

*Environmental  
2008*

**Environmental Performance of BRAC Microfinance Programme:  
An Assessment**

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## Background

Microfinance is considered as one of the key poverty reduction tool in the developing countries worldwide. It covers a wide range of activities to help the poor to lift themselves out of economic hardship. The idea is to reach out to the households who do not have access to formal credit market and to stimulate economic growth through employment generation (Sarkar and Akter 2008).

There is a scarcity of research regarding the impact of microfinance activities on environment. By operational definition microfinance invests on small (and in some cases medium scale) enterprises. Thus individual impact of such enterprises may not be that prominent. Given the prolific nature of the expansion of microfinance, however, it is now generally understood that their cumulative impact might be very high. Pallen (1997) identifies the following environmental problems associated with micro-enterprises:

- Improper disposal and unsafe use of hazardous substances such as pesticides and chemicals
- The growing use of pesticides, chemicals and other polluting technologies
- Pollution and waste through the inefficient use of resources and outdated technologies
- An ever-increasing number of micro-enterprises competing for diminishing resources and space
- In urban areas, the inappropriate location of microenterprises and their subsequent contribution to overcrowding and pressure on infrastructure such as water and sanitation services

Pallen (1997) also mentions about the micro-enterprises that can be considered as most notorious in terms of their environmental impact. These enterprises are mainly in the sector of a) chemical intensive agriculture and aquaculture activity, b) metalworking and electroplating industry, c) textile and crafts industry, d) automobiles and motor repair shops, d) brick manufacturing, e) tanneries, f) small-scale mining and, g) foundries. However, as the number of enterprises continues to grow, the possibility of potentially new harmful practices cannot be overlooked.

BRAC introduced its microfinance programme in 1974. Today BRAC is one of the largest global providers of financial services to the poor. As of 31 December 2008, the microfinance programme was serving 8.09 million poor people through its 293,016 village organizations. Main components of BRAC microfinance programme include i) Dabi, ii) Unnati and, iii) Pragati. While the first two is village organization based programme the later is curtailed towards the needs of individual small entrepreneurs who requires loan facilities to expand their commercial enterprises or to meet the needs of working capital to run their businesses.

This report has been produced in response to the condition mentioned in the loan agreement between FMO and BRAC Bangladesh. The broad objective of this report is to establish a Social and Environmental Management System (the "SEMS") for the microfinance programme in BRAC Bangladesh. The SEMS will be used to identify, assess, and manage the social and environmental risks pertaining to BRAC's microfinance programmes in the country. The SEMS will be designed to ensure compliance with the Social and Environmental (S&E) requirements in the loan agreement as well as other investor environmental and social policy requirements addressed in the agreement. The SEMS will also be designed to ensure compliance with relevant social and environmental regulations in the country and generally accepted social and environmental standards in the international microfinance industry.

The first report was produced in 2008 and was accepted with high regards from various stakeholders of the programme. A pre-approved format was used for the report where the main focus was on a) to find out whether any prohibited activities were financed or not (in accordance to international, national and local environmental laws), b) state of dissemination of environmental message among micro-loan receivers, c) sate of child labor in micro-enterprises, d) sate of chemical and other raw materials use, e) state of occupational health and safety, f) state of ambient environment of the enterprises, g) state of waste management and, h) state of risk management in the enterprises in case of Pragati. Current study is a continuation of the 2008 report with the objectives mentioned in the next section.

## Purpose of the Study

As mentioned earlier at an individual level microenterprises have a considerably lower environmental risk compared to the large and medium scales enterprises. There is, however, an opportunity for the microfinance institutes (MFIs) to play an important role in disseminating good environmental practices and standards (FMO 2006). Against the backdrop of international pressure and attention towards corporate social responsibility (CSR), microfinance institutes cannot ignore their environmental responsibility any longer. In recognition to such realization BRAC incorporates freeing the world from environmental degradation as a core component of its vision statement. Therefore, as an effort to its commitment towards environment, BRAC agreed to produce an annual report on environmental performance of its microfinance programme.

## Objective

In line with the above discussion, the objective of this study was to assess the environmental performance of BRAC microfinance programme against the indicators (or format) used for the 2008 report.

### *Specific Objectives*

- To assess the micro-finance programme against environmental regulation and guidelines
- To observe the practical/current environmental health and safety status of BRAC operated micro-finance programme

### *Study focus*

- i. State of micro-finance against prohibited activities
- ii. State of dissemination of environmental message among micro-loan receivers
- iii. State of child labor in micro-enterprises
- iv. State of chemical and other raw materials use
- v. State of occupational health and safety
- vi. State of ambient environment of the enterprises
- vii. State of waste management
- viii. State of risk management in the enterprises in case of *progoti*



## Survey design/Methodology

A cross-sectional quantitative survey was carried out among randomly selected 1395 borrowers who received loan for Dabi, Unnati and Pragati enterprises. Structured questionnaire was followed to collect all the information through direct interview of the borrowers, observation and site visit. In Bangladesh, BRAC is implementing its micro-finance programme throughout the country. Currently it has 32 regions (dividing whole country into 32 regions) through which micro-finance programme is being operated. Under these regions, about 2667 branch offices (as of September 2009) were operating micro-finance programme. A branch office offers all the micro-finance programme and located at *sadar upazila* in a region was considered for this study. A total of 31 regions were chosen for the investigation and 1 branch from Rangamati region was excluded from the list due to current political unrest and linguistic barrier. From each selected branch 15 Dabi, 15 Unnati and 15 Pragati enterprises were chosen through random selection. Hence each enterprise represented 450 borrowers. The survey focused on the following components:

- Types of activities funded by the programme: This essentially provided us with an opportunity to check whether the microfinance programme was giving loans to any internationally or nationally prohibited activities or not.
- Kind of raw materials used in production-based enterprises: The list of raw materials was used to verify whether any banned substance was used or not
- Waste management process: Waste disposal was perhaps the most pressing issue in case of micro-enterprises and was applicable to any types of activities. Proper waste management is necessary for both prevention of contamination (to water, soil or air) and maintaining hygienic work environment
- Natural resource use/extraction pattern: Given the plethora of microfinance activities in both urban and rural areas, there is a concern that extraction of natural resources (such as forest and open water bodies) can reach beyond the optimal level. Such natural resources can be used as raw materials as well as sink in the production cycle. Thus the intensity of the use of such resources needs to be known for a proper environmental management
- Knowledge and practices on environmental affect of enterprises: The current level of entrepreneur's knowledge on environmental affect of their enterprises was observed.

## **Difference from the previous report**

In this report BRAC's three microfinance schemes are grouped in to two schemes. Dabi and Unnati were merged together during the analyses as both of the schemes are village organized-based and operated under same concept. Furthermore, the Green, Orange-A, Orange-B and RED categories of classification was ignored as most of the activities under Dabi, Unnati and Pragati schemes did not match the fundamental purpose of following such classification.

## Results

### Activities funded by the programme

A total of 91 types of enterprises were identified which were being operated by the borrowers of Dabi, Unnati and Pragati (Appendix-1). All these enterprises were grouped into the following categories (Figure: 1 and 2)

