BIOGAS ENERGY

ENHANCING LIVELIHOOD OF BASE OF ECONOMIC PYRAMID (BOP): SARI/ENERGY PROJECT IN NEPAL

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HIGHLIGHTS

- HISTORY
- POTENTIAL
- BENEFITS
- HIGHLIGHTS OF NBPA SARI/E PROJECT
- HIGHLIGHTS OF BASELINE STUDY
- ACTIVITIES

HISTORY

Year	Events
1955	Father B.R Saubolle built the first biogas system demonstrative system at St. Xavier's School, Godavari, Lalitpur Nepal, 20 Km East South of Kathmandu
1968	KVIC (Khadi and Village Industries Commission of India demonstrated 250 cft biogas system at an exhibition tion in Kathmandu (floating drum type biogas)
1974/75	Energy Research and Development Group formed at Tribhuvan University, Nepal, this research wing promoted Gobar Gas Development Committee
1975/76	GON Nepal launched first official Biogas program, ADBNepal authorized to channel interest free loan. Butuwal Engineering works, Balaju Yantra Sala, and Agricultural Tool Factory involved fabricating appliances required to the biogas
1977	GoN established GGC (Gobar Gas Company) in joint venture with United Mission to Nepal, Agriculture Development Bank, Nepal provided soft loan at 6 % Interest rate

HISTORY CONTI....

Year	Events
1979	GON and American Peace Corps jointly implemented Biogas program under USAID financial assistance
1980	ADB Manila provided financial assistance under Fourth Agriculture Credit Project to promote biogas
1992	SNV Nepal entered biogas program under biogas support program, SNV supported upto 2010
1994	Nepal Biogas Promotion Group, established as an umbrella organization to promote biogas program. Now it was restructured as Nepal Biogas Promotion Association (NBPA)

POTENTIAL

- Nepal has total 1.9 million biogas plant potenail and economical feasible plants are1 million.
- Total 201,000 biogas plants are installed (WECS, 2010)
- Installed capacity of plants are: 2, 4,6,8, 10, 15 and 20 M3
- But installation of institutional plants are becoming popular in Army, poultry firms and school

SOCIO ECONOMIC BENEFIT

- ✓ Reduction of the women workload by 3hrs/day/hh
- ✓ Saved time utilize education, income generation and other social functions
- ✓ Increasing productivity
- ✓ Reduce use of chemical use of fertilizer
- ✓ Generate employments opportunities

ENVIRONMENTAL BENEFIT

- ✓Cooking fuel wood saving upto 2 tons/plant
- ✓Agriculture waste 0.35 ton/plant
- ✓Dung cake 0.6 ton/plant
- ✓Annual kerosene saving 3.5 million lits, 25lits/plant
- ✓Annual reduction of GHG (Co2): 7 ton/plant
- ✓Slurry production 1.75/plant
- ✓Improve health and sanitation (toilet connection)

REDUCE GASES

Combustible gas produced by anaerobic fermentation of organic material by action of methanogenic bactoria. Biogas is composed of methane and carbondioside

Substance	Symbol	Percentage
Methane	CH_4	50-70
Carbon dioxide	CO_2	30-40
hydrogen	H_2	5-10
Nitrogen	H_2	1-2
Water Vapour	H_2O	0.3
Hydrogen Sulphide	H_2S	Traces

Source: Karki, et. al. ed (2009)Biogas: As Renewal Sources of Energy in Nepal

PUBLIC HEALTH BENEFIT

- ✓ Reduce indoor pollution in the house
- ✓ Reduce incidence of illness and expenses of medical bill
- ✓ Improve rural sanitation (WASH- water sanitation and hygiene) by connecting toilets to biogas
- ✓ Increase human efficiency

HIGHLIGHTS OF SARI/E SMALL GRANT PROGRAM IN BIOGAS

NBPA in collaboration with SARI/E successfully implemented Biogas project in Dang. Target beneficiaries were socially and economically backward women group

The components of the projects were:

A. **Capacity building of:**

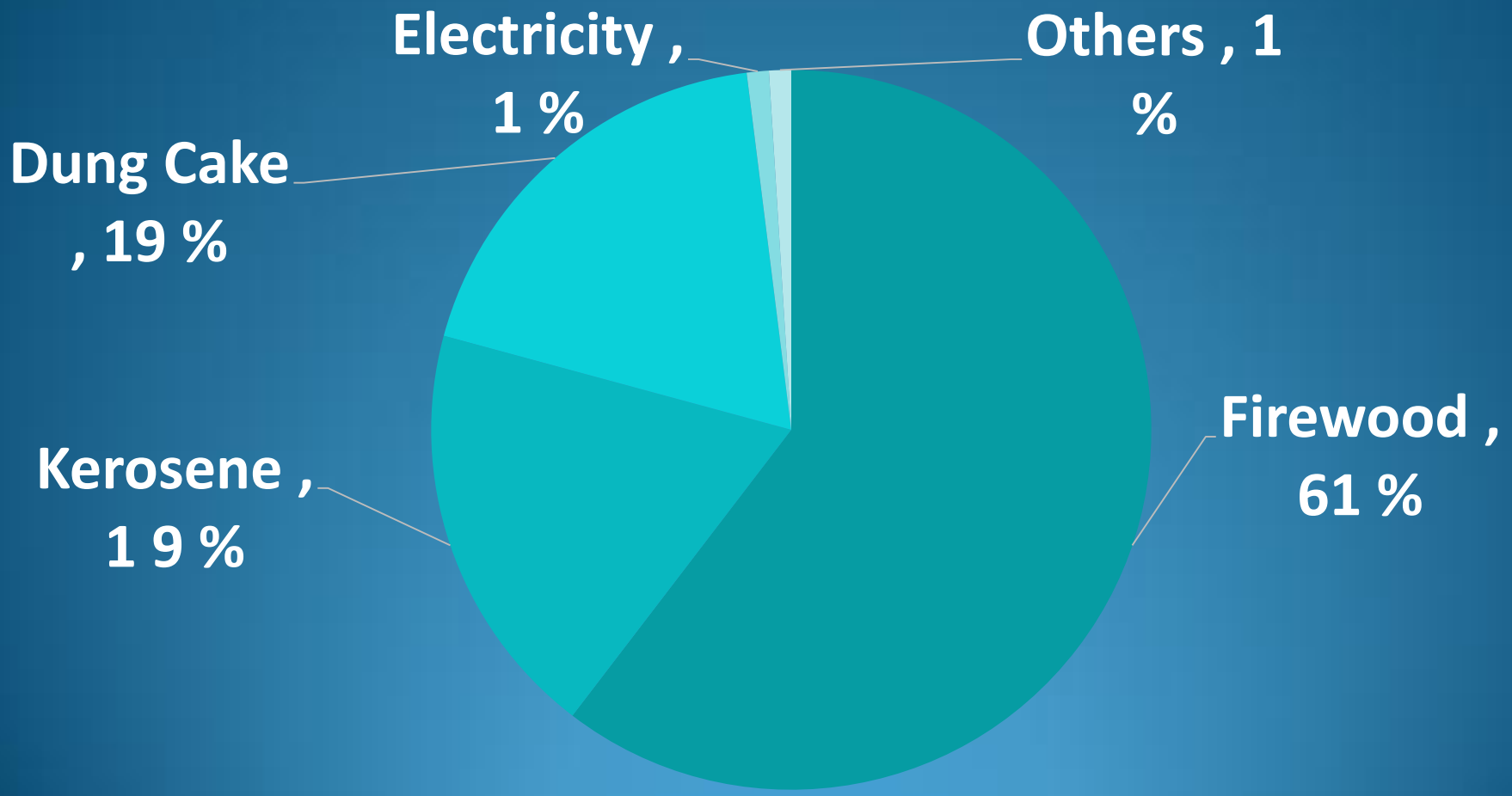
- ✓ Access to Market (A2M)
- ✓ Access to Finance- group saving and credit, cooperative (A2F)
- ✓ Access to Technology- operation, maintenance and installation (A2T)
- ✓ Public Health and nutrition- water sanitation and hygiene
- ✓ Organic Farming- vegetables

