

PN/AAS. 895

42383

SPISP

Seed Production and Input Storage Project

Agriculture Inputs Corporation

Kathmandu, Nepal

ANNUAL REPORT

1984

A Project of  
HMG/Nepal and USAID/N  
Being Executed by  
Agriculture Inputs Corporation  
and  
International Agricultural Development Service

# NEPAL

## SPIS PROJECT

### MAP SHOWING WAREHOUSES

(For Mid-Hills)



# NEPAL

## SPIS PROJECT

MAP SHOWING 20 SEED PRODUCTION SITES  
(In Mid-Hills)



### LEGEND

- INTERNATIONAL BOUNDARY
- REGIONAL BOUNDARY
- ZONAL BOUNDARY
- DISTRICT BOUNDARY



50 25 0 50 100 KMS.

SCALE

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## 1. BACKGROUND INFORMATION

The main focus area of the SPIS Project lies in the mid-hills somewhere between 400 to 2000 meters above sea level. Hills in general are under-developed and lack infrastructure such as buildings, roads, electricity and godowns. But 56 percent population lives there. Local production must increase as transportation difficulties do not favour portering of bulky goods from the Terai. Given this scenario, HMG of Nepal attaches high priority to developing hill agriculture and thereby improving the peoples' economy. For this purpose, it is recognized that of all the things seed is most vital and low-cost ingredient for improving agriculture. Without an extensive coverage of area by high yielding seeds, production cannot possibly increase. In hill areas, where timely supply of bulky fertilizers is a difficult proposition, better seeds of improved varieties can boost production 30-40 percent even with moderate doses of fertilizer and application of compost.

Past attempts to supply improved seed from the Terai plains have not proved effective. Confronted with this problem, in the late seventies the government decided to do something about hill farmers' dependence on Terai-produced seed. After considerable thought a system of local production of seed in the hills was designed which eventually lead to the launching of this Seed Production and Input Storage Project. The Project's seed production activities cover 20 out of 40 hill districts. With continued support, it is possible to supply half of the cereal seed requirement of these districts by 1988 (rest by farmers themselves) and that should assure rapid introduction of high yielding crop varieties.

## 2. PROJECT INTRODUCTION

The SPIS Project was launched in the beginning of 1980 to assist in establishing a system of local seed production in the mid-hill areas of Nepal backed by arrangements for the storage

and supply of other inputs so as to enhance the production of food crops and improve the economic condition of the farmers.

The Project grant agreement between HMG of Nepal and the government of the United States of America was signed on August 31, 1978. However, the host country contract between the International Agricultural Development Service (IADS) and Agriculture Inputs Corporation (AIC) acting on behalf of HMG/N was finalized on January 14, 1980 i.e. after a lapse of more than 16 months. The original completion date i.e. August 1983 was extended by a year in line with the Revised Project Implementation Strategy of June 1981 and on May 13, 1984 it was extended by one more year to August 31, 1985. The Project is expected to end on this date. This means that nearly 59 operational months are over and 8 months remain in the life of the Project.

As stated, there was delay (though unavoidable) in starting the project operations. Even after its launching, the Project had experienced rather slow progress in the beginning. This had necessitated some restructuring of the original work plan. Following the first evaluation of April 1981, the project scope was revised as contained in the document entitled "Revised Project Implementation Strategy".

Thereafter, consistent improvement has been experienced. In September 1982, mid-term evaluation was carried out which revealed that the Project was accomplishing an acceptable job. Since then, more steady progress has occurred as shown in this and previous reports. The Project Coordination Committee has held ten periodical meetings since inception and it continues to meet as often as necessary to review the progress and address problems if any.

3. PROJECT BUDGET

(USD 000)

|                                  | AID   | HMG/N | Peace Corps | Total |
|----------------------------------|-------|-------|-------------|-------|
| 1. Technical Assistance          | 1,312 | 524   | -           | 1,836 |
| 2. Commodities                   | 534   | 100   | -           | 634   |
| 3. Participant Training          | 607   | 42    | -           | 649   |
| 4. Extension Work                | -     | -     | 80          | 80    |
| 5. Social/Physiological Research | 60    | 5     | -           | 65    |
| 6. Construction                  | 1,306 | 705   | -           | 2,011 |
| 7. In-Country Training           | 100   | 20    | -           | 120   |
| 8. Contingency                   | 62    | -     | -           | 62    |
| 9. Evaluation                    | 50    | 2     | -           | 52    |
| Total                            | 4,031 | 1,398 | 80          | 5,509 |

4. OBJECTIVES AND SCOPE OF WORK

4.1 Primary Objective

In accordance with the contract, the main objective of the Project is to assist the Ministry of Agriculture to establish in the mid-hills a responsive and labour-intensive system for producing, testing, processing, storing and distributing seeds of major food crops; and for stocking and distributing all inputs (used in the production of these crops) to the small hill farmers as cheaply and effectively as possible.