Figure: 1: Common activities under Dabi and Unnati

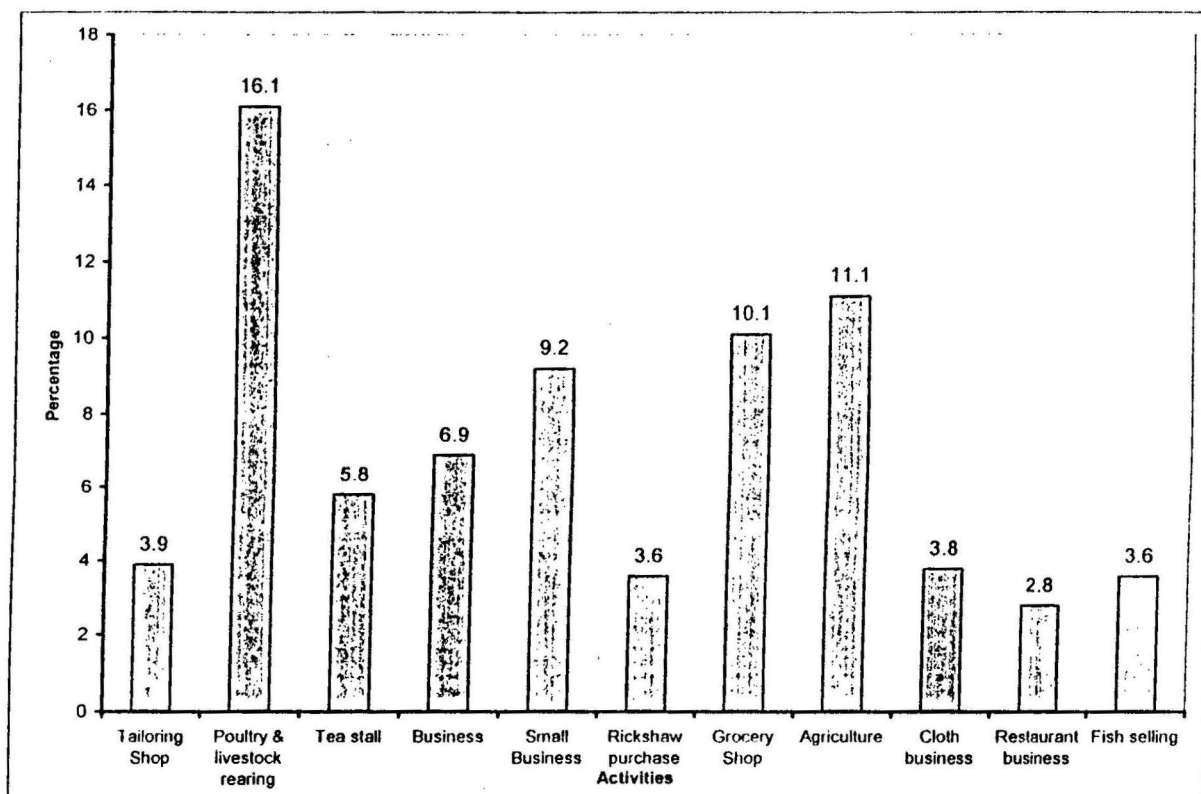


Figure: 1 shows that borrowers of Dabi and Unnati scheme mostly invested their loan in poultry and livestock rearing (16%). Other common forms of enterprises include agriculture (11%), grocery shops (10%), small business (9%) etc.

Figure: 2: Prominent activities under Pragati

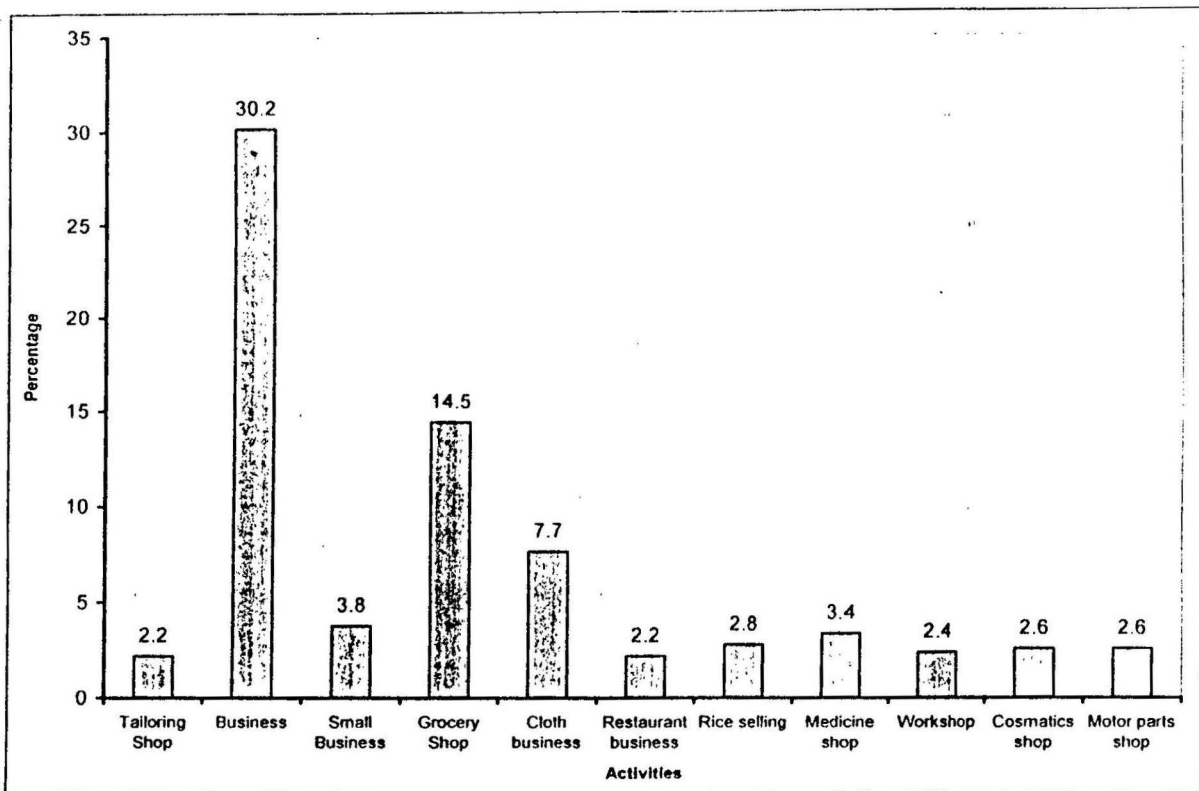


Figure: 2 shows that among the Pragati borrowers about 30% were engaged in business (not mentioned) related activities while about 15% took loan for grocery shop and about 8% for cloth business.

## Knowledge and practice on environmental affects

To know about knowledge on environment, environmental degradation, health, hygiene, ambient environment, risk management, use of chemical products, child labour, biodiversity, raw material, etc. a set of questions was asked. Figure 3 shows that more than 80% of the respondents answered that they did not know anything or heard of any thing about soil, water and air pollution, ideal working environment, alternative fuel use, risk management, use of fertilizer, insecticide and chemicals, child labour, conservation of biodiversity, degradation of soil fertility, use of raw materials and problems of water logging. More than 50% mentioned that they heard of tree plantation, sanitary latrine and safe water.

Figure: 3: Messages delivered to the borrowers

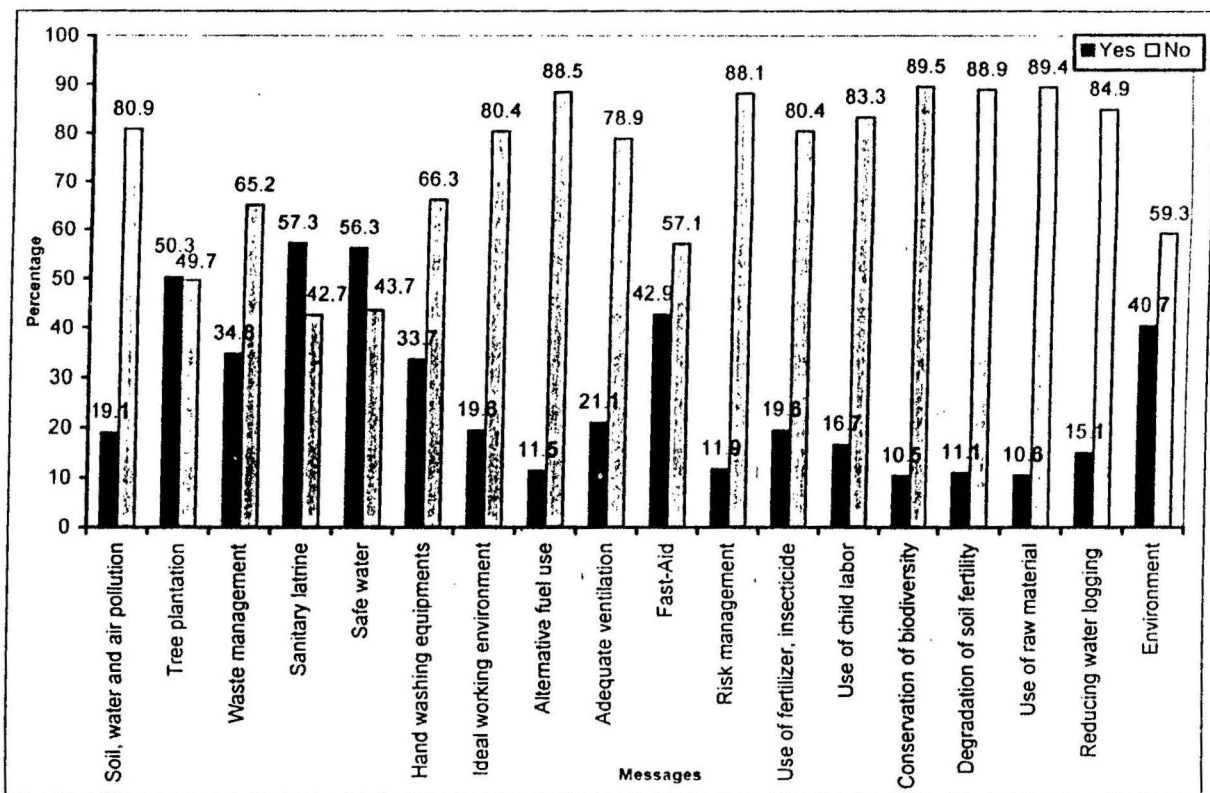


Table: 1: Sources (events) of Information on knowledge related to environmental affects

