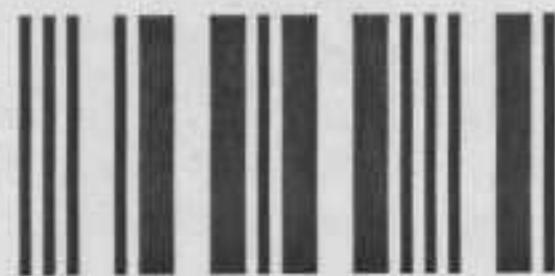


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A REPORT ON AN EVALUATION OF BULING ARKHALA PROJECT ACTIVITIES



**Submitted to : United Mission to Nepal
Thapathali
Kathmandu**

**Submitted by : New ERA
Maharajgunj
Kathmandu**

February 1983

Corrigenda

<u>Page</u>	<u>Para</u>	<u>Line</u>	<u>Misprinted</u>	<u>Should read as</u>
1	I	4th	Bajha	Bojha
2	III	3rd	dependant	dependent
3	III	3rd	Dandajheri	Dandajhiri
4	II	8th	Khoria	Khoriya
5	III	2nd	two-fifth	two-fifths
10	I	8th	shows	show
10	II	1st	rofing	roofing
11	II	6th	works	worm
12	II	4th	orcharchs	orchards
13	I	2nd	fiest	first
13	I	11th	shareholders	share holders
13	II	1st	bhp	Bhp
14	I	1st	to	-
16	I	9th	cast	vast
19	I	1st	a large	largely a

Addendum to Abbreviations

MUC Mid Upper arm Circumference

B. Baskozko-Schaeffer
Gossner Mission

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A REPORT
ON
AN EVALUATION OF BULING ARKHALA PROJECT ACTIVITIES

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ABBREVIATIONS

- AHW	Auxiliary Health Worker
ANM	Assistant Nurse Midwife
BAP	Bulging Arkhala Project
Bhp	Break horsepower
B.S.	Bikram Sambat
ESS	Environmental Sanitation Section (Dept. of Health)
FFWP	Food-for-Work Programme
FP	Family Planning
HDPP	High Density Polythene Pipe
HES	Health Education Section (Dept. of Health)
HMG	His Majesty's Government of Nepal
HP	Health Post
Km	Kilometre
Kw	Kilowatt
MCH	Maternal Child Health
MPLD	Ministry of Panchayat and Local Development
No	Number
PSC	Personal Contract Service
SFDP	Small Farmers Development Project
UMN	United Mission to Nepal

NEPALI TERMS USED IN THE REPORT

Chiuri	Endocarp of stone fruit utilised for extracting oil which can be used for making soap. (Botanical Name - Bassia butrycea)
Chuk	Concentrated lemon juice
Dhaka	Locally woven cotton textile mainly used for making Nepali caps, women's shawls and blouses.
Ghaiya	Upland paddy
Khoriya	Patch of land; a steep slope, normally not suitable for foodcrop cultivation but farmed by the slash and burn system of farming.
Sarbottam pitho	Nutritionally balanced flour meal

PROJECT PROFILE

Project Title	Bul ing Arkhala Integrated Rural Development Project
Project Area	Bulingtar and Upallo Arkhala Panchayat, Nawalparasi district (now, Bulingtar has been divided into two panchayats--Bulingtar and Dandajheri)
Population	Approx. 6200
Dominent Ethnic Group	Magar
Total Villages Covered	47
Elevation: Max.	6350 feet above sea level (Deochuli)
Min.	900 ft. (Kali Gandaki)
Main Crop	Maize
Cash Crop	Bananas, ginger and citrus fruits

Development Institutional Support

Schools	12 (including one secondary school in Bulingtar)
Health Institutions	2 (Health Post in Bulingtar and Health Clinic in Bojha)
Post Office	1 in Bulingtar
Malaria Office	1 "
Police Office	1 "
Cooperative Society	1 "
Small Farmers Dev.	1 in Arkhala Panchayat
Project Office	
Ag. Ext. Workers	1 JTA and Panchayat-based Ag. Assistants
Project Period	1981-1982
Commencement Year	1981
Project Cost	N. Rs. 1,513,600.00
Source of Financing	United Mission to Nepal

Project Components

Health Programme
Animal Health Programme
Food Post-Production Technology Programme
Agro-Industries and Food Processing Programme
Cottage Industries Programme
Drinking Water Supplies Programme
Education Programme
Investigation Programmes
Other Programmes

Allocated Budget for BAP and Actual Expenditures Up to 15.7.82

Items	Programme Budget 1981-82	Rupees '000 Actual Expenditures 15.7.1982
Nutrition Studies	0.800	0.299
PCS (Personal Cont. Service)	144.000	108.000
Health	152.600	45.877
Cottage Industries (Ginger Marketing, Soap Making)	5.000	8.785
Food+Agro-Industry	213.600	195.030
Animal Health (Medicines)	31.000	0.737
Drinking Water	574.100	690.090
Agriculture including Reforestation Nursery	4.000	8.147
Bulingtar High School Hostel roof	45.000	6.117
Scholarships	22.000	21.322
Evaluation	20.000	-
Low Risk Programmes (Village Grain Bank, Animal Health)	20.000	12.329
Irrigation Studies	50.000	0.550
Training	20.000	9.770
Salaries (Nepalis)	36.000	17.043
Magar Cloth (marketing and block printing training)	-	14.642
Building	120.000	17.877
Administration (office expenses, travel, transport, mail, account service etc.)	55.500	24.076
Suspense	-	11.873
Total:	1513.600	1192.564

