

Overcoming Rural Women's Poverty with the Multipurpose Platform, Mali

By providing a cheap, simple, and robust energy source, the multipurpose platform is transforming the lives of Malians.

Mali is one of the world's poorest countries with widespread illiteracy and a short life expectancy. Seventy per cent of the women and girls are illiterate and only 37% of girls are enrolled in school. Women do not own and control land, the primary economic asset. They do not own and have little access, if any, to productive equipment and tools, including means of transport. Often, they do not form part of the information networks within and outside the village. Men control the formal decision making fora.

The multipurpose platform project was designed to reduce rural women's poverty by providing a source of energy which yields both mechanical and electrical power. The platform is built around a simple diesel engine that can power various tools, such as a cereal mill, husker, alternator, battery charger, pump, welding and carpentry equipment. It can also generate electricity for lighting, and pumping water. Although old fashioned and cumbersome in appearance, it is actually more economical than modern engines. The technological innovation of the multi-purpose platform lies in its multiple functions, its simplicity and its sturdiness. The multiple functions allow it to be used all year, and its simplicity has allowed rural technicians to master its installation and maintenance. It is an example of appropriate technology par excellence.

The engine can be run with low quality diesel found in rural Africa; pourgher oil, produced from crushing the seeds of the pourgher plant (*Jatropha curcas*), can be used interchangeably with diesel. One liter of fuel used in the crushing process produces about 21 liters of pourgher fuel. The pourgher plant grows easily in the populated regions of Mali and is an excellent nitrogen fixation plant in the drier climates.

The motor is made in India and both it and spare parts have long been available in West Africa. There is network of sellers and service people throughout Mali (except for areas north of the Mopti region). With the exception of electrical alternators and the pumps, all the modules are produced and maintained in Mali by technician and artisans with local materials. To ensure sustainability, the project is developing a self-financed private capacity for installing and maintaining the platform by training artisans. One group of artisans is being trained in manufacture of the platform and its components, and the other group is being trained in installation, maintenance and repair.

The multipurpose platform project is demand driven. A condition for receiving help at the village level to finance and install a platform is a formal request from a women's association that will mobilize the village's counterpart funds, and operate and manage the platform. This new role provides a strong incentive for the women to acquire basic literacy and arithmetic skills. The women are taught how to operate the platform, how to sell the services of its different modules and to keep accounts.

The Dogon people of Anakaga village have lived on the remote and rocky Bandiagara escarpment, where they took refuge from enemies in the 15th Century. The women of the village, assisted by UNDP and the government of Mali, bought a multipurpose platform, which has reduced the arduous task of hauling water and pounding millet. With the diesel motor, the water is pumped and the millet ground. What once took six hours now takes only one. To recoup costs, the women charge a fee for the use of the platform and have the possibility of selling water or electricity.

The increase in discretionary time has allowed women to get involved in self-development and income generating activities, and to attend to family needs. Moreover, as they own and manage the village's source of energy and have acquired basic education skills, their status is improving as economic and social interactions increase around the platform, making them key actors of the community's development. They can no longer be ignored or left aside.

At the village level, in addition to industrialization and employment effects of installing and maintaining a platform, the availability of energy has improved access to maintenance services for agricultural implements. It has also direct effects, by connecting the health clinic and the school to the electricity network, on the availability and quality of social services provided. Medical and education personnel are more willing to work in villages where electricity and water is available; water-borne diseases are diminished and health care, specially for children, is available even at night. Adults can attend school in the evening, after working hours and there is a greater possibility for children to attend school.

Some of the challenges that have arisen in the pilot phase include opposition of men, rigidity in social norms, obstacles to collaborative behavior, implanting a culture of preventive maintenance and the demand and social pressure for free services. Despite these issues the social benefits and the high demand for the platform are indicative of its socio-economic viability.

The current large-scale phase of the project, which is under national execution, is highly decentralized with antennae (out-posted project personnel, to give wide geographic coverage) in 5 of the 8 regions of Mali. It is expected that at the end of the project 450 platforms will have been installed in villages, serving 10% of the rural Malian population. Eight thousand women will have been trained in the management of community infrastructure and the micro-enterprises, which is what the platform is about. In the long run the platform represents a crucial intermediate step between the more elementary level of human and animal power and the more advanced level of rural technology and electrification.

Interest for the platform has been expressed by several countries in Africa as well as Pakistan and Haiti. A regional hub, located in Bamako (Mali) has started working with Guinea, Senegal and Côte d'Ivoire to start pilot projects aiming at testing the platform approach in these countries.