Subjects	During taking loan	VO/Issue Meetings	Cannot say	From others	From meeting at BDP office
Soil, water and air pollution	42.9	56.4		0.8	
Tree plantation	39.9	59.3	0.1	0.3	0.3
Waste management	37.9	61.0		0.4	0.6
Sanitary latrine	29.9	68.1	0.2	0.9	0.9
Safe water	31.6	66.4	0.3	0.9	0.9
Hand washing equipments	27.0	71.9	0.2	0.6	0.2
Ideal working environment	50.2	48.7		0.7	0.4
Alternative fuel use	43.8	55.6		0.6	
Adequate ventilation	41.8	57.1		0.7	0.3
Fast-Aid	32.1	67.1		0.7	0.2
Risk management	47.6	51.8		0.6	
Use of fertilizer, insecticide	47.6	52.0		0.4	
Use of child labor	47.6	51.1	0.4	0.4	0.4
Conservation of biodiversity	30.6	68.7		0.7	
Degradation of soil fertility	45.8	53.5		0.6	
Use of raw material	54.1	45.3		0.7	
Reducing water logging	43.8	55.2		0.5	0.5
Environment	40.0	59.0		0.5	0.5

Table: 1 shows that among the borrowers who heard of any of these 18 subjects mainly heard about these during the VO/issue meetings and receiving loans. More than 60% answered that they heard about waste management, sanitary latrine, safe water, hand washing, fast-aid and conservation of biodiversity through the VO/issue meetings.

*list*  
*emergencies*  
*medical help*

Table: 2 shows that messages on all these 18 subjects were disseminated to them through POs of BRAC microfinance programme. More than 55% of them answered this. BRAC health programme, education programme, WASH, *sastho sebika* also informed them about these information.

Table: 2: Sources (BRAC Staffs) of information on knowledge related to environmental affects

Subjects	PO MF	PO BEP	PO BIIP	SS	Cannot say	PO WASH	During training at office
Soil, water and air pollution	75.9	5.3	10.9	1.5	6.0		0.4
Tree plantation	76.2	6.4	7.7	1.7	7.0	0.9	0.1
Waste management	73.2	4.9	12.8	2.9	4.7	1.2	0.2
Sanitary latrine	55.4	3.0	28.8	6.1	4.6	2.0	0.1
Safe water	57.1	3.7	25.0	6.9	5.4	1.9	0.1
Hand washing equipments	61.3	4.5	24.0	4.5	4.3	1.3	0.2
Ideal working environment	79.5	8.8	7.7	1.8	1.1	0.7	0.4
Alternative fuel use	77.5	11.2	5.6	1.2	3.8		0.6
Adequate ventilation	77.9	6.8	10.9	1.0	2.7	0.3	0.3
Fast-Aid	67.4	5.0	16.7	5.5	4.8	0.3	0.2
Risk management	72.9	7.2	13.3	1.8	4.2		0.6
Use of fertilizer, insecticide	76.9	6.6	9.5		6.6		0.4
Use of child labor	76.4	9.4	4.7	1.3	8.2		
Conservation of biodiversity	76.2	6.8	8.8	0.7	7.5		
Degradation of soil fertility	71.6	11.6	8.4	1.3	7.1		
Use of raw material	76.4	6.8	8.1		8.8		
Reducing water logging	77.1	6.7	7.6	1.0	7.6		
Environment	74.6	4.2	11.6	2.6	6.3	0.5	

## Waste management process

A total of 47 types of wastes (solid, liquid and gaseous) were managed by the borrowers (Appendix-2). Figure: 4 illustrates that within the Dabi and Unnati schemes about 40% mentioned about the household wastes produced mainly by the borrowers who performed activities in their houses. Straw/grass (38%), waste water (30%), cow dung/liter (29%), thread/button (25%) were some other wastes frequently generated by the borrowers.