Photo Plate No. 1

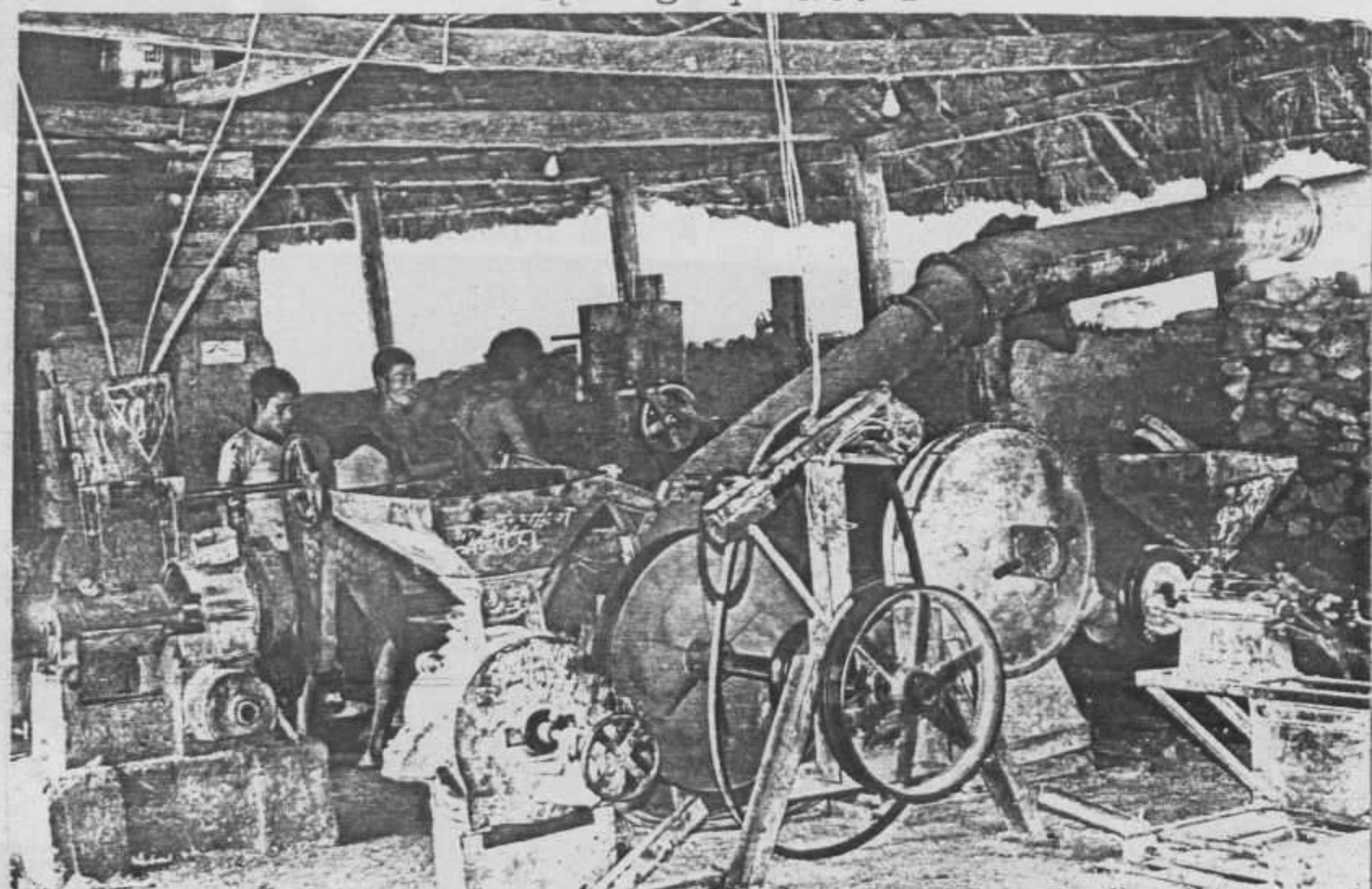
Photograph No. 1



Front view of community owned Arkhala Water Mill (left). Newly developed nursery (right). This kind of mill could be an ideal place to serve as Community Communication/Service Centre.

Photo: Rajendra P. Shrestha
(1982)

Photograph No. 2



Inside view of multipurpose Arkhala Water Mill: An energy efficient multipurpose outfit to meet diverse needs of rural communities.

Photo: Rajendra P. Shrestha
(1982)