4.2 Related Objectives

These are summarized below:

- to establish a seed production and supply system for the hills,
- to pave the way for the development of private seed producing and marketing enterprises,
- to create seed processing, treating, packaging and storage facilities at selected sites,
- to promote greater use of improved seeds in the hills,
- to ensure manpower development for future needs,
- to work towards qualitative improvement in seeds supplied to farmers,
- in addition, to assist HMG/N to improve all facets of the national seed production and distribution system.

#### 4.3 Scope of Work

In order to pursue the said objectives, the following activities were identified for implementation under the project:-

- Socio-economic and baseline surveys for the selection of sites for launching the project activities,
- establishing 16 mini-seedhouses (actual achievement 20),
- construction of 12 warehouses (actual achievement 14),
- providing support for social and physiological research,
- 1 long-term storages unit for germ plasma,
- establishment of the central seed testing laboratory at Khumaltar,
- expert consultancies covering about a dozen areas of technical specialization,

- to organize 26 in-country training sessions (actual achievement so far is 28),
- overseas degree courses for eleven participants, non-degree training program for 20 and need-based study tours of seed industry operations in other countries,
- supply and installation of equipment in the listed facilities, and
- organizing seed production storage and marketing in the operational sites.

## 5. AGRICULTURAL SITUATION

Like the previous year, 1984 also turned out to be a favourable year for crop production. Monsoon rains arrived early in May and continued throughout the season. Caught in unseasonal rains, timely harvesting and threshing of wheat seed, especially in the hills, received a setback and, as a result, less quantity of seed could be collected by AIC.

Record wheat production (also in India) depressed the market price to an unremunerative level. On the other hand there were reports of an exportable surplus of foodgrains after years of bare sufficiency.

Departing from the practice of regional prices, AIC announced a uniform sale price for wheat seed throughout the country (Rs. 425/q). For the hill areas this price turned out to be even lower than the grain price causing fears that the private seed business could suffer by such a policy.

Special production programs were launched during the year. They had good impact but the farmers could not realise a fair price for their produce. Consequently, suitable support prices were introduced for the main crops.

## 6. PROJECT REPORT

Everything considered, the Project made good progress during the year. For this purpose, the information given in the semi-annual report of July 1984 is relevant being an integral part of this report. Following is the supplementary information:

### 6.1 Technical Assistance

IADS continued to provide technical assistance for implementing the Project. The new Field Supervisor who

joined in December 1983 teamed up with a locally-recruited Seed Technologist to assist the mini-seedhouses in their smooth functioning. The Project Supervisor and Project Coordinator provided back-up assistance and regularly visited the Project sites to monitor progress and resolve the field problems. Logistic support was available from the Project office as usual.

Two specialists of APROSC completed a study on seed marketing and presented a seminar on the subject. They were able to identify snags and weaknesses in the present system which have been highlighted in their report alongwith specific recommendations.

In the month of July a seed pricing consultant from Mississippi State University, USA arrived to advise on this vital aspect. He submitted a useful report titled "Seed Pricing" in which various policy options were presented. The consultant stressed that for a policy on seed pricing to succeed simultaneous attention ought to be paid to internal and external quality control system, foundation seed program, development of superior varieties, seed storage and handling facilities and manpower development.

## 6.2 Construction

Early onset of monsoons hampered on-going construction work in several remote sites. Despite efforts to pick up the slack some construction remained incomplete at the close of the year. Construction at Chaurijhari (Rukum) lagged behind schedule and became a source of concern. Because of default on the part of the contractor, re-tendering appeared necessary and action to do so was underway in AIG office. Construction at Chainpur (Sankhuwasabha) and Bhojpur also experienced delays and continued to

proceed on snails' pace. Elsewhere, however, this activity was either completed or was close to completion.

Ironically, at some of the seedhouses the JTs discovered faults in design or work quality by the time they started to use the buildings. These were brought to the attention of Engineering Division for rectification. Also funds were made available for minor repairs wherever this was necessary. Most of the faults could be attributed to factors such as lax supervision by overseers, low bidding to win a contract or sheer lack of good masons for the job. Occasionally, cement curing remained inadequate for want of water. In some cases contractors showed a tendency to cut corners on wooden frames, doors and windows. However, given that the construction work had to be executed in remote areas, the accomplishment in a majority of the sites is of an acceptable quality. Construction of retaining walls being essential was approved at several of the sites. However sometime in the future AIC will still need to budget for a guard room and toilet facility as they do not exist in many seedhouses.

