

Chapter 10

Repair of MMHP Plants

10.1: Background

The ability to carry out major repairs of MMHP plants, especially in remote areas, is severely limited because of the lack of workshop facilities, skilled personnel, and transportation problems. This means that when major repairs are required, the MMHP plant has to rely on workshops in a major city like Kathmandu or Butwal; and these are often at a long distance of some days' walk away, leading to plant shutdown for weeks, even months.

In planning for repairs to an MMHP plant, access to suitable workshops and technicians must be kept in mind. Downtime can be reduced while major repairs are carried out by careful planning and execution.

The benefits of low downtime must be compared to the cost of keeping expensive parts which might need workshop repairs, e.g., turbine runners. Given the low incomes in rural areas, it might well be the case that users prefer lower reliability and lower costs to higher reliability and higher costs. Even so, a planned shutdown is preferable to an unplanned breakdown.

The current situation, in which MMHP plants remain inoperative for long periods due to difficulties in getting quick access to repair facilities, wastes the resources that have been invested in MMHP. It also causes undue hardships to users, since MMHPs save a lot of drudgery, and any breakdown in the MMHP plant means that users have to revert to using manual methods for grain processing or to travelling longer distances.

10.2: Some Suggested Initiatives

10.2.1: Strengthening Existing Workshops in Remote Areas

One option is to support workshops that already exist. DCS has extension offices/workshops in Baitadi and Jumla, in Nepal, to service MMHP plants in these areas. Although useful, these workshops are surviving mainly due to the external support they receive. The number of MMHPs and the amount of work they require do not seem to justify setting up workshops on a commercial basis in remote areas at the moment. As the number of plants increases and the consumers begin to demand (and be willing to pay for) more reliable services, setting up such workshops will become commercially viable. The possibility of seeking out and strengthening some existing private facilities or technicians (a smith's shop, a local mechanic) should also be explored for appropriate locations in remote regions.

10.2.2: Establishing New Workshops

Another option is to establish new workshops in areas that have MMHP plants. "How many MMHP plants are required before a workshop needs to be set up to service them?"

is a question for which the answer depends on how much money is available, the relative affluence of the recipients, and what level of service they expect from the MMHP plant. These factors, in turn, depend on the broader political question of what the rest of the country is willing to spend to raise the quality of life of people living in poor, remote areas.

The small, extra amounts required to provide facilities for repair and maintenance of the plants should be considered in terms of the investments in MMHP plants as well, rather than on a very narrow 'feasibility' of establishing a workshop.

In establishing a new workshop, it is best to start small and gradually build up as the demand increases. The staff should be recruited locally and given adequate training in preference to bringing in trained people from outside. However, in the beginning, that might be the only option.

10.2.3: Mobile Workshops

Another alternative is to have a 'mobile workshop' to carry out repair and maintenance work. One such mobile workshop has been established recently in Pakistan by a government agency. A van is fitted out with the necessary tools and equipment and a team of technicians travels from plant to plant carrying out repairs. This kind of service facility is suitable only for areas with a good road network and road access to the plants.

10.2.4: Minimum Equipment/Training Required

Equipment

In addition to the normal hand tools expected in a workshop, there should be a welding machine, a bench drill, a hand grinder, and a cutting tool. A lathing machine would not normally be required.

Training

Wherever possible, the technician should be a local. As the workshop would normally be established in an area that already has a number of MMHP plants, there should be people with a background of technical skills and experience. Short courses at regular intervals to improve or learn new skills, combined with on-the-job training, are preferable to extended training periods.