Photograph No. 3

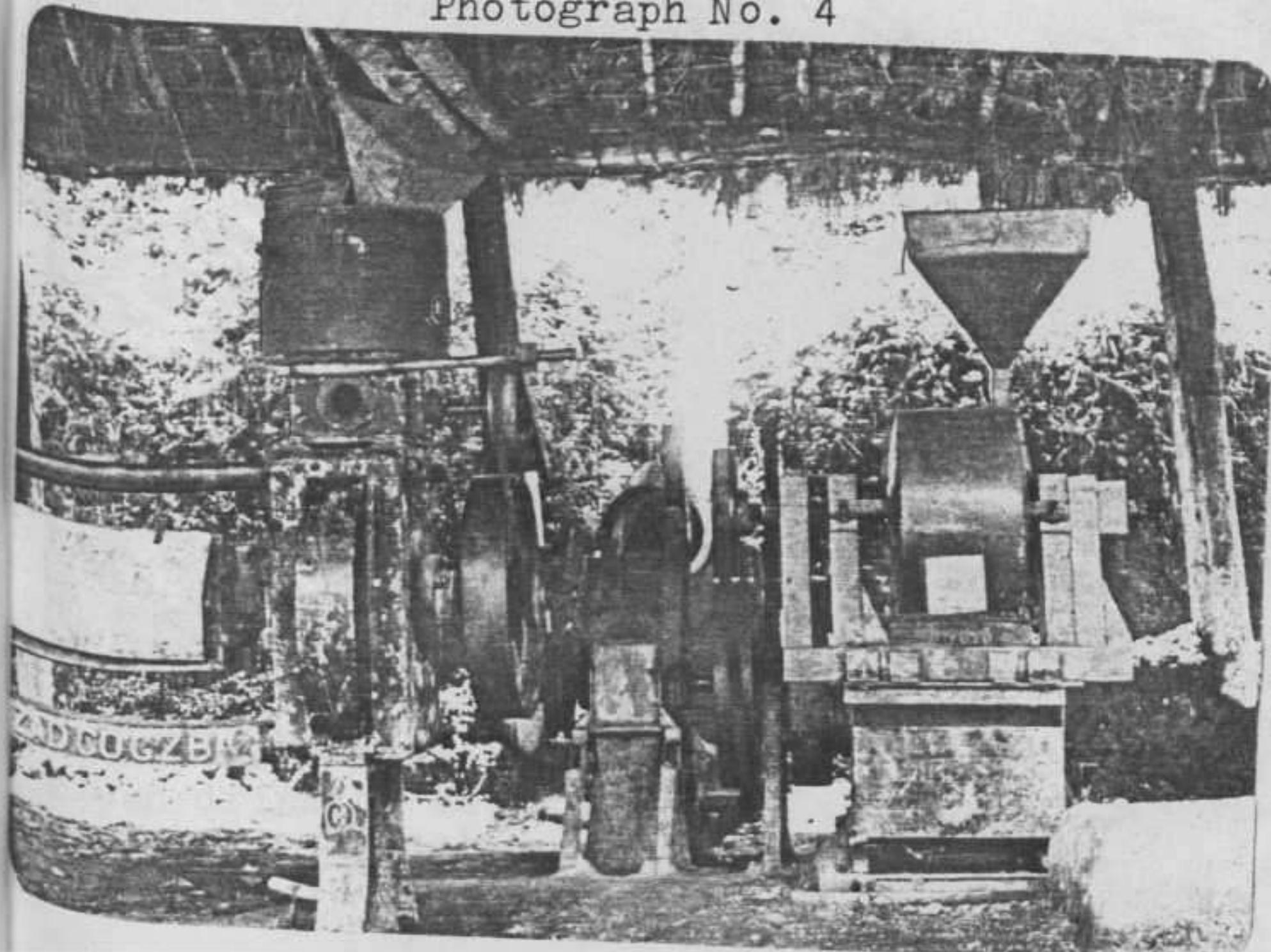


Photo Plate No. 2

Cross-bred pigs reared in the Arkhala Water Mill for distribution to communities: one of the compatible activities to go with this kind of mill.

Photo: Rajendra P. Shrestha (1982)