### 6.3 Procurement of Commodities

As funds were left even after completing the original plan of procurement, new items of need were identified and their purchase initiated. This included spare parts for vehicles and equipment, motorbikes, seed cleaners, maize shellers, gensets, seed bags and tarpaulins. The seed cleaners are motorized to be run by kerosene generators. They form a part of the second generation equipment to supplement hand-operated cleaners already supplied to the sites. Plans to import two field vehicles were kept in abeyance as the government announced austerity measures including a ban on vehicle importation for one year. Equipment already in stock was moved to Project sites, installed and demonstrated for regular use.

#### 6.4 Out-of-country Training

Under masters degree program eleven candidates were sent to the U.S.A. and Philippines. They all have successfully completed their studies and returned home to make a contribution in their respective positions. Non-academic training opportunity was availed by 26 persons in the course of the year which makes a total of 60 since 1984. Two different groups consisting of eight and fourteen persons from AIC and DOA, mostly field JTs, went to India for observation tour of seed program facilities. Whereas the first tour went to south India the second one visited relevant institutions in the north such as National Seeds Corporation, U.P. University of Agriculture and Technology, Pantnagar and Haryana State Seed Corporation. In addition, correspondence with FIS Seed Enterprise Development Program revealed the possibility of training 1 or 2 persons with U.S. seed companies during 1985.

#### 6.5 In-country Training

Under this activity, a variety of training courses were arranged for the benefit of official staff and private farmers who have interest in seed production program under the mini-seedhouse system. At each site, 40-45 seed growers attended one-day training sessions conducted by the concerned ADC, AIC Branch Manager, ADS Manager and site JT. In August a special course for 31 AIC and DOA staff members was organized at Hetauda for 2-weeks. It was presented by three specialists who came from Mississippi State and Kansas State Universities under USAID contracts. The course was entitled "Nepal Seed Quality Control and Storage Workshop" and it proved highly beneficial for those who attended.

To date 298 officials and 1200 farmers have attended courses organized by the Project, not to mention one-day sessions repeated from time to time as a regular activity. The training component under the Project has made a clear impact. Knowledgeable persons are now available for program appreciation, implementation and periodical evaluation.

#### 6.6 Social and Physiological Research

The storage trial conducted at Chandipokhari, Trishuli, in June 1983, was continued for one more season to find out which storage container holds good for two seasons to maintain the germinability of wheat seed.

Samples were drawn from every container in November 1984 and checked for seed moisture content, germination and pest infestation. Average seed moisture content had risen to 14 percent in the plain ghyampo and in the ghyampo with cowdung or mud and husk plaster. It was 13 percent in the ghyampo with white enamel paint while it stayed below 12 percent in the case of biscuit tins and polylined hessian bag. However, the polylining was found to be slightly torn as the gauge was below the recommended standard of 250. Visually, there were no weevil infestations and fungal development in the biscuit tins, polylined hessian bags and in all types of ghyampos except in the cracked ones. Yet the viability of seed went down to 0 percent in the case of the plain and cowdung or mud plastered ghyampos. It was found to be 96 percent in polylined hessian bags, 94 percent in the tins and 85 percent in the case of ghyampos with single coat white paint.

As is obvious, modified ghyampo with two coats of white enamel paint is a proper type of container for the safe storage of seed for Trishuli and similar environment. They are locally made in almost all the villages and are comparatively cheap. However, the initial moisture should not exceed 12 percent and the container should be protected from floor dampness.

## 6.7 Mini-Seedhouse Operation

Seed production of wheat, maize and rice continued at all the sites as planned. The site JTs were in place most of the time. Except for Fatan (Baitadi), Dipayal (Doti) and Dailekh, other seventeen sites showed satisfactory performance. Galkot site in Baglung district, which had problems before, has also turned the corner. The new JT Mr. D.R. Sharma and PCV Mr. Mike Ransom brought a lot of improvement. Among the best-run seedhouse were Sunder Bazar (Lamjung), Majuwa (Gulmi) and Chainpur (Sankhuwasabha). The concerned JTs have been awarded with letters of appreciation.

Integration of seedhouses with AIC's management structure is a significant gain of the year. Each seedhouse has now become a part of the local AIC Branch office such that regular supervision has been facilitated. Seed production plans under the Project are harmonized with AIC's annual plan of work. Thus, Branch Managers have specific targets to fulfill as a part of their work and so they take more interest in the success of the seedhouses.

A persisting constraint was experienced in non-availability of foundation seed (or even certified seed) for multiplication. Somehow for 1984-85 wheat (RR-21) crop AIC had no foundation seed for the hills and the program had to rely on make-shift arrangements. For similar reasons, maize program had to be curtailed from 138 ha to 77 ha only. The Seed Division of AIC has recognized the problem and taken it up with DOA for a resolution in the future.

