale low-cost sanitation programs which operate under rigid time constraints.

60. One of the useful side benefits of such analysis is that it often identifies specific constraints to adoption which were not previously recognized, or it elucidates certain questionable assumptions made by the engineering plan on the types of people to be served.

61. The analysis of expected rates of acceptance is usually carried out during the final stages of preparation of the feasibility plan. Ideally, it should be checked periodically as the plan is implemented, or when any changes occur.

Required Skills for Social Feasibility Analysis.

62. Social feasibility analysis is a very applied use of social science expertise, and, therefore, it requires people who have more than just a good academic background in their field. Overall, the combination of skills it calls for is: (a) a background in behavioral sciences; (b) thorough understanding of the particular situation in which a low-cost sanitation project is to take place; (c) understanding of low-cost sanitation itself and previous experience in this sub-sector or closely related ones (such as low-cost water supply or primary health care); and (d) considerable experience in development planning and implementation.

63. Because social feasibility analysis is not taught in any academic program (unlike background data collection or monitoring and evaluation), expertise in this area is largely acquired in practice. As recognition of the usefulness of the technique develops and the procedures themselves can be more precisely formulated, this situation should change.