Figure: 4: Wastes produced by the Dabi and Unnati borrowers frequently

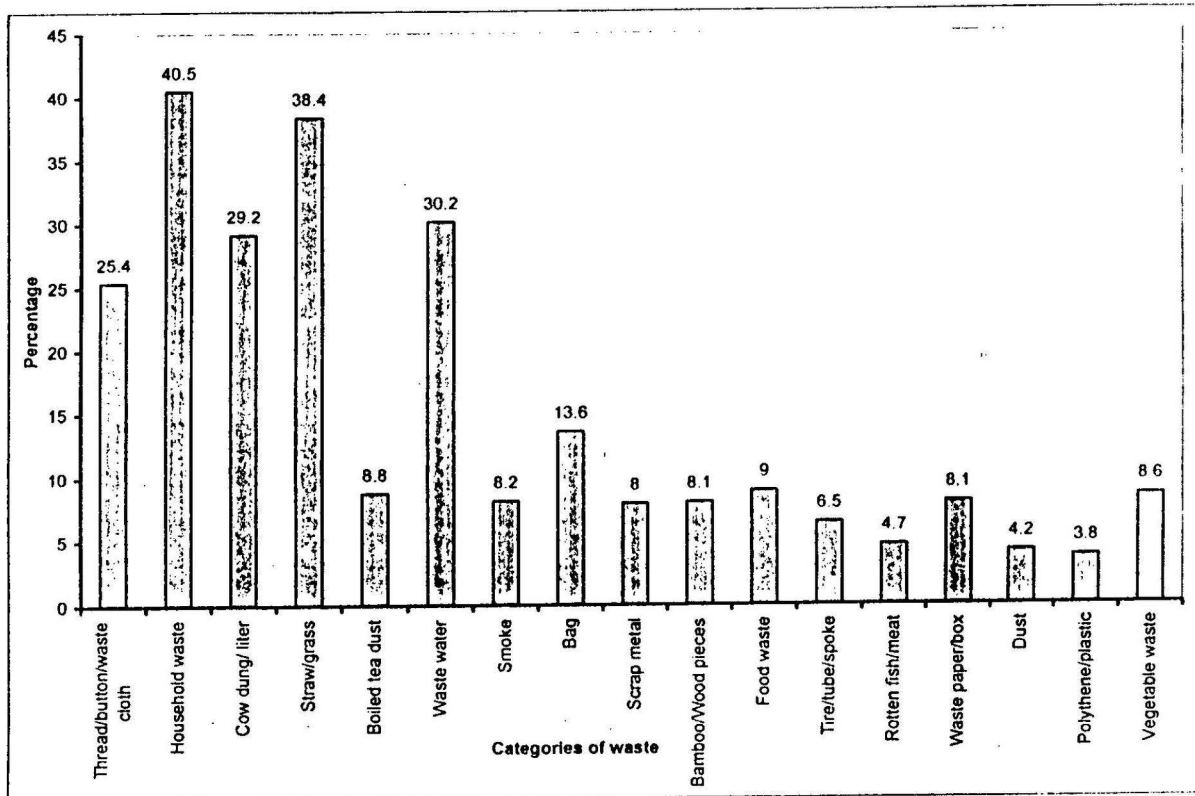




Figure: 5: Wastes produced by the Pragati borrowers frequently

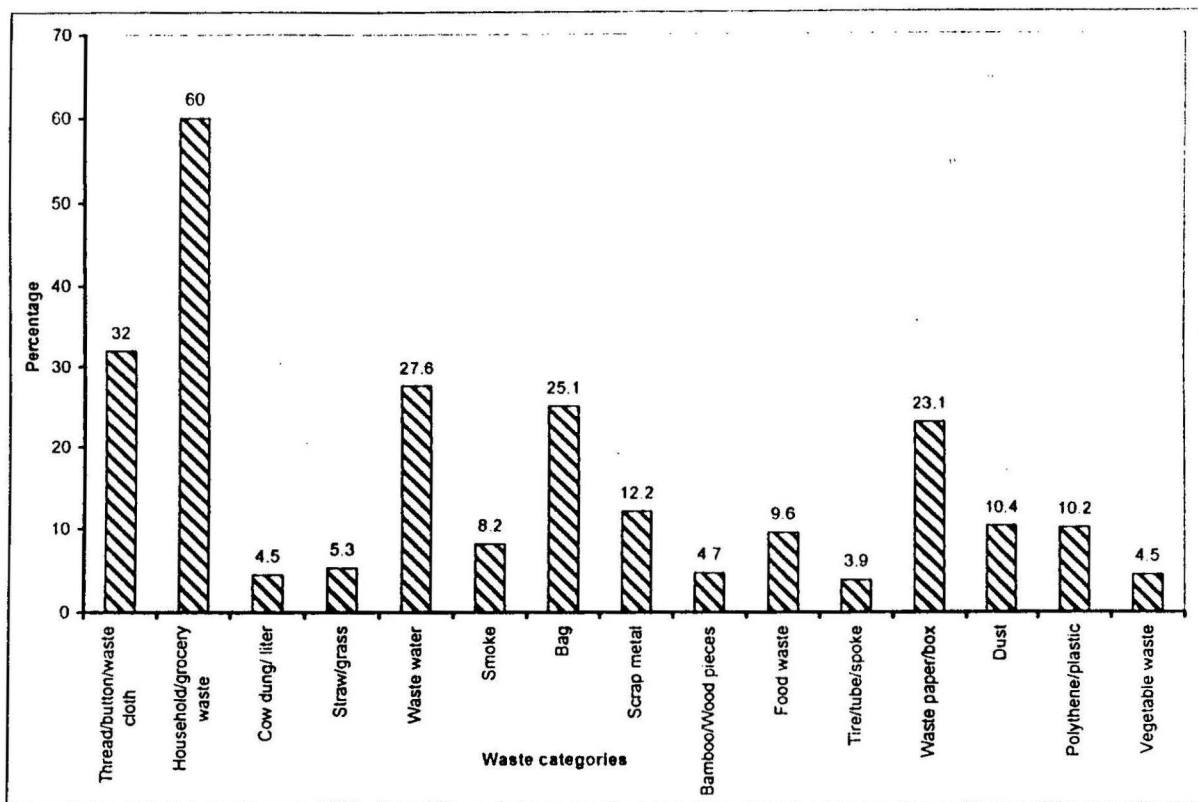


Figure: 5 shows that borrowers of Pragati scheme mainly produced household waste (60%), thread/button (32%), waste water (28%), bag (25%) and waste paper (23 %) and some other form of wastes.

### Solid waste management

Figure: 6 indicates that most of the borrowers of Dabi and Unnati used to dump all the solid wastes in a fixed and safe place (53%). But about 24% dumped their solid waste in fixed but unsafe place, 13% in elsewhere while the others (16%) some borrowers reused these wastes as fuel, fertilizer, cattle food and by selling.

Figure: 7 shows that about 64% of the Pragati borrowers mentioned that they used to dump their solid wastes in a fixed and safe place while only 17% mentioned they used fixed but unsafe place for dumping and about 8% dumped elsewhere.

Figure: 6: Solid waste management process by the Dabi and Unnati borrowers

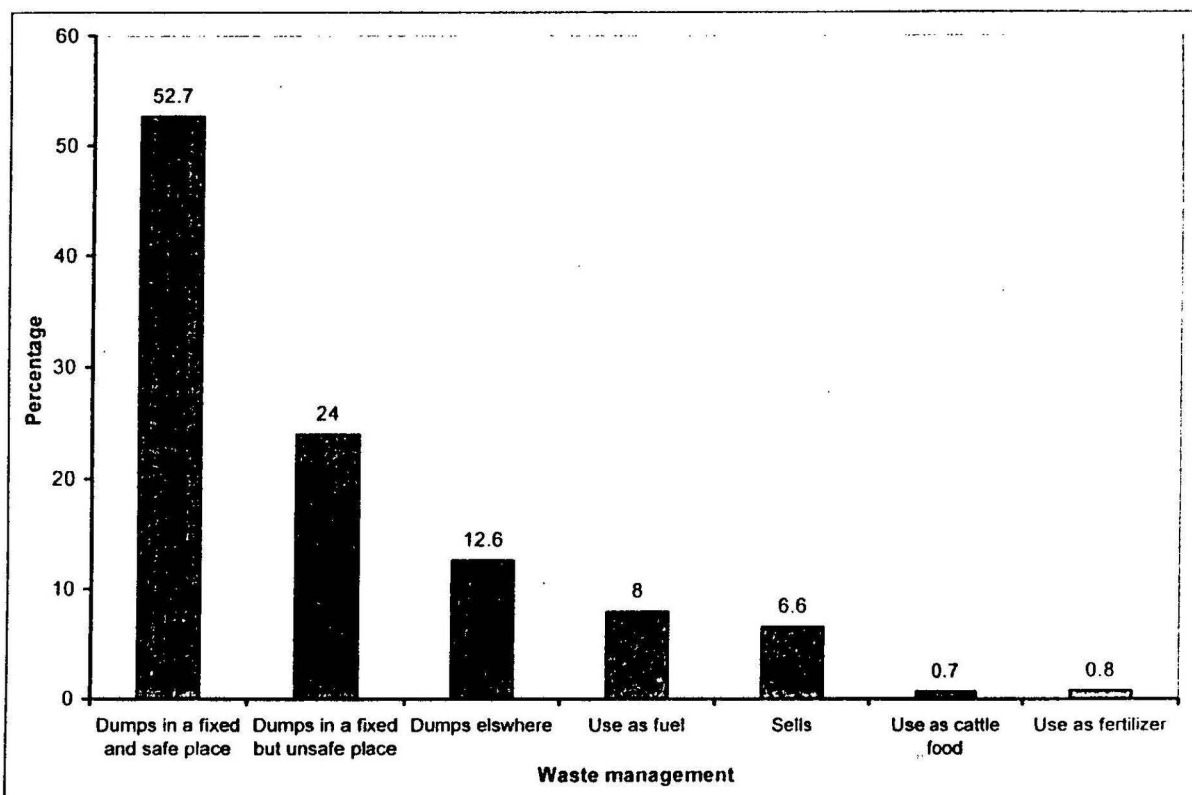
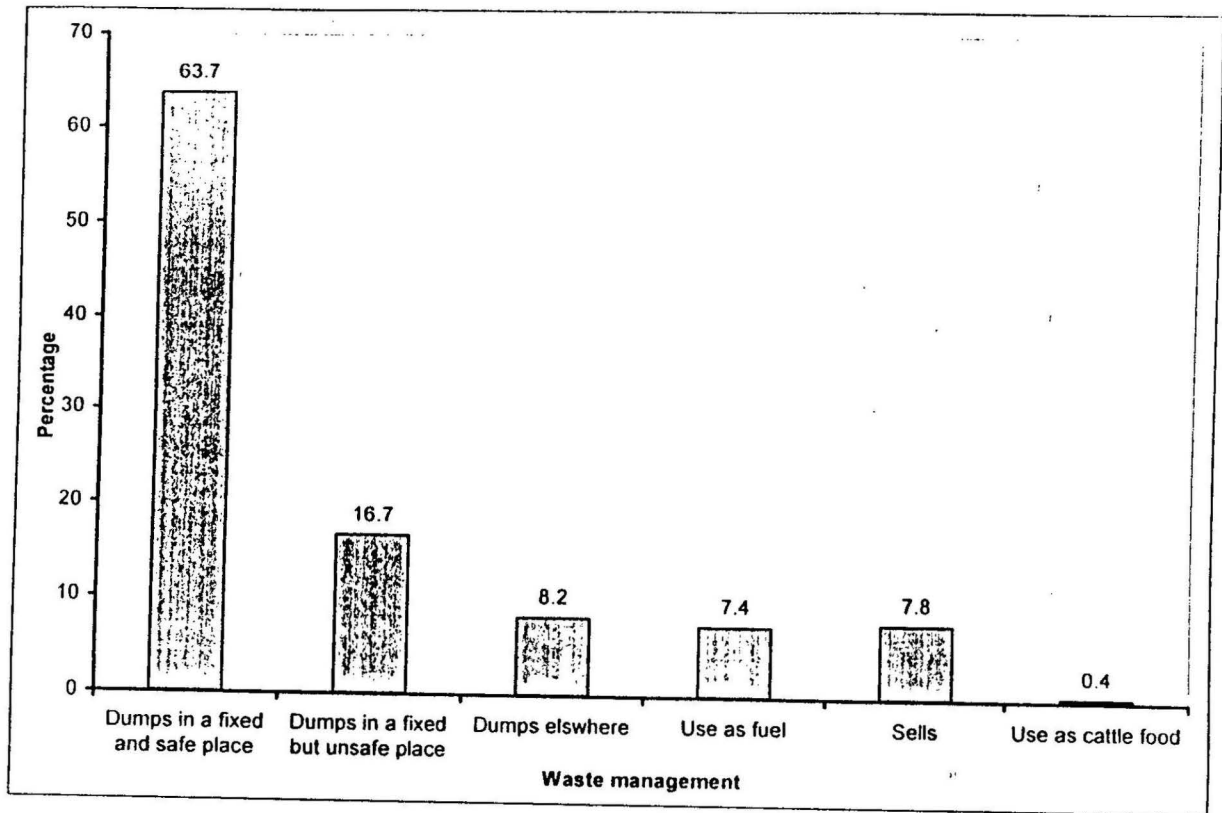


Figure: 7: Solid waste management process by the Pragati borrowers



## Liquid waste management

About 28% of the Dabi and Unnati borrowers used to dump the liquid wastes in a fixed and safe place while 21% in fixed but unsafe place and 20% in elsewhere (Figure: 8). Some borrowers (18%) mentioned that their liquid wastes were disposed into soil.