Following recommendations of the 11th winter crops workshop, a new wheat variety Tribeni has been introduced in seed multiplication. Despite good reports from trials, the variety's performance is to be carefully watched. If successful, it might replace the aging RR-21. In case of rice, the variety Himali introduced last year is liked by farmers of several sites like Okhalahunga, Khotang and Lamjung and is likely to spread.

In respect of seed storage, two problems were noticed viz. rat havoc in rented godowns and damage to fumigation covers, again by rats. The first problem may not be the case next year for seed stored in a regular seedhouse. As for rat damage to fumigation covers steps are being taken to repair them and also to provide light polyethylene covers that can be tucked into a box when not in use.

As mentioned in other reports, the dual control of JTs by DCA and AIC remains a weak point in-so-far as management of seedhouses is concerned. During the year there were atleast four occasions when DCA "transferred" JTs without notice or consultation - of course in exercise of their prerogative. AIC recognizes this lingering flaw in the system and is willing to move towards having its own staff for SPIS Project activities.

The farmer-run system at Arughat (Gorkha) has stabilized and is set for growth except that its interest is hurt by AIC's policy of subsidizing seed. For instance in Nov. '84 the Seed Growers Association at the site had to ask for financial assistance to offset the adverse effect of a low wheat seed price in the country. By implication it means the private sector has to be treated on an equal footing in the matter of subsidies if it is to survive.

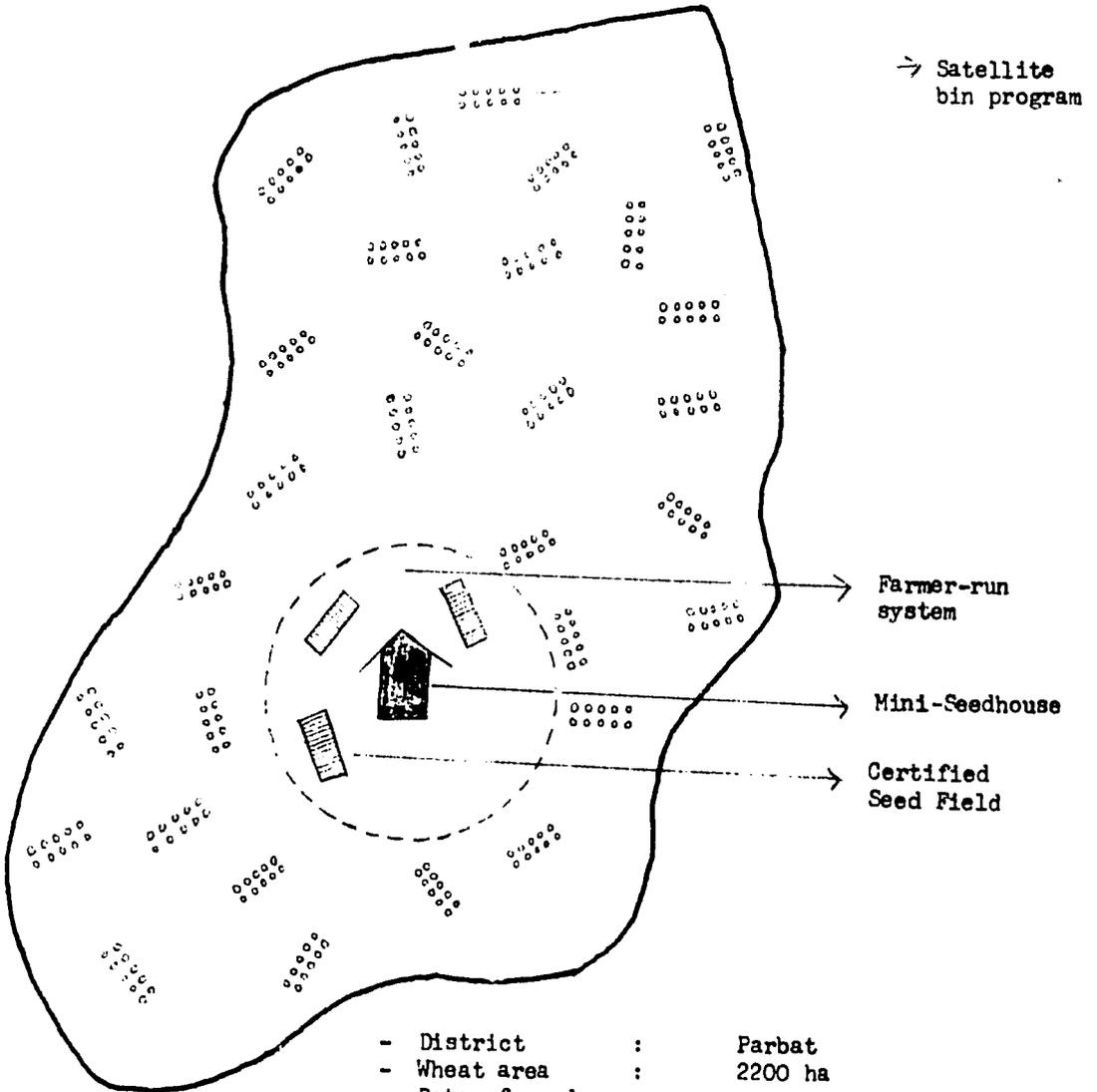
The efforts made to sell the slogan of private management were successful in converting (partially) three more sites into a farmer-run system. These are Charikot (Dolakha), Bhojpur and Bijuwar (Pyuthan). At Bijuwar, a women farmers' group has taken the lead in organizing seed production. A local leader Mrs. Shanta Worna is acting as co-Manager. The group has decided to produce 3 m.t. of wheat seed during the current season.