Photograph No. 4

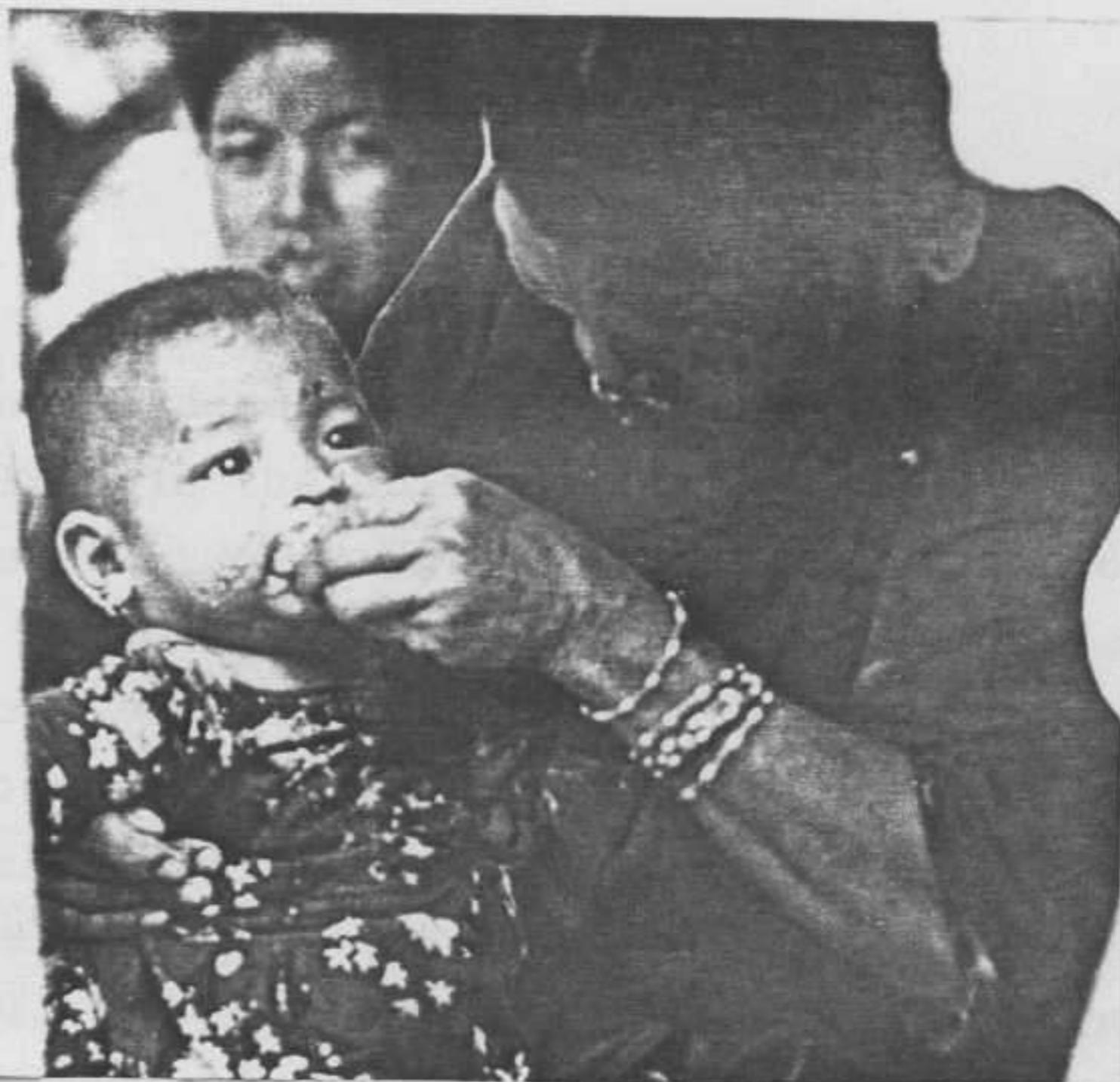


View of the Bhangbari Water Mill (under construction). Area along the alignment of canal is prone to erosion, hence should receive priority in afforestation and erosion control measures.

Photo:
Rajendra P. Shrestha
(1982)

Photo Plate No. 3

Photograph No. 5



A rural woman feeding her baby the locally prepared Sarbottam Pitho meal in Charchare Village in the BAP area: Proper nutrition education programme could help improve nutritional status of children in rural areas.

Photo: Rajendra P. Shrestha
(1982)

Photograph No. 6



A private toilet utilising local resources in Dandathok Village in the BAP area: Provision of low cost toilet facilities and clean drinking water could substantially improve health and sanitation situation in rural communities.

Photo: Rajendra P. Shrestha
(1982)

PROJECT EVALUATION

I. BACKGROUND

With an aim to serve the community, the United Mission to Nepal (UMN) has been involved in the Bulingtar Panchayat (then part of Palpa district) since 1969. Until 1975 UMN operated one dispensary at Bajha Village in Bulingtar Panchayat. In spite of their plan to close the dispensary, they continued it at the insistence of the local community. Realizing the fact that simply providing health care would not raise the standard of health, UMN initiated the food-for-work programme (FFWP) in the drought year of 1979. With the implementation of FFWP in activities such as construction of canals, foot trails and fruit tree planting projects, UMN diversified its activities in the area, and with the approval of the concerned district officials, the Buling Arkhala Project (BAP) was started in 1980 with the following objectives^{1/}:

1. to increase production in agriculture;
2. to improve the income and standard of living of local people and bring about an equitable distribution of these improvements among all individuals and segments of the area's population;
3. to provide opportunities for gainful employment during times of high unemployment;

^{1/} UMN--Buling Arkhala Project: An Integrated Rural Development Project for Bulingtar and Upallo Arkhala Panchayats, Nawalparasi District, Butwal (Nepal). United Mission to Nepal, Development and Consulting Services, September 1980.

4. to involve local people in all stages of the project's programmes, i.e. in planning, identification of needs, evaluation, monitoring of and distribution of benefits;
5. to increase self-reliance so as to mobilize and effectively use local resources, as well as to lessen dependence on outside aid and consumer goods;
6. to increase local people's technical know-how and skills so that they will be more able to implement their own development and less dependant on outside people for these necessary skills;
7. to maintain ecological balance through proper management and efficient use of available natural resources by villagers; and
8. to use traditional and culturally acceptable methods of organization and other practices whenever possible in development programmes.

Aiming to gain insight into the problems and prospects of project activities in order to better guide an extension of this approach to the remaining hill panchayats of the Nawalparasi district the UMN commissioned New ERA to do an evaluation of the project.

II. SCOPE OF WORK

With an understanding reached with UMN, the study was carried out with the following objectives.

1. to investigate on-going project activities in the project area;

2. to offer suggestions on the basis of investigation to improve implementation of project activities.

III. APPROACH OF THE STUDY

Pursuant to the scope of work two New ERA staff members undertook an extensive field visit to the project area from September 23 to October 1, 1982. In the course of field visits the team members held discussions with project staff, local leaders, villagers and relevant district-level officials. This was supplemented by review of the project documents. In addition, the team members observed various project-related activities in action during the field visit.