Figure: 8: Management process of liquid wastes by the Dabi and Unnati borrowers

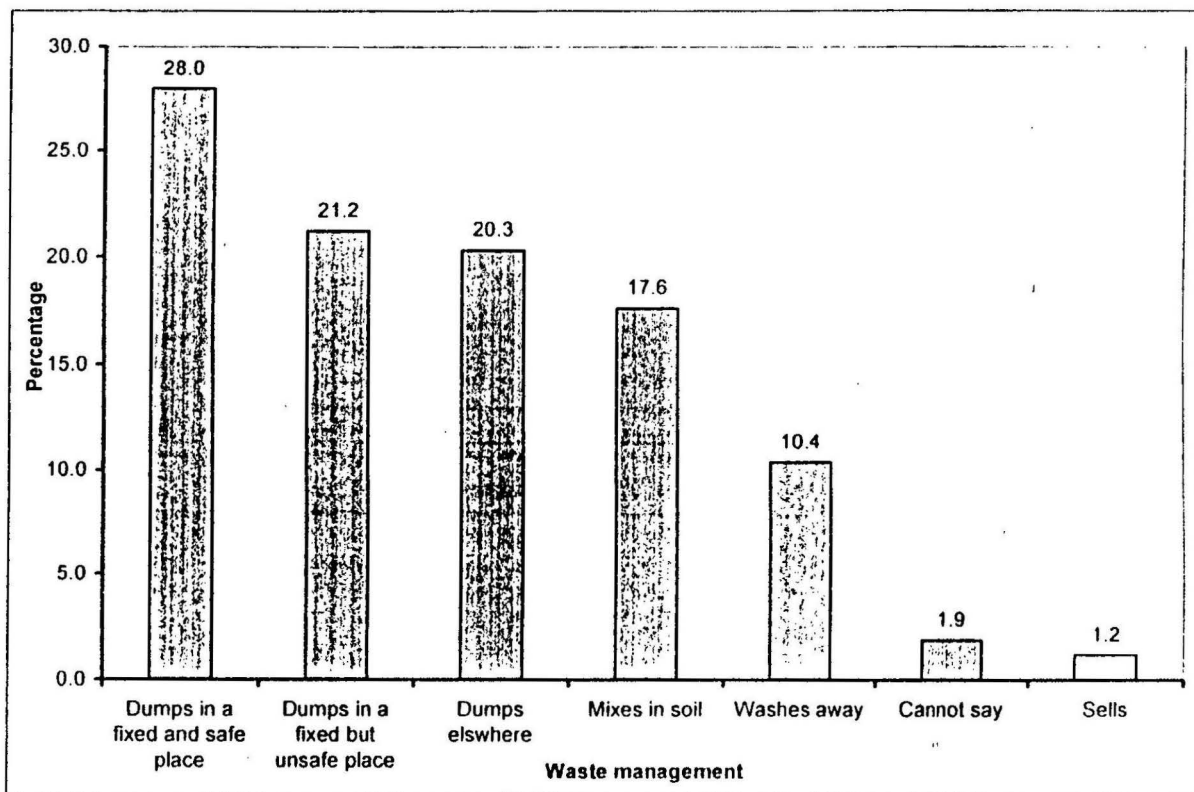
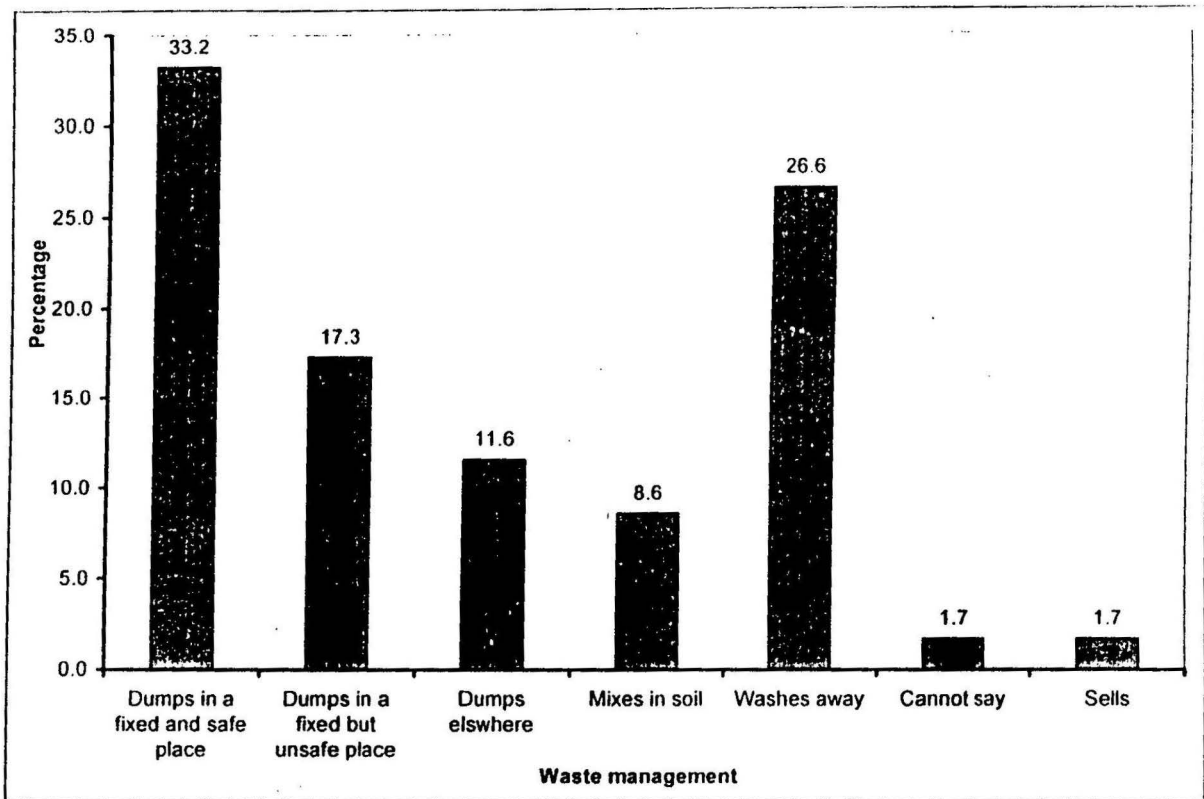


Figure: 9: Management process of liquid wastes by the Pragati borrowers



A considerable numbers of Pragati borrower used to dump liquid wastes in a fixed and safe place (33%) while 17% in fixed but unsafe place and 27% washed these away. About 12% mentioned that they discharge their liquid wastes elsewhere (Figure: 9).

### Air Pollutant / Gaseous Waste management

Most of the borrowers both from Dabi-Unnati (82%) and Pragati (76%) did not have any chimney to release air pollutants or gaseous wastes produced from their enterprises (Figure: 10 & 11). However, it might be mentioned that in most of the enterprises chimney was not required.

Figure: 10: Management of Gaseous/air pollutants wastes by Dabi & Unnati borrowers