At the close of the year, eight volunteers from Peace Corps were in position at different sites and continued to make a valuable contribution in extension work and seedhouse operation. While 4 PCV completed their assignment and left, new ones came in on schedule. The present team includes two women volunteers.

The Project brought out a document named "Mini-Seedhouse Operation for Hill Seed Production and Supply" which provides an insight into the hill seed system being developed to serve the small hill farmers. Besides dealing with the present operation of the system, the document also sheds light on future seed development strategy. A plan for future management of the system has also been discussed.

The initial success in seed production is leading to ideas on expanding the scope of work in the coming years. Thus a blue print for satellite bin program has emerged. With its implementation, it should be possible to cover entire districts in the hill region for improved seed supply. This is illustrated in an accompanying diagram using Parbat district as an example.

SPIS Project  
Plan for wheat seed supply in a hill district



- District : Parbat
- Wheat area : 2200 ha
- Rate of seed multiplication : 1:15
- Total seed used : 265 m.t.
- Annual seed supply under mini-seedhouse system.
  - a. Certified - 8 m.t.
  - b. Improved - 20 m.t. (by SGA)
  - c. Improved -100 m.t. (by satellite producers)
- Foundation seed required every year -500 kg.

7. SUMMARY OF EVENTS

1. Workshop meeting with PCVs regarding prospects of a farmer-run system Jan 1-2, 1984
2. Field Supervisor, Mr. Peter G. Rood departs Jan 9
3. 1983 Annual Report published Jan 17
4. Second observation tour to India leaves Jan 23
5. Summer crops workshop at Parwanipur begins Jan 30
6. Tenth meeting of the FCC Feb 10
7. Farmers training at Diktel Feb 14-17
8. Project Director leaves for Bangkok for Fertilizer Marketing Workshop/Meeting Feb 20
9. JTs training at PAC, Pakhribas Mar 5-8
10. Mr. B.D. Pathak returns from AVRDC, Bangkok on completion of Second Vegetable Production Training course Mar 11
11. Charikot farmers visit Arughat Mar 11-17
12. IADS Vice-President arrives Mar 18
13. Four PCVs complete their assignment Apr 16
14. Mr. N.B. Shrestha starts officiating as GM/AC Apr 19
15. Mr. R.R. Sharma, participant returned from the Philippines May 12
16. Mr. K.B. Malla leaves for USA to attend management course May 13
17. Contract amendment for PACD extension signed May 13
18. Seed marketing seminar by AFROSC consultants May 16-21
19. Revised field guidelines issued May 23
20. Two new PCVs sworn-in May 25
21. Bhojpur farmers visit Arughat farmer-run system Jun 12-16

22. Mrs. R. Basnyat, participant, returned from the U.S.A. June 14
23. JTs training at Charikot July 1-4
24. Mini-Seedhouse Operation Report published July
25. FY 41/42 work schedule and semi-annual report published July
26. Dr. W.C. Couvillion, Seed Pricing Consultant arrives July 16
27. Mr. R.P. Singh, participant, returned to Kathmandu on completion of MBA degree program from U.S. July 17
28. Dr. Baldev Prasad of IARI, India arrives for lectures July 28
29. Seed Storage Quality Control Workshop held at Hetauda Aug 1-12
30. Mr. A.M. Tamrakar leaves for India for fertilizer conference Aug 12
31. New Seed Testing Laboratory becomes operational Aug 17
32. Mr. R.K. Misra, participant, returned to Kathmandu from the U.S.A. Aug 21
33. Project Supervisor attended Wheat Workshop at Bhairahawa Sep 3-5
34. IADS Vice-President arrives Sep 6
35. JTs meeting held at Kathmandu Sep 24-25
36. Project Supervisor proceeds on home leave Sep 29
37. Five new FGVs sworn-in (but one had to go back) Sep 29
38. Third batch left for India observation tour Oct 11
39. Dr. K.B. Rajbhundary appointed as the new General Manager of AIC Nov 1