B. Household biogas construction

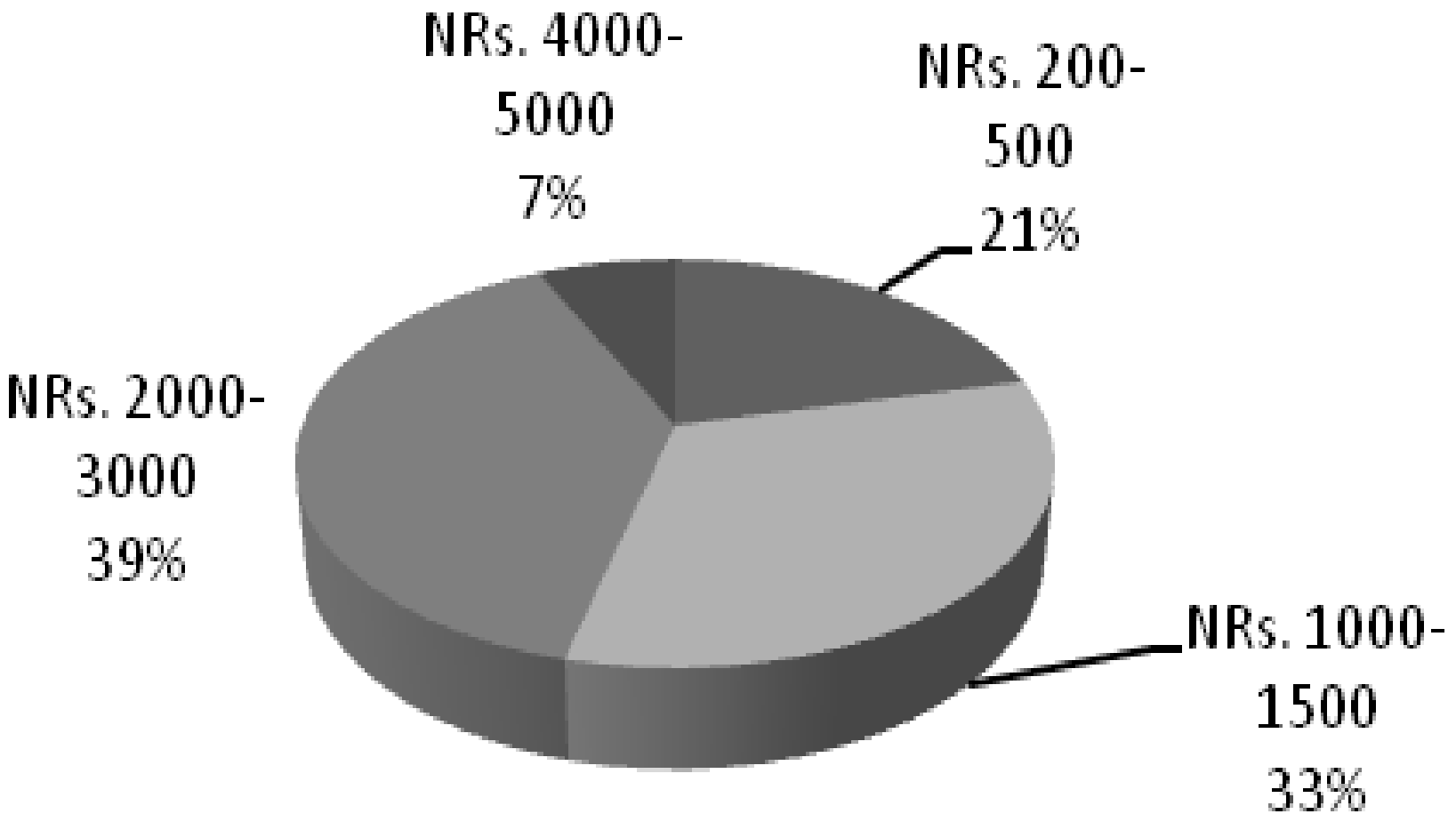
C. Toilet construction and connecting to the biogas plant