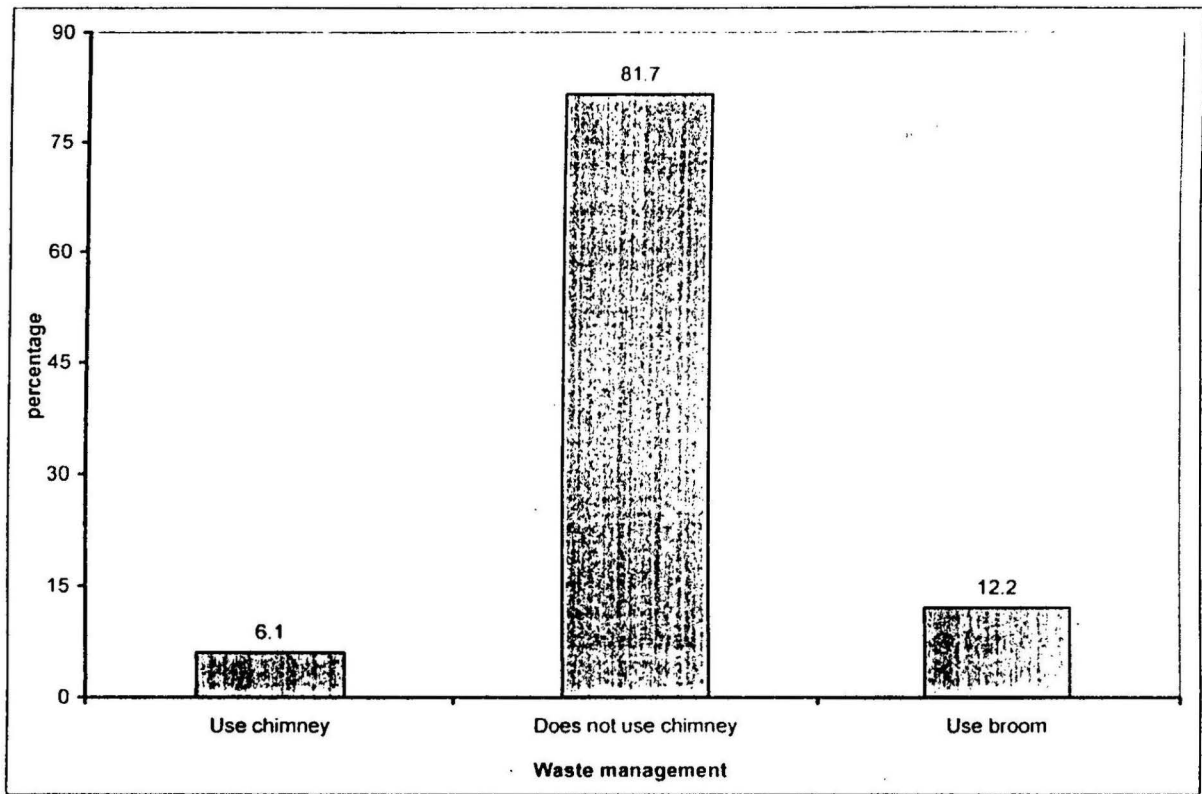
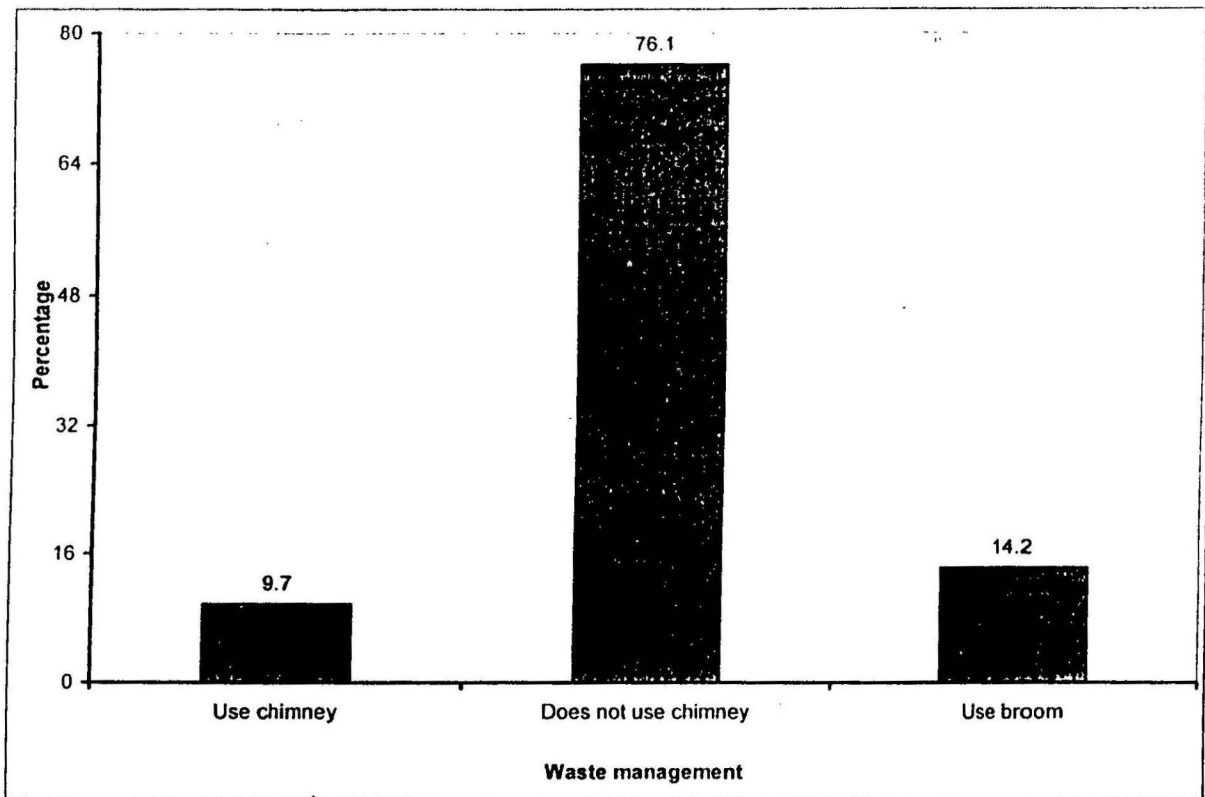


Figure: 11: Management of Gaseous/air pollutant wastes by Pragati borrowers



## Use of Raw Materials

Figure: 12 shows that 30% of the borrowers of Dabi and Unnati scheme used husk as raw materials, since most of the borrowers were engaged in cattle rearing, agriculture and fish culture. They also used various other raw materials like salt (22%), fertilizers (21%) and seed (21%).