40. Meeting with BYS held at Sundarbazar for turbine operation Nov 23
41. Messrs K.L. Srivastava and S.B. Shrestha, AIC officials left for Bangkok to attend IFDC Fertilizer Marketing Program for the Asian Region Nov 25
42. Second instalment budget allocated to SFISP sites Dec 23
43. Informational brochure up-dated Dec 24
44. Paper on SFIS Project prepared for FAO seminar at Islamabad Dec 30
45. Mr. R.N. Utis's assignment terminates Dec 31

8. PARTICIPANTS TRAINING POSITIONS AS ON 31 DECEMBER 1984

| Participant                                 | Subject | Country     | Period of Study  | Remarks                                 |
|---|---------|-------------|------------------|---|
| <u>ACADEMIC (Target 10, Achievement 11)</u> |         |             |                  |   |
| B.D. Parajuli                               | MBA     | Philippines | May 81 to Feb 83 |   |
| C.D. Acharya                                | MS      | USA         | Aug 81 to Aug 83 |   |
| G.L. Shrestha                               | MS      | USA         | Aug 81 to Nov 83 |   |
| R.P. Singh                                  | MBA     | USA         | Sep 81 to Jun 84 |   |
| S.K. Shrestha                               | MS      | Philippines | Nov 82 to Aug 84 |   |
| R.R. Sharma                                 | MS      | Philippines | Nov 82 to May 84 |   |
| M.N. Shrestha                               | MS      | Philippines | Oct 82 to Aug 84 |   |
| B.R. Nakya                                  | MS      | Philippines | Oct 82 to Aug 84 |   |
| C.B. Shrestha                               | MS      | Philippines | Oct 82 to Aug 84 |   |
| R.K. Mishra                                 | MA      | USA         | Aug 83 to Aug 84 |   |
| R. Basnyat (Ms)                             | MA      | USA         | Aug 82 to Jun 84 | Originally under non-academic training. |

NON-ACADEMIC (Target 28, Achievement 62)

|               |                            |             |                  |  |
|---------------|----------------------------|-------------|------------------|--|
| G.B. Chand    | Rice Production            | Philippines | Mar 81 to Nov 81 |  |
| G.B. Chand    | Vegetable Seed             |             |                  |  |
|               | Production Tech.           | Philippines |                  |  |
| H.B. Halla    | Seed Production Inspection | USA         | Mar 82 to Aug 82 |  |
| B.P. Parajuli | FAO/CIDA Conference        | Kenya       | May 81 to Jun 81 |  |
| T.B. Karki    | Irrigated Wheat Production | Mexico      | Apr 82 to Dec 82 |  |

| Participant  | Subject                              | Country  | Period of Study         | Remarks |
|--|--------------------------------------|--|-------------------------|---------|
| G.M. Manandhar   | Seed Improvement                     | Columbia   | Oct 82 to Dec 82        |         |
| P. Gautam  | Marketing Mgmt.                      | Indonesia  | Nov 3 to 24, 82         |         |
| B.F. Regmi   | Food Technology                      | Philippines  | Jan 84 to Jul 84        |         |
| B.D. Pathak  | Veg. Production                      | Thailand   | Oct 83 to Apr 84        |         |
| G.B. Pandey  | Marketing Mgmt.                      | U.S.A.   | Aug 83 to Sep 83        |         |
| R.B. Singh   | Conference                           | India  | Dec 80                  |         |
| R.B. Singh<br>A.M. Pradhananna<br>B.N. Kavastha<br>K.L. Rajbhandary (Ms)<br>G.B. Thapa | Observa-<br>   tion<br>   Tour       | India, USA,<br>Japan, Korea,<br>Philippines,<br>Hongkong,<br>Bangkok | 2 Jan 81-30 Jan 81      |         |
| G.R. Shrestha   <br>S.R. Pant  | Conference                           | India  | 26 Jan 81-1 Feb 81      |         |
| E. Pradhan(Ms)   | IFDC/Fertilizer<br>Marketing Seminar | USA  | Aug 82 to Sep 82        |         |
| K.L. Rajbhandary (Ms)   <br>H.B. Shrestha   <br>S.S. Bal                               | 20th ISTA<br>   Conference           | Canada   | Jun 17 to Jun 25        |         |
| A.R. Mathema   | Observation<br>Tour                  | India  | Jan 22 to Feb 6, 83     |         |
| P.N. Rana<br>S.S. Bal<br>B.K. Sharma<br>K.R. Rajbhandary<br>G.D. Misra<br>N.P. Nain    | <br>   Observation<br>   Tour        | India,<br>Thailand,<br>Philippines,<br>South Korea                   | Mar 3, 83 to Mar 23, 83 |         |
| P.N. Rana  | Fertilizer<br>Seminar                | Bangkok  | 22-25 Feb 83            |         |