Highlights of baseline study

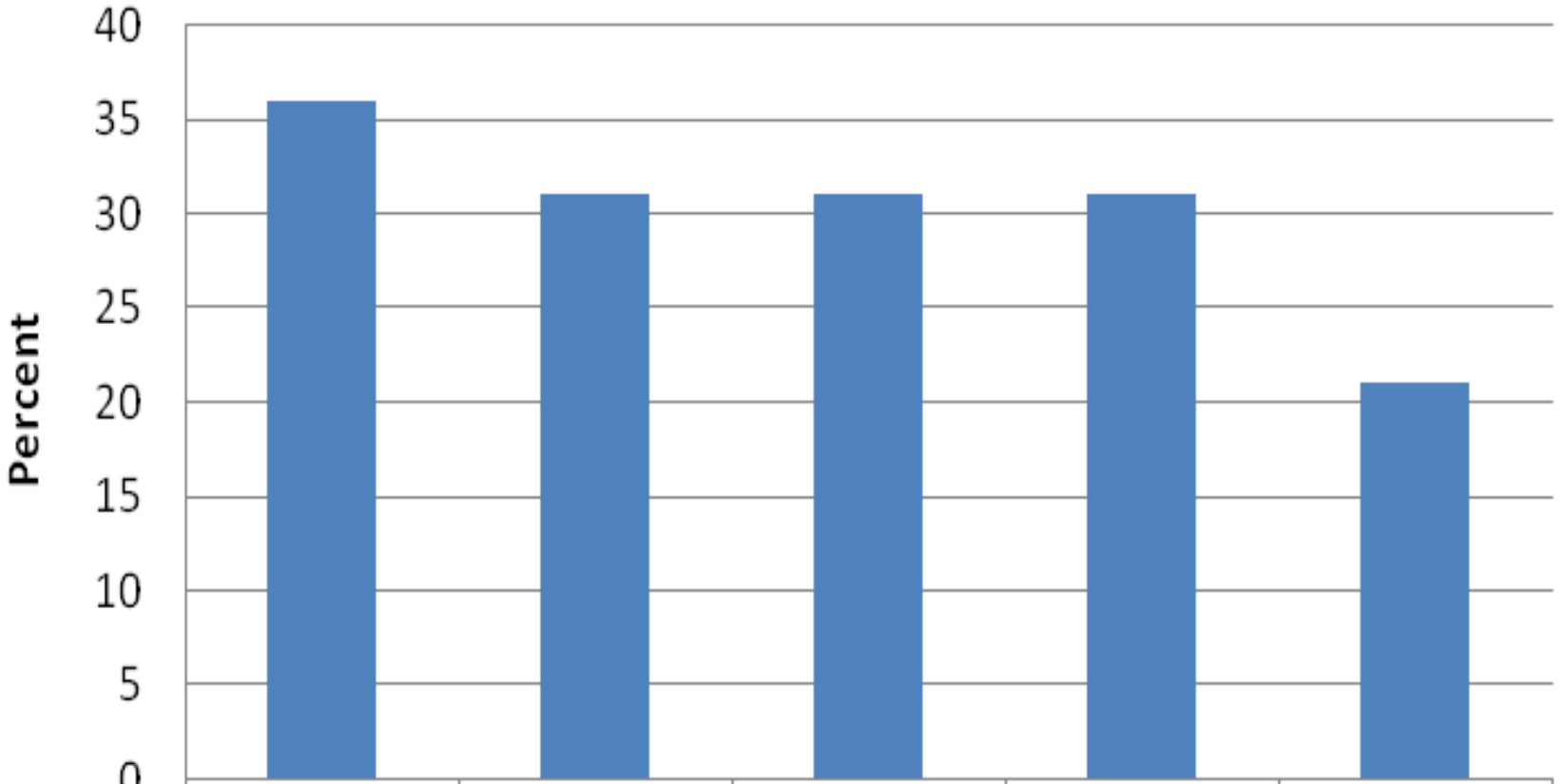
1. Source of Energy of the project beneficiaries