IV. THE PROJECT AREA

The project area of BAP is spread over three panchayats of Nawalparasi district, Lumbini Zone: Bulingtar, Arkhala, and Dandajheri. Initially, implementation was begun in two panchayats, Bulingtar and Arkhala but with the recent change in the political boundaries of panchayats, Bulingtar was divided into two panchayats: Bulingtar and Dandajhiri. These panchayats were formerly a part of Palpa district which were amalgamated into Nawalparasi district in 1976. The project area lies in the Mahabharat range. Its northern boundary is the Kali Gandaki river while its southern boundary is the ridge of the Mahabharat lekh. The minimum altitude of the project area is 900 feet above sea level at the Kali Gandaki and the maximum is 6350 ft. at Deochuli. It takes about six hours walk to reach the project area from Daldale, a small bazar 25 km. west of Narayanghat along the Mahendra Highway.

The estimated population of the project area is about 6200, with 950 households. The estimated population of the Bulingtar,

Dandajhiri and Arkhala panchayats is 2500, 1536 and 2164 respectively. This population is spread over 47 villages in the project area.

Magar is the dominant ethnic group in the project area with Chhetri, Brahman, Ciri, Kumale, and Damai as other ethnic groups. Predictably, agriculture continues to be the main occupation of most people. A good number of households in the project area supplement their incomes through army and civil service in Nepal and India. During the winter most people go to the Terai for wage employment. Because of the paucity of cultivable land, the hazardous, conventional practice of the khoria (slash and burn) system of farming continues to be widely practised. Slopes which would be classified as not suitable for cultivation (up to 60 - 70 per cent gradient were observed to be cropped with maize. The soil fertility of this area seems to be very poor and production is very low. Food shortages after a few months of harvesting are common phenomena. Maize is the most important crop of this area. Other grains such as millet, paddy, wheat, buckwheat, barley, mustard and upland paddy (ghaiya) are also grown in this area. Much farming is done on steep slopes. Heavy rains wash away good top soil and manure, adversely affecting land productivity. Ginger, citrus fruits and bananas are the major cash crops of the area. As in other traditional farming systems crop production is seriously affected by pests (insects and rodents) and diseases at all stages of production and storage.

Farmers sell these cash crops as well as barter with foodgrains. In addition a few people of this area also weave Magar cloth with raw cotton yarn mostly imported from the Terai. Some of this cloth is sold for cash.

V. IMPLEMENTATION STRATEGY ADOPTED

Contrary to the project implementation strategy outlined in the project document^{2/}, the programme is being implemented through formal/informal local leaders and local volunteers. BAP staff members are based at Bojha, Tandi and Upallo Arkhala villages. Village-based local volunteers act as the liaison between the community and the project staff. The project plans call for implementing programme activities over a period of two years in one area and then moving on to the next area. While the project staff will put concentrated effort into subsequent areas programmes that are already on-going will continue to receive extensive support from the project. Though it was planned to have a district committee to direct the BAP staff it does not seem to exist.

VI. MAJOR ACTIVITIES OF THE PROJECT

As envisaged in the document, various activities were carried out to raise the socio-economic status of the people in the project area during the project period. Perusal of relevant financial data revealed that the project spent about 77 percent of the allocated budget of Rs 1.514 million as of July 1983. Briefly described the activities of the project area are as follows:

Social Welfare

A. Drinking Water

The drinking water scheme is the activity which has been given the highest priority in the programme. Almost two-fifth of the

^{2/} UMN--Buling Arkhala Project op. cit. p. 14.

programme budget was allocated for this activity. Table 1 shows that villages as small as Bhangbari (with about 10 households) have received such a scheme. In the initial stage of implementation the BAP staff identified schemes in collaboration with the community members. Community members contributed required voluntary labour to bring the HDPE pipes and fittings to sites while the project contributed pipes, fittings and technical assistance. Realizing that only providing safe drinking water is not enough to improve health standards, the project tied up the drinking water scheme with a toilet programme. Under this new provision the community was required to make toilets in order to be eligible to get a drinking water scheme. This approach seems to be working well.

According to project personnel, the project trains one local volunteer identified by the community during installation and this person is made responsible for minor repairs and regular maintenance of the system. Each beneficiary pays the maintenance person at the rate of one pathi of food-grain per year. This system seems to be working in Tallo Arkhala, Singchang and Kamlikot villages. In spite of this provision for regular maintenance, the larger systems (like the one in Upallo Arkhala) do not seem to have been maintained properly. It was observed that in some cases there is an urgent need for major repair work as in Upallo Arkhala village where the system was installed by villagers and rejuvenated by the project. We observed leaky joints, faulty traps and broken pipes due to inadequate maintenance and faulty design at several places (Mathhar, Kotlhar, Tandi and Tedha Bojha) during our field visit.

Table 1 : List of Drinking Water Schemes in the BAP Area, 1982

Names of Villages	Total Number of Benefitting Households	Remarks
Chuli Bojha	48	
Deurali	49	
Dhongre	17	Not yet completed
Tallo Arkhala	44	
Singchang	44	
Kemalikot	14	
Chharchhare	29	
Satase	16	
Deurali	26	
Bhangbari	10	
Dhamari	19	
Pelgha	12	
Aarbaje	12	
Dharapani*	NA	
Timire	-	
Sunarthumki	20	
Pipalchhap	23	
Dandathok	36	Targeted for this year

Note: 1. The drinking water scheme of Upallo Arkhala was installed by the villagers and major repair work was carried out by project.

2. Matthar's drinking water scheme was initiated by LDM.

* This system is located outside the project area. However, it received some assistance from the project.