| Participant   | Subject  | Country | Period of Study      | Remarks |
|---|--|---------|----------------------|---------|
| B.N. Kayastha<br>F.G. Reod<br>J.B. KC<br>M.B. Shrestha<br>H.P. Neupane<br>N.R. Sapkota<br>L. Chakya<br>S.J. Phynyal<br>Ram Shrestha   | Observation<br>Tour by<br>9 participants   | India   | 15 Mar 83 - 1 Apr 83 |         |
| F.N. Rana   | Conference   | India   | 19 Apr 83-24 Apr 83  |         |
| C.M. Manandhar<br>C.C. Gurung<br>N.R. Silwal<br>K.M. Chapagain<br>J.P. Mishra<br>B.M. Tripathi<br>B.N. Sharma<br>B.B. Karki   | Observation<br>Tour by 8<br>field staff  | India   | 23 Jan to 8 Feb 84   |         |
| K.B. Malla  | Management of<br>Govt. Organiza-<br>tions in Developing<br>Countries (USDG Course<br>No. 140-23) | USA     | 21 May 84-13 Jul 84  |         |
| A.M. Tamrakar   | Fertilizer<br>Conference   | India   | 12 August            |         |
| B.P. Farajuli<br>S.L. Bajracharya<br>D.K. Karki<br>B. Shrestha<br>B.L. Shah<br>G. K.C.<br>S.D. Bhattarai<br>H.K. Prasad<br>J.L. Khatri<br>S.D. Mandal<br>B.K. Raj<br>D.K. Bhattarai<br>D.R. Budathoki | Observation<br>Tour by<br>14 participants  | India   | Oct 10-Oct 23, 1984  |         |
| K.L. Thrivastava<br>S.B. Shrestha   | IFDC Fertilizer<br>Marketing Program<br>for the Asian<br>Region                                  | Bangkok | Nov 26-Dec 8, 1984   |         |

9. (a) ENCOUNTERY TRAINING COURSES

| No. | Subject                                       | Date             | Participants | Venue       |
|-----|---|------------------|--------------|-------------|
| 1.  | Crop Seed Production                          | Aug 3-5 Sep 1980 | 25 Officials | Kathmandu   |
| 2.  | Maize Production                              | Jan 5-8 1981     | 28 Farmers   | Rampur      |
| 3.  | Veget. Seed Production                        | May 15-20        | 25 Farmers   | Narpha      |
| 4.  | Trainers Training                             | Aug 2-12         | 10 Officials | Kathmandu   |
| 5.  | Wheat Seed Production                         | Oct 19-22        | 25 Farmers   | Sundarbazar |
| 6.  | Wheat Seed Production                         | Nov 6            | 23 Farmers   | Trishuli    |
| 7.  | Grain and Seed Storage                        | Nov 9-19         | 20 Officials | Khairnitar  |
| 8.  | Seed Quality and<br>Field Inspections         | Jan 17-22, 1982  | 17 Officials | Khumaltar   |
| 9.  | Seed Storage and<br>Handling                  | Mar 11-14        | 22 Officials | Biratnagar  |
| 10. | Seed Production and<br>Handling               | Mar 14-17        | 25 Officials | Nopalgunj   |
| 11. | Seed Production                               | March 26         | 28 Farmers   | Dhadingbesi |
| 12. | Seed Production, Seed<br>Storage and Handling | Mar 29-1 April   | 22 Officials | Bhairahawa  |
| 13. | Seed Production and<br>Handling               | Aug 9-11         | 30 Farmers   | Charikot    |
| 14. | Seed Production and<br>Handling               | Oct 3-5          | 40 Farmers   | Baglung     |
| 15. | Seed Production                               | Nov 7-9          | 35 Farmers   | Gorkha      |
| 16. | Seed Production<br>and Handling               | Jan 2-7, 1983    | 30 Officials | Trishuli    |