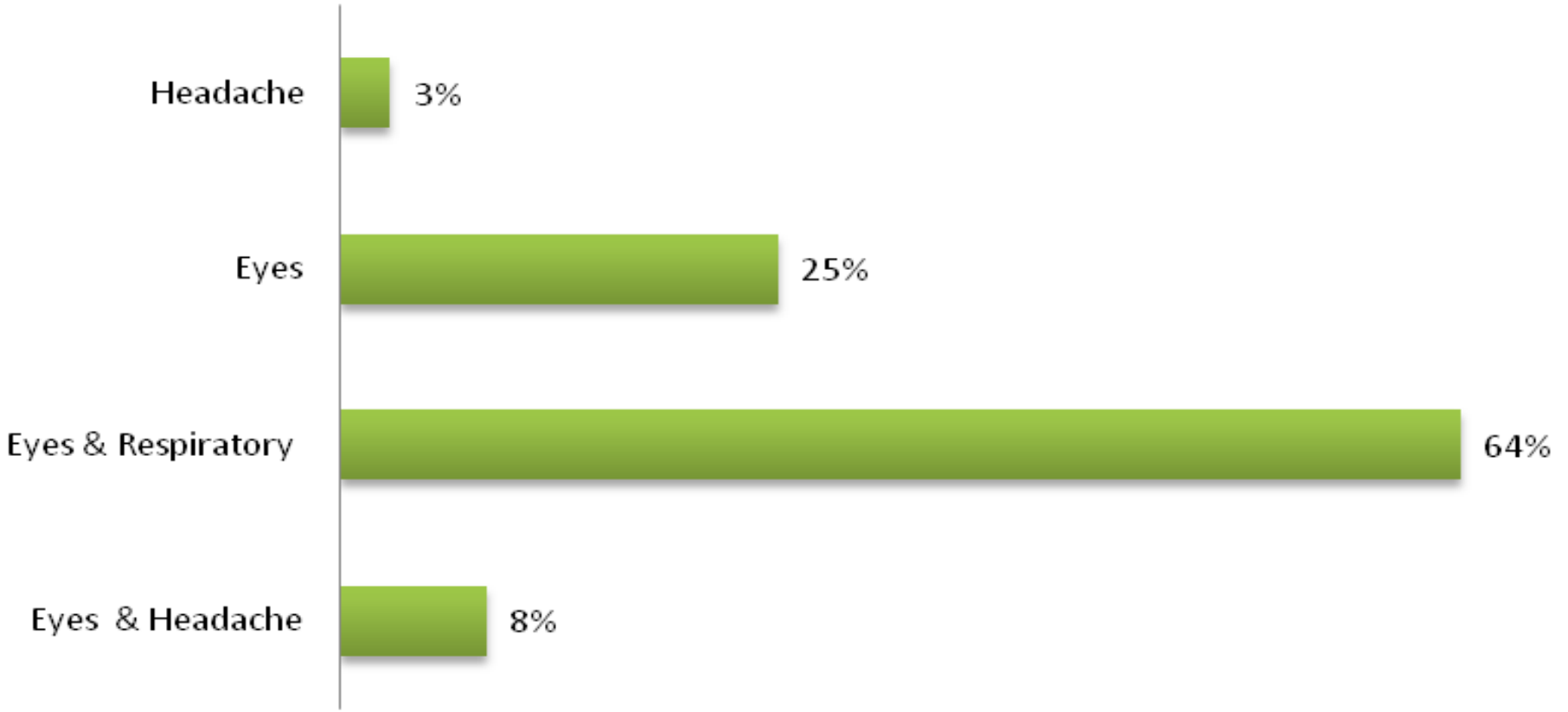
1. Monthly Expenditure on firewood



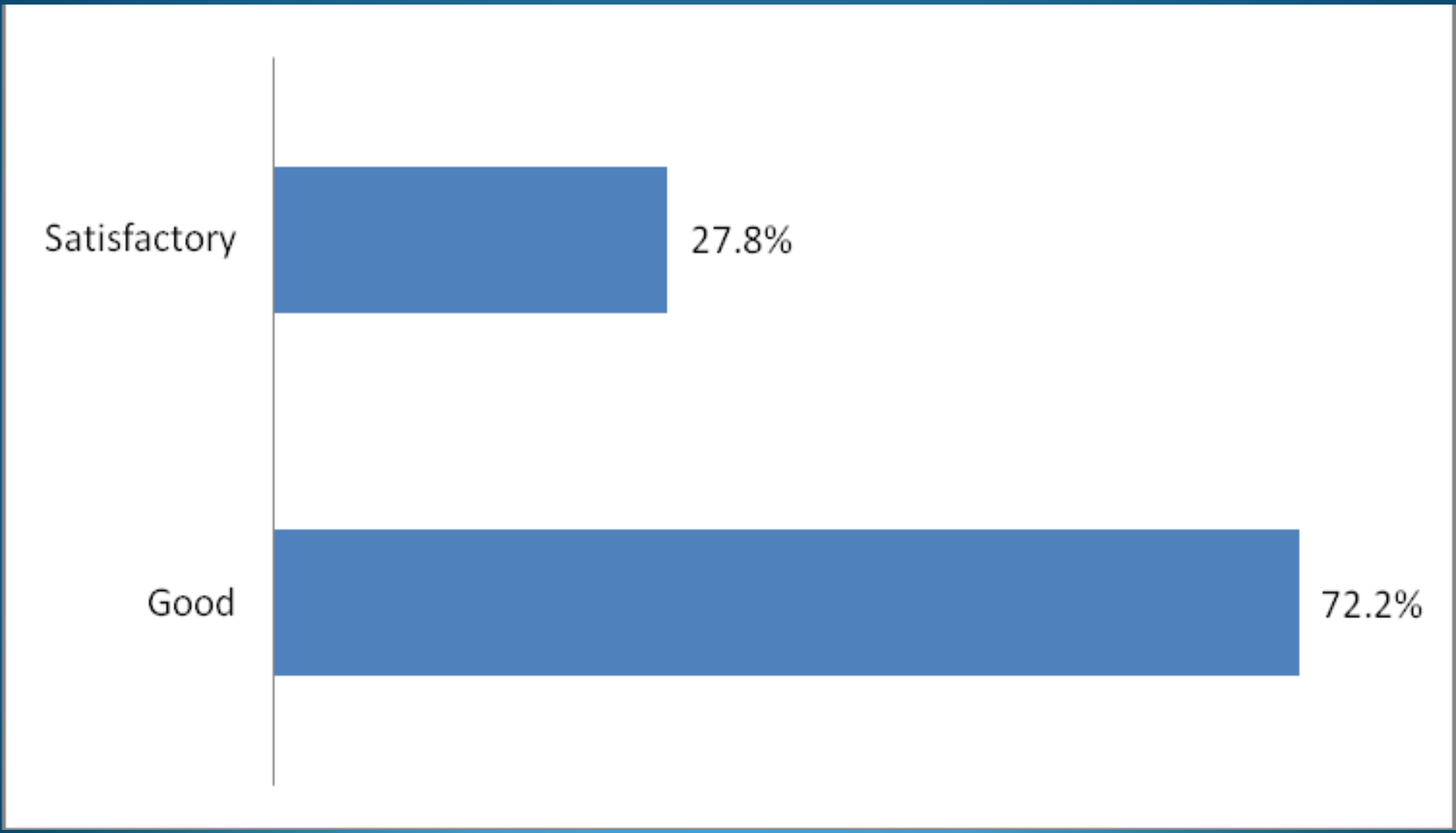
1. Source of firewood



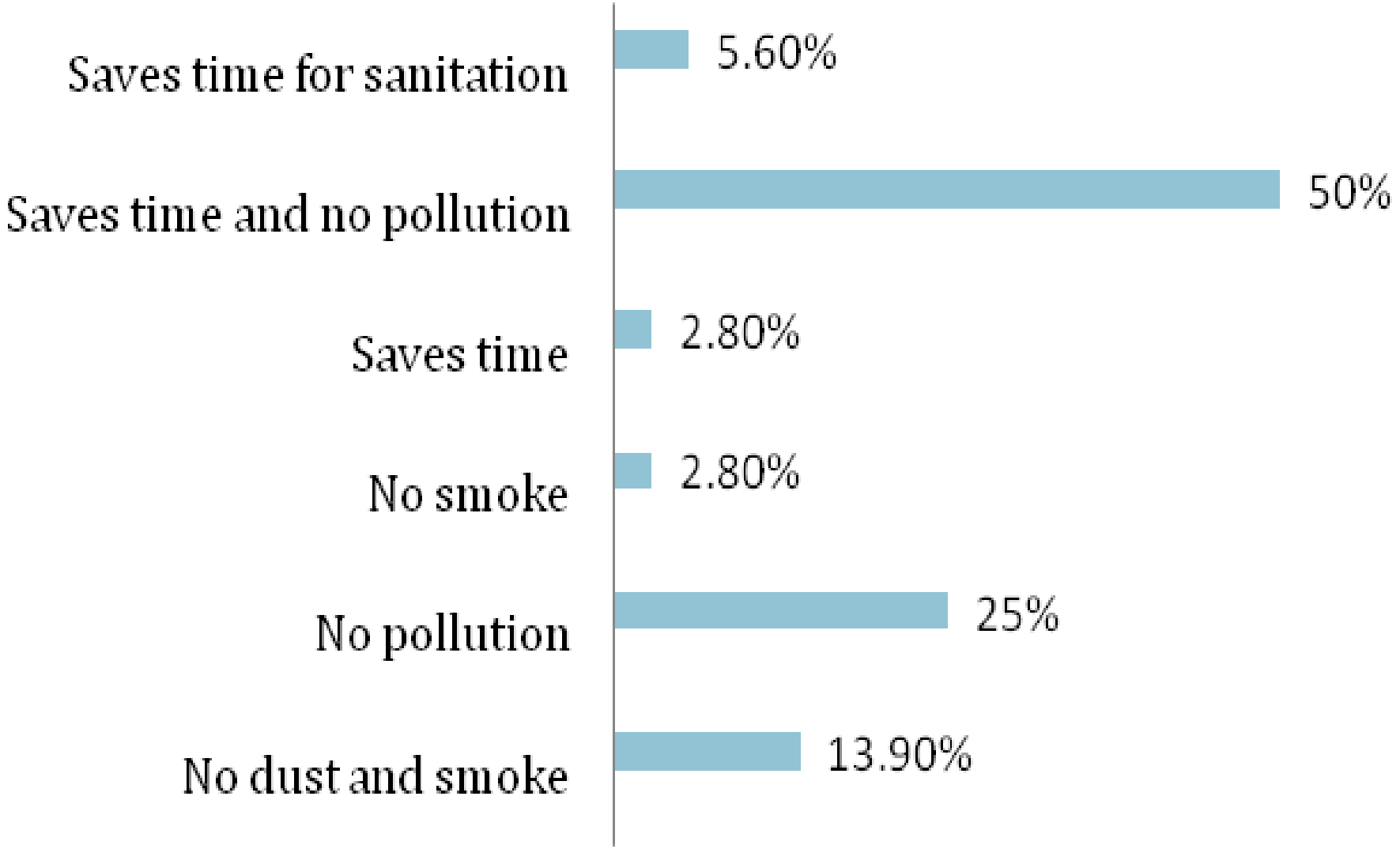
1. Major health problem



1. Perception of beneficiaries on Biogas (health and Sanitation)



1. Biogas helping women



Improve Water, sanitation and Hygiene

Access to Clean energy and No indoor air pollution

Productive human resource

Organic Vegetables

Namaste !

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