Figure: 12: Raw materials used prominently by the Dabi and Unnati borrowers

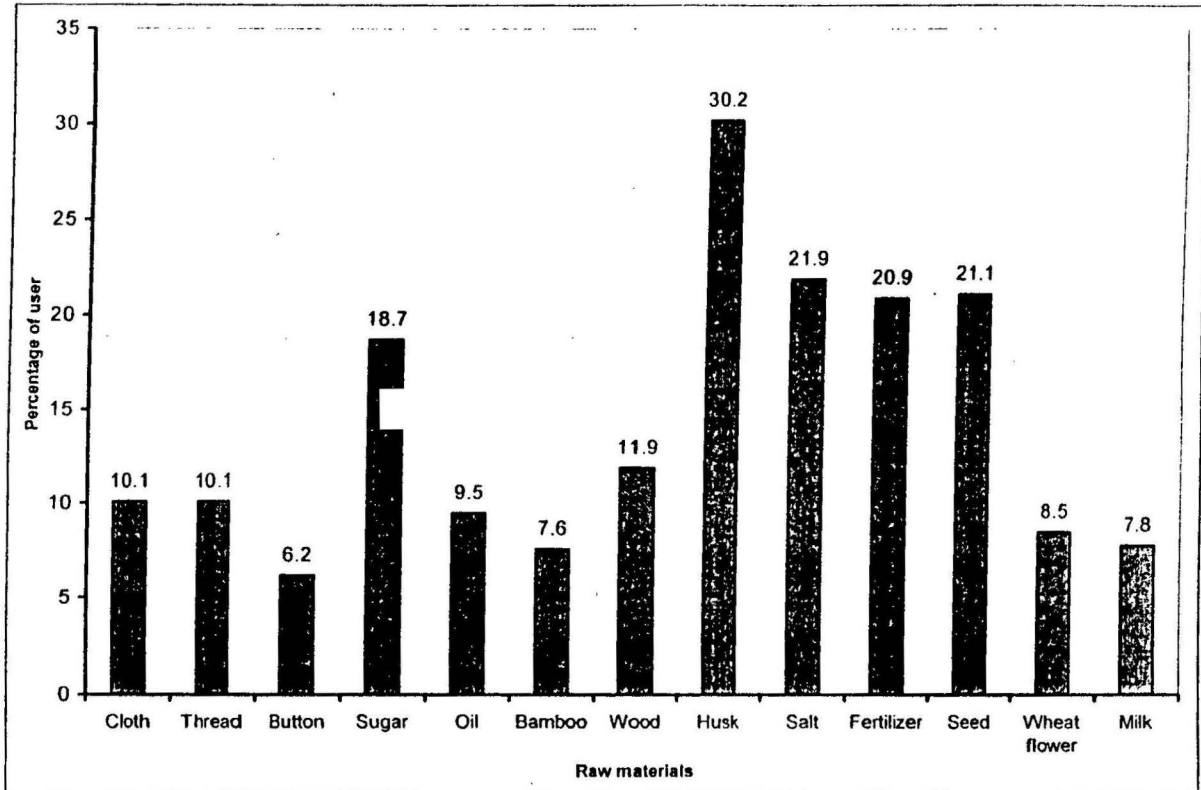




Figure: 13: Raw materials used prominently by the Pragati borrowers

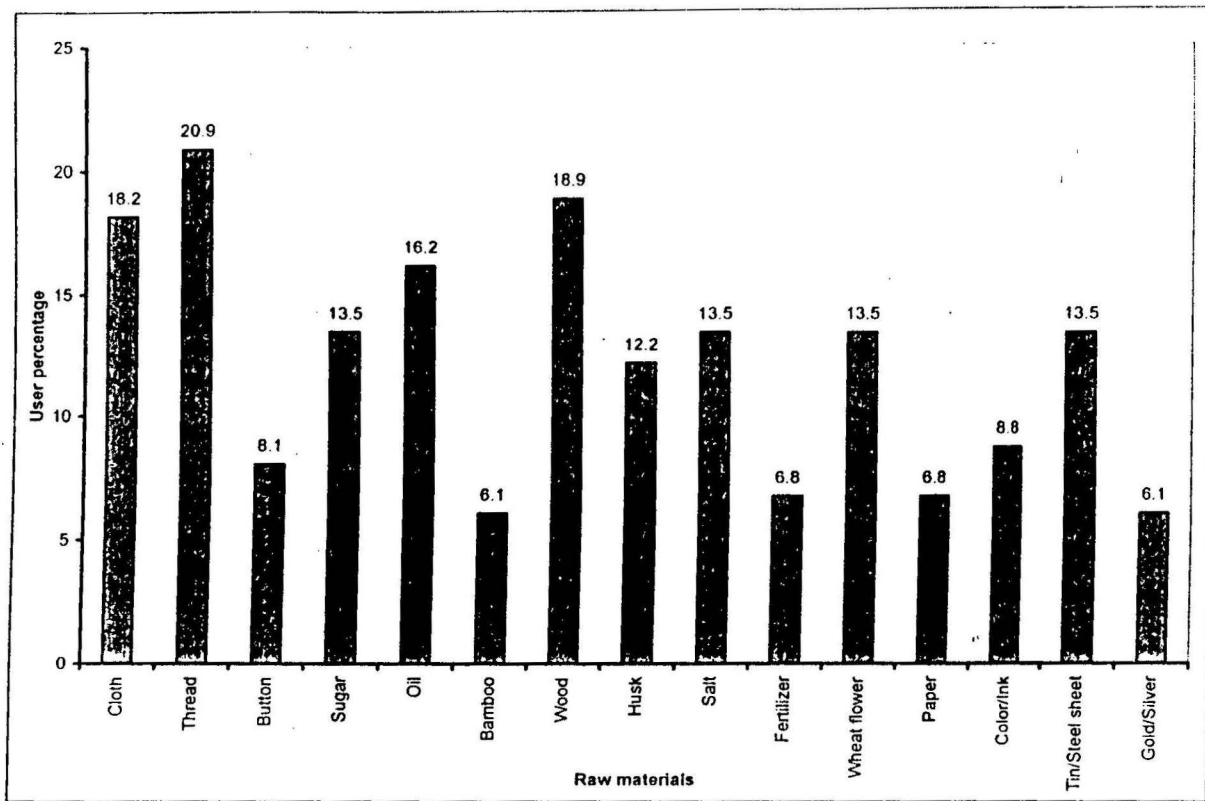


Figure: 13 shows that most commonly used raw materials in the Pragati enterprises were thread (21%), wood (19%) and clothes (18%). They also used button, sugar, oil, husk, fertilizers, paper salt, etc. as raw materials.

Figure: 15: Chemical products used prominently by the Pragati borrowers

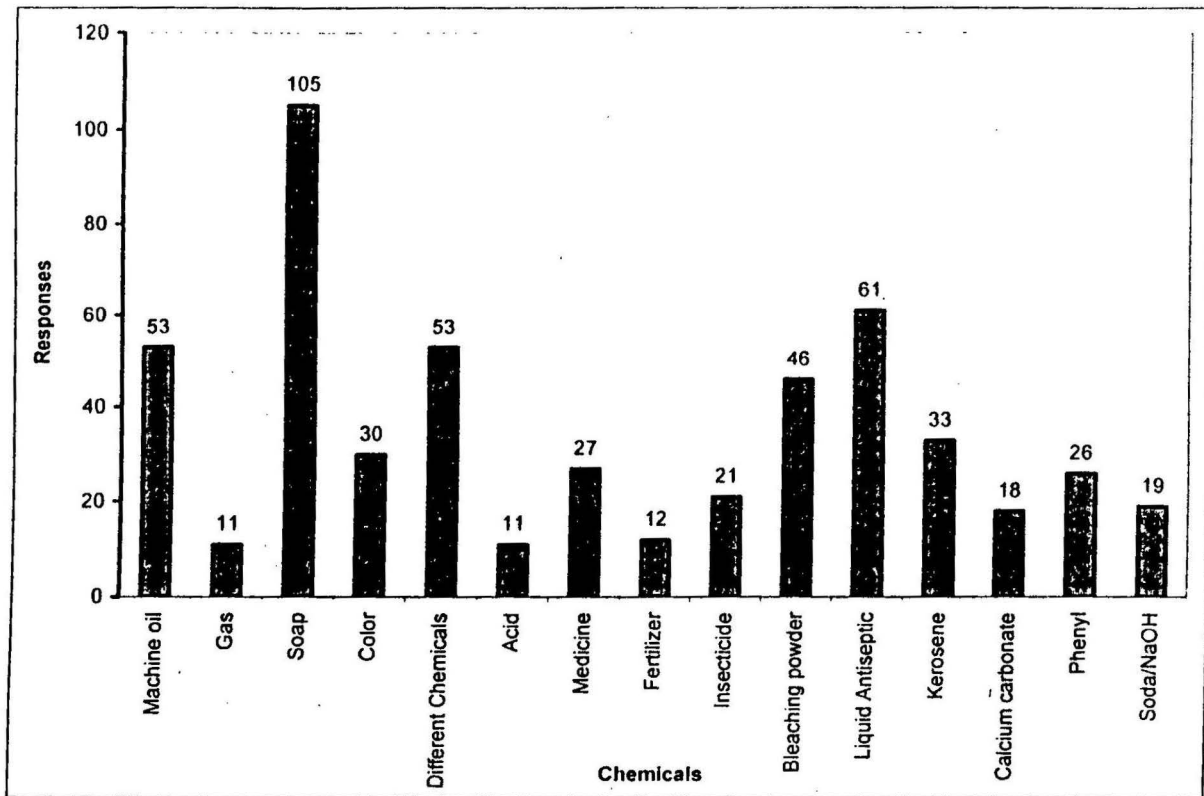
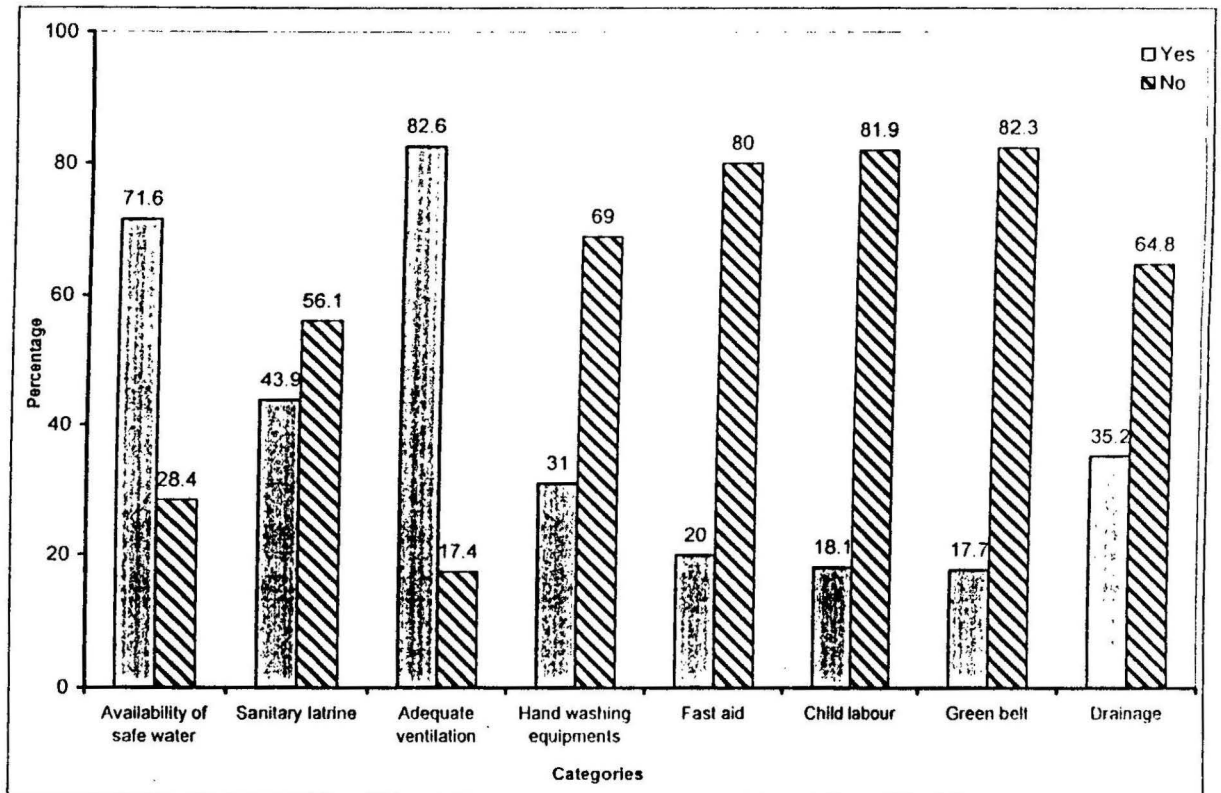


Figure: 15 shows what types of chemicals were being used by the Pragati borrowers. A total of 105 borrowers responded that they used soap. Other common chemicals were machine oil, different chemicals, medicines for cattle, liquid antiseptic, bleaching powder and color.