B. Health and Sanitation

UMN's involvement in the health sector in this area started 12 years ago. When this area was a part of eastern Palpa district a health clinic was opened in Tedha Bojha and it operated under

the technical supervision of Palpa Hospital. Since the initiation of BAP it has been supervised by the project's community health unit. There are two staff members working on a regular basis (one AHW and one ANM). This clinic is providing regular primary health-care services to people of about 25 panchayats. It provides services to about five thousand patients annually (4866 in 2038 B.S.)

This clinic also has facilities for villagers who come from far-away villages for treatment to stay overnight. While treating patients, the clinic makes available necessary medicines to patients at reasonable prices. In addition, this clinic has referral services to the Tansen Hospital. Such facilities, which are not usually available at the HMG health post might have served to attract patients from villages of Tansen, Eastern Palpa as far as 1 to 2 days' walking distance away. This clinic raised revenues of about Rs. 29,000/- in the year 2038 B.S. through the sale of medicines. Specialists from Tansen Hospital occasionally visit the clinic to provide on-the-spot specialised medical treatment.

At about two hours' walking distance from this clinic there is a health post and a malaria office in Bulingtar, both operated by HMG. Although the government health post has a full staff strength of nine para-medical workers it has not been able to provide services effectively due to a lack of adequate supplies and facilities. One striking point worth mentioning here is that these two identical health units do not seem to have any direct communication. Sanitary conditions, in general, are far from hygienic in the project area. Because of the dominant Magar community, pig raising is universally practised in a totally unscientific way.

The situated is further worsened by the absence of toilets and the defecating habits of the local people. The project seems to be making a genuine effort to promote private toilets along with drinking water schemes.

expectedly, health clinic personnel report that worm infestation, dysentery, amoebiosis and anaemia are commonly prevailing diseases in the area.

C. Family Planning and Maternal Child Health

In addition to the FP/MCH activities of the Bulingtar Health Post, the project operates about 19 monthly MCH clinics. There are 2 UMN Volunteers, 3 Nepali staff and some 25 volunteers working in this programme. The project staff run the monthly clinics with the assistance of local volunteers in villages where they hold informal group meetings to demonstrate the use of the nutritious locally prepared Sarbottam Pitho for feeding infants. During the meetings, other health and FP issues are also discussed and necessary cases are referred to the clinic. In addition, the village-based volunteers monitor the height, weight, and MUC of children every month. The project also provides pills and depo-provera for women. Village women seem to take an interest in meetings, one of which we observed in Chharchhare village (see photograph No. 5). According to the Nutritional Status Surveys conducted in 1980 and 1982, Dietz^{3/} reports significant improvement of nutritional status during that period. Similarly, a change of attitude toward restricting water during diarrhea was also observed to be a result of continuous follow-up.

D. Education

Altogether there are 12 primary lower secondary and secondary schools in the project area. Tribhuvan Madhyamik Vidyalaya of Bulingtar is the only secondary school in the project area. It was established in 2027 B.S. Many local and non-local students

3/ Dietz, Angelika, Evaluation of the Community Health Work in Arkhala Panchayat (by use of Nutritional Status Survey March/April 1982), UMN, Buling Arkhala Project, May 1982.

of Bulingtar, Dandajhiri, Arkhala, Kothhar, Ratanpur, Jaubari, Bhartipur, Rupatar, Macheri and Ramchekot benefit from this school. Students from villages as far as 2 hours' walking distance away attend this school daily. For non-local students there is one hostel but its condition is not so good. The project helped the school by providing scholarships or financial assistance to students who could not afford to pay for their tuition. Tables below shows the total number of students who received the BAP scholarships.

Table 2 : List of Students Receiving BAP Scholarship by Grade and Sex

Grade	Sex		Total
	Male	Female	
10	6	2	8
9	9	1	10
8	13	-	13
7	18	-	18
6	18	3	21
Total	64	6	70

The project also provided roofing materials for the school hostel. Similarly, in order to help the school cultivate its land to generate some income, the project provided it with necessary seeds and fertilisers. The project handed over the godown, which was constructed during FFWP, to the school in Upallo Arkhala. This building has been rented out to the SFDP office by the school.

Similarly the project is assisting the adult literacy classes sponsored by SFDP in Upallo Arkhala by providing essential materials such as Petromax. In Tandi village the project offered to help the local primary school with cottage industry development. However due to village politics the programme has not been implemented so far.

E. Agriculture

Livestock Improvement and Animal Health : UMN was providing services for livestock improvement and animal health even before the initiation of BAP. Now there are three local volunteers working in this programme. These volunteers have received short-term training at Pokhara as well as at Tedha Bojha.

In addition, improved breeds of goat, pig and rabbit have been introduced in the project area by the project. The project has also brought in stud bulls and buffaloes for the improvement of local breeds of cattle and buffalo. Besides providing primary health care to animals, these volunteers distribute medicines for drenching livestock against liver-fluke and worms.

Post-Harvest Technology Programme : In collaboration with the Rural Save Grain Project, the BAP has conducted trials to save seeds from storage pests. The project has introduced five metal bin silos, (three in Tollo Arkhala and two in Tedha Bojha) to help villagers store their seeds safely. These bins, designed and manufactured by the Gobar Gas Company Butwal, were provided by the Rural Save Grain Project.