## Results from observation related ideal ambient environment and environmental health

Figure: 16 shows that safe water was available in 72% of the project sites of Dabi and Unnati while 44% had sanitary latrine and only 31% had hand washing facilities. About 83% of the projects had adequate ventilation and only 20% had arrangement of fast-aid. Child labour was found to be in 18% enterprises, 18% of the project sites had green belt and 35% had adequate drainage facility.

Figure: 16: Result from observation on ambient environment projects under Dabi and Unnati



## Conclusion

This study examines the environmental performance of BRAC supported microfinance based enterprises. Findings show that, the borrowers are well informed about tree plantation, waste management, safe water, sanitary latrine and fast-aid. But they have poor knowledge on the others like pollution, biodiversity and raw materials use mainly. Those who answered on the issues they knew about these, mainly they get the information during VO/issue meetings and from the POs of micro credit programme.

In majority of enterprises provision of safe water and adequate ventilation are available. In some of the enterprises some hazardous chemicals like spirit (ethyl alcohol), acid and insecticide were found to be used which may cause adverse impact on health and environment. Considerable numbers of enterprises have involvement of child labour which is more in terms of Pragati enterprises compared to the village organization based enterprises such as Dabi and Unnati.

Wastes produced by the all the borrowers during different stages of their project execution are mainly dumped in a fixed and safe place but the percentage is not that satisfactory as similar portion dump it in unsafe place and elsewhere. For gaseous or air pollutants most of them have no chimney provision which is ultimately causing indoor air pollution.

It was found from the observation that most of the borrowers considered risk management in operating the respective enterprises. Similarly ambient environment is found to be properly maintained to prevent health hazards. Possibility of soil degradation, water and air pollution is minimal in the ongoing enterprises and negative impact on biodiversity is less likely and impact on natural drainage system is also less common through these enterprises.

Based on the findings some recommendations are forwarded to the programme which may facilitate to improve the environmental issues in the microfinance-based enterprises. These include:

- Borrowers should be advised to reduce child labour in their respective enterprises.
- All BRAC programmes should be involved in order to disseminate environmental related messages.
- Capacity development of the borrowers should be strengthened to understand reduce, reuse and recycling approaches of wastes thereby negative impacts of the enterprises on environment might be minimized.
- Borrowers should be given awareness regularly about the adverse consequence of the commonly used chemicals on health and environment thereby they can take safety measure to avoid negative consequences.

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Akter N. and Sarkar MAQ (2008). Environmental, health, and safety guidelines for small and medium enterprises of BRAC Bank Limited. Research Monograph Series No. 37. Dhaka: BRAC

FMO (2006). Social and Environmental Field Guide for Microfinance Institutions. FMO. Netherlands

## Appendixes

### Appendix 1. A list of enterprises in Dabi, Unnati and Pragati

Followings are the activities currently being operated by all the borrowers in Dabi, Unnati and Pragati schemes:

1. Tailoring shop
2. Tending cattle
3. Tea Stall
4. CNG taxi repairing shop
5. Business
6. Small business
7. Rickshaw purchase
8. Grocery shop
9. Agriculture
10. Cloth business
11. Restaurant business
12. Fish selling business
13. Nursery
14. Masonry works
15. For daughter's/sister's marriage
16. Buying CNG Taxi
17. Buying *Nosimon*
18. House construction
19. Buying land
20. Cycle repairing shop
21. Rice selling business
22. Rice mill
23. Mango garden
24. Biscuit factory
25. Medicine shop/Pharmacy
26. Ice cream factory
27. Sweet Shop
28. Watch shop
29. Steel shop
30. Fish farming
31. Cattle food shop
32. Furniture business
33. Vegetable business
34. Puffed rice business
35. Vegetable oil business
36. Workshop
37. Firewood shop
38. Stamp business
39. Jute business
40. Seed, fertilizer and insecticide business
41. Particle board business
42. Timber business
43. Photocopy shop
44. Business of tin
45. Decorator business
46. Photo Studio
47. Lighter/torch light business
48. Petroleum shop
49. Confectionary
50. Hardware shop
51. Shoe store
52. Betel nut business
53. Cosmetic shops
54. Motor parts shop
55. Jewelry shop
56. Books/Stationary Shop
57. Fruit business
58. Cooking pot selling business
59. Cookeries shop
60. Electronics shops
61. Optical shop
62. Saw Mill
63. Bedding store
64. Dairy Farm
65. Poultry farm
66. Bamboo selling business
67. Egg selling business
68. Hair dressing shop
69. Stove selling business
70. Scrap metal shop
71. Fabric color shop
72. Ayurvedic business
73. Generator business
74. Packing box business
75. Computer shop
76. To repay loan
77. To send son to abroad
78. Poultry feed shop
79. Buying Truck
80. Interest business
81. Power tiller/Shallow machine purchase
82. Do nothing
83. Stone selling business
84. Glass business
85. Sugar selling business
86. Garments product selling business
87. Banner Painting shop
88. Salt business
89. Purchasing instruments for clinic
90. Chalk producing
91. Sand selling business

## Appendix 2. A list of waste produced in the enterprises

Following wastes were being produced by the borrowers during operating respective activities:

1. Wastage cloth, thread, button, cotton
2. Household/domestic waste
3. Cow-dung
4. Straw/grass
5. Boiled tea dust
6. waste water
7. Mobil
8. smoke
9. sand/brick
10. bag
11. scrap metal
12. bamboo/wood pieces
13. wastage food
14. tier/tube/spoke
15. rotten fish
16. paper
17. dust
18. polythene/plastic
19. Ash
20. Coal
21. Leaf
22. Rotten vegetable
23. Bone dust
24. Husk
25. Rotten rice
26. Vegetable/fruit waste
27. Acid
28. Glass
29. Pesticide
30. shoe/leather
31. powder of gas
32. wastage medicine
33. wastage color
34. Liter
35. Wastage cosmetics
36. Waste oil
37. Milk pot (made of tin)
38. Blade/hair (waste from saloon)
39. Rice water
40. Carbon
41. Rotten egg
42. wastage switch/wire/screw
43. Aluminum dust
44. Cement
45. Kerosene
46. dead trees
47. Waste rice/wheat

## Appendix 3. List of raw materials used in the enterprises

The followings items were identified as the most commonly used raw materials.

1. Cloth
2. Thread
3. Button
4. Sugar
5. Oil
6. Bamboo
7. Wood
8. Husk
9. Salt
10. Fertilizer
11. Seed
12. Wheat flower
13. Paper
14. Color/Ink
15. Milk
16. Pesticide
17. Plastic
18. Tin/Steel sheet
19. Cow dung/ Liter
20. Gold/Silver
21. Cane
22. Bronze
23. Snail



#### Appendix 4. List of chemicals used in the enterprises

1. Machine oil
2. Gas
3. Soap
4. Color
5. Acid
6. Medicine
7. Fertilizer
8. Pesticide/insecticide
9. Bleaching powder
10. Detol/Savlon/ Liquid Anti Septic
11. Kerosene
12. Calcium carbonate
13. Potash
14. Phenyl/toilet cleaning medicine
15. Soda/NaOH
16. Spirit/Ethyl Alcohol
17. Wax
18. Tarpin oil
19. Ink
20. Cement
21. Mosquito coil
22. Mobile/grease
23. Putty
24. Shaving cream/Antiseptic cream
25. Shaving Lotion
26. Fitkiri/Potassium Alum/  $KAl(SO_4)$
27. Naphthalene
28. Gala
29. Glue
30. Bitumen
31. Hair Color
32. Chach
33. Shampoo
34. Chalk powder