Village Grain Bank : The fact that poor villagers in this area are forced to supplement their diet by consuming the bitter-tasting lakuwa root* and to cultivate corn in dangerously steep khoriya is a good indicator of severe food shortage in this area. Initiation of village grain banks in Tedha Bojha, Ramkot and Bhalayatar villages is one strategy adopted by the project to help ease the unreasonable price pressure on poor villagers. Under this scheme the project provides money equivalent to work contributed by villagers to programme activities designed to increasing agricultural production, such as construction irrigation

* Shepherd, Gary Life Among the Magars, Kathmandu (Nepal): Sahayogi Press, 1982, p. 160.

canals. This fund is utilised to procure foodgrains at harvest time. This scheme is fully managed by villagers with the necessary support of the project. Foodgrains are then sold to villagers at 10 percent above the buying price. Funds raised in such a way are recycled in the community toward buying foodgrains for the subsequent year. The project also provides support for other material input such as seeds, fertilizers, etc.

Horticulture and Forestry : To augment agricultural production the project could reinforce the production of major fruits namely bananas, guavas, and sweet and sour citrus fruits. During the field visit the team members observed old citrus orchards in several villages. Currently villagers sell fresh fruits as well as chuk (concentrated lemon juice). The project has initiated nurseries to raise seedlings of fruit and forest trees. Necessary support from the project seems quite urgent in order to control problems of fruit production such as fruit dropping and insect pests in citrus trees. At the same time it should be aimed at increasing coverage under fruits. Similarly, afforestation activity should receive due priority in erosionprone areas like areas along canal alignments to minimise further erosion in such areas.

Agro-Industries and Food Processing Programme : Helping villagers in the marketing of Magar cloth, training and assisting villagers in Dhaka printing and the raising of silkworms are the main non-agricultural activities of the project. Through local committees the project has initiated, with little success so far silkworm raising in Upallo Arkhala and Tallo Arkhala villages. Constraints to silkworm raising seem to be unavailability of hatched eggs on regular basis and lack of marketing and husbandry know-how.

The project has also demonstrated the technique of making soap from Chiuri.

The major thrust of the project in this programme is community-run multipurpose water mills. The project initiated the first mill (called Arkhala water mill) in the year 2036 B.S. The mill started operating on Aswin 18, 2037. This mill is run by several staff governed by the Management Committee. The mill is fully managed by this committee, constituted of local villagers of Arkhala panchayat, with the support of the project. The total cost of the mill is estimated at Rs. 84,000/- with paid up capital of Rs. 15,500/-. The share holders in the mill paid their share by working for the mill and by contributing cash during the development phase. Altogether there are 213 shareholders, all from Arkhala Panchayat. The project provided all the initial investment costs of the mill and write off the loan gradually as the mill starts reinvesting the money in community development work.

With a power output capacity of 43 bhp and 25 Kw, the mill at present has the following units (see photograph no. 2):

1. rice huller
2. oil expeller
3. flour mill (It is also used for grinding dried ginger and turmeric)
4. ginger drier
5. power generator

According to the mill operator, customer traffic is highest on Mondays (because villagers do not plough their fields on this day), and lowest on Tuesdays.

This mill is providing services to villagers from villages as distant as 6 hours' walk away. However, it is the people of Arkhala, Singchang, and Sunarthumki who regularly benefit from this mill. Perusal of the income and expense books revealed that the mill made a profit of Rs. 5,847/18 by handling business

Worth Rs. 71,077/51 between Marga 2037 to and Bhadra 2038. In addition to regular milling activities the mill has initiated other activities such as consumer goods store and a piggery. Piglets are distributed to villagers for multiplication. Similarly, the mill has tried to raise an improved breed of poultry with little or no success.

Part of the savings generated have been found to be utilised in further development works such as the establishment of a nursery (Photo No. 1), initiating the raising of pigs for further distribution (Photo No. 2), the processing and marketing of powdered ginger, and the extraction of oil from chiuri for soap making on trial basis.

Encouraged by the initial success of the Arkhala Mill, the project installed a second mill at Bhangbari. During field observation it was noticed that the inlet canal of the mill was badly eroded in several places and that the headwork was incomplete. Besides major repair, the headwork needs to be completed in order for the turbine to work. At the sametime afforestation along the canal alignment should be carried out to check further erosion.

F. Other Activities

Food-for-work Programme : UMN started FFWP during 1979-80 in order to help ease the suffering of desperate villagers during food shortage and to help alleviate future food shortages by either increasing agricultural production and/or generating future income. Under this programme construction of a canal in the Tar area, a bridge across the Sadh Khola and improvement of the foot trail in the Tar were carried out. Assessing the programme immediately after completion, Sydnor (1980)* concludes that the

* Sydnor, B., "An Evaluation of the United Mission to Nepal's Food for Work Programme in Bulingtar Panchayat, Nawalparasi District;" Kathmandu United Mission to Nepal, April 1980.

programme was successful in the sense that "UMN was able to provide food during a severe food shortage, and was able to provide short-term assistance to people in Bulingtar and Upallo Arkhala panchayats during a period of severe food shortage without long-term commitment."

VII. SOME OBSERVATIONS AND SUGGESTIONS

Following observation of different activities of the project, discussions we had with local people, relevant district-level officials and project personnel our observations and suggestions are as follows.

A. Drinking Water

According to the local people, the drinking water scheme is one of the most successful involvements of the project. Villagers are now able to get clean drinking water almost at their doorsteps. Like any other installations, drinking water schemes do need regular maintenance. For want of resources and technical know-how, local people find it difficult to maintain these schemes properly. If people selected by the community could be trained and made responsible for minor repairs and regular maintenance, such schemes would not incur major problems. Such a person would ideally receive remuneration for his services through the fund raised by the water-users.

B. Health

The HMG health post at Bulingtar and the UMN health clinic at Bojha are two health units providing primary health services in the project area.. Local people seem to rely more on the Bojha because of its dependability and reliability. Not only people of the project area but also those from distant villages are benefitting from this clinic. Given the size of the population living in this remote pocket of the accessible Terai area, the

Services which these clinics have been rendering are definitely not adequate. In this context, these two units, which operate more or less in isolation from each other, could develop some sort of complementary relationship for effective delivery of services to the local population. Establishing a direct communication link between these two units through coordination at the district level would help to effectively mobilise material resources available at the Bojha clinic. It would also improve the good village-level linkage of the BAP and with the cast manpower resources of the government HP at Bulingtar. Such a relationship would help mobilise the resources of these units for a more effective delivery of primary health care and FP/MCH services to the local communities.

In connection with the government HP it was observed that the HP staff members are less motivated to undertake outreach activities due to uncongenial factors related to their work environment. Despite being so remote, this area is in the Terai section of Nawal Parasi, hence government staff working in this area do not qualify for a remote area allowance. Concurrently, government financial regulations provide only a nominal per diem and no walking allowance, which weakens the motivation of the field staff to be mobile in the area.

C. Sanitation

Realising that providing only health services and clean drinking water is not enough for improving health standards, making private toilets has been emphasized by the project. Construction of private toilets has been made a prerequisite for communities to get drinking water schemes from the project (Photograph no. 6). Such a stipulatory approach supported by motivational efforts seems to be working well in villages like Dandathok in the BAP area. This kind of approach may be an option for addressing the multi-faceted problems of health, sanitation and productivity.

It was also observed that a campaign to keep the villages clean like the one launched in Khokana village of Lalitpur* might be launched with the major objectives of improving health and sanitation conditions keeping villages clean by cultivating hygienic personal behaviour, and motivating villagers to keep livestock stall-fed.

D. Support for Increasing Food Production

Seed storage trials in collaboration with the Rural Save Grain Project, introduction of improved varieties of maize and a kitchen garden programme, and promotion of fruit cultivation are examples of efforts directed toward increasing food production in the area. However, in an area of below subsistence-level farm economy where local people do not produce enough food more than six months at a time, this programme, we think, should be given greater priority than it has been given so far.

It was felt that if the project could develop a symbiotic relationship with the agricultural sub-centre due to open in Upallo Arkhala village** as well as with the SFDP, also at Upallo Arkhala, available resources could be effectively mobilised for the implementation of programme.

It was also observed that even at the end of the two years of project implementation, the project does not seem to have

* New Era is assisting in the health/sanitation education campaign in Khokana village of Lalitpur. This is one of four pilot sites where the MPLD is implementing a semi-urban sanitation project in collaboration with the HES and ESS of the Ministry of Health with UNICEF funding.

** Under the National Extension and Agricultural Research Project, Nawal Parasi District, this area is also served by a modified version of the Training and Visit System of Agricultural Extension (for details refer to Daniel Benor and J.Q. Harrison, Agricultural Extension : The Training and Visit System, Washington D.C. The World Bank 1977).

established a horticultural or forest nursery (there are two nurseries, one in Bojha and the other at the Arkhala Water Mill (Photograph no. 1). Having an established nursery in such a remote area enhances efforts to increase fruit production and tree planting in areas where khoriya cultivation is widely practised.

Protecting crops and grains from spoilage and damage at various stages of production is, in a way also to increase production. As with foodgrains, protection of fruit against diseases and pests needs to be given due attention.

E. Agro-Industries and Food Processing

Due to lack of skills among local assistance in increasing production as well as marketing the produce profitably is desperately needed. In order to effectively utilise the leisure time of rural women increased production of Magar cloth and Dhaka printing are available options. However, these labour intensive products need careful marketing support from the project, at least for the time being. If logistical aspects can be better handled, and organise training in husbandry silk-worm raising seems to be another possible option for increasing non-agricultural activities in the project area.

In order to derive further benefit from community run water mills like one in Arkhala (Photograph no. 1), such mill sites could in the long run be developed into community communication/service centres. Information useful for villagers could be disseminated through such centres which people regularly go to have their food processed. Similarly, it would be more convenient for the project as well as for villagers to receive necessary inputs (such as seeds, nursery plants, crop protection services, etc) from these centres.

F. Implementation Strategy

The BAP is a large project that relies on and draws heavily from the participation of local villagers. Many project activities are conceived, designed and implemented by community members with technical, financial and logistic support from the project. Local villagers seem quite enthusiastic about having project activities in their village. In projects involving the participation of the community it is as important to keep the enthusiasm of local people going as it is to get something started. It is also true that development programmes aimed at equitable distribution often take a long time to show tangible results. For a project like BAP whose aim to is to improve the income and standard of living of local people on an equitable basis, it will certainly take quite some time before any tangible results can be observed. Although such a project cannot be expected to assist the communities in implementing their programmes for-ever, a period of two years is not, we feel, enough to enable communities to carry on their programmes without outside help. The team feels that such a project should be intensively involved in the area for an initial period of at least five years.

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