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| No. | Subject                              | Date            | Participants | Venue       |
|-----|--------------------------------------|-----------------|--------------|-------------|
| 17. | Seed Production                      | Feb 2-3         | 38 Farmers   | Gulmi       |
| 18. | Seed Production and Handling         | April 10-11     | 35 Farmers   | Ejuthan     |
| 19. | Seed Production and Handling         | June 13-15      | 45 Farmers   | Dandeldhura |
| 20. | Seed Handling and Storage            | Aug 15-17       | 25 Officials | Janakpur    |
| 21. | Seed Production Technology (for JTs) | Sept 14-16      | 12 Officials | Trishuli    |
| 22. | Seed Handling, Storage and Marketing | Oct 9-11        | 27 Officials | Khadrenitar |
| 23. | Seed Production and Handling         | Feb 24-27, 1984 | 30 Farmers   | Diktel      |
| 24. | Seed Production Workshop             | March 5-8       | 15 Officials | Pakhribas   |
| 25. | Observation Tour                     | March 11-19     | 20 Farmers   | Arughat     |
| 26. | Observation Tour                     | June 12-16      | 5 Farmers    | Arughat     |
| 27. | Seed Production                      | July 1-4        | 17 Officials | Churikot    |
| 28. | Seed Quality Control Workshop        | Aug 1-12        | 31 Officials | Hetauda     |

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Total : Officials - 298

Farmers - 407

Also, program orientation sessions were held at Kathmandu with the JTs on September 18 and September 24.

A conference was held with PCVs on December 23.

9. (b) ONE-DAY FARMERS TRAINING ORGANIZED AT DIFFERENT SITES IN 1984

| Site            | District      | No. of Farmers | Date         |
|-----------------|---------------|----------------|--------------|
| 1. Doti         | Doti          | *              | Jan 31, 1984 |
| 2. Jirikhimti   | Terathum      | *              | February 8   |
| 3. Chaurijhari  | Rukum         | *              | February 23  |
| 4. Phidim       | Panchthar     | *              | February 25  |
| 5. Jirikhimti   | Terathum      | *              | March 11     |
| 6. Dailekh      | Dailekh       | *              | March 25     |
| 7. Yamkha       | Khotang       | *              | April 13     |
| 8. Chainpur     | Sankhuwasabha | *              | April 12     |
| 9. Charikot     | Dolakha       | *              | April 23     |
| 10. Galkot      | Baglung       | *              | May 4        |
| 11. Doti        | Doti          | *              | April 6      |
| 12. Galkot      | Baglung       | 47             | Oct 21       |
| 13. Gyandi      | Parbat        | 43             | Oct 22       |
| 14. Trishuli    | Nuwakot       | 46             | Oct 22       |
| 15. Doti        | Doti          | 46             | Nov 1        |
| 16. Charikot    | Dolakha       | 49             | Nov 4        |
| 17. Yamkha      | Khotang       | 18             | Nov 13       |
| 18. Dhadinbesi  | Dhading       | 44             | Nov 8        |
| 19. Chainpur    | Sankhuwasabha | 29             | Nov 23       |
| 20. Pakhribas   | Dhankuta      | 22             | Nov 26       |
| 21. Jirikhimti  | Terathum      | 32             | Nov 27       |
| 22. Majhuwa     | Gulmi         | 64             | Nov 30       |
| 23. Rampurta    | Okhaldhunga   | 57             | Nov 30       |
| 24. Phidim      | Panchthar     | *              | Dec 11       |
| 25. Bhojpur     | Bhojpur       | 51             | Dec 13       |
| 26. Sundarbazar | Lamjung       | 35             | Dec 25       |
| 27. Patan       | Baitadi       | 14             | Dec 25       |
| 28. Arughat     | Gorkha        | 26             | Nov 13       |

\* On an average, 35 farmers participated.

10. TECHNICAL CONSULTANTS STATUS

| No. | Name   | Field  | Date                 |
|-----|--|--|----------------------|
| 1.  | Dr. J.F. Harrington                                    | Veg. Seed Production                             | 11 Apr - 31 May 1981 |
| 2.  | Mr. Paul Koostra                                       | Seed Technology                                  | 19 Jun - 18 Jul 1981 |
| 3.  | Mr. E.D. Perdon  | Extension and Communication                      | 1 Jul - 28 Aug 1981  |
| 4.  | Dr. Paul Kaplan  | Socio-Economic Survey                            | 11 Sep - 11 Dec 1981 |
| 5.  | Dr. A.H. Boyd  | Humidity and Temperature Control in Seed Storage | 3 Nov - 13 Nov 1981  |
| 6.  | Dr. J.R. Pedersen                                      | Field and Storage Pest Control                   | 9 Nov - 19 Nov 1981  |
| 7.  | Dr. G. Huro  | Storage Management                               | 9 Nov - 19 Nov 1981  |
| 8.  | Dr. P.R. Mezynski                                      | Seed Production and Seed Storage                 | 13 Apr - 9 May 1982  |
| 9.  | Dr. A.H. Boyd  | Seed Drying Packaging and Storage                | 13 Apr - 9 May 1982  |
| 10. | Mr. R.G. Griffiths                                     | Field Inspections and Seed Analysis              | 5 Jun - 4 Jul 1982   |
| 11. | Dr. J.C. Delcuhe                                       | Seed Technology and Research                     | 26 Sep - 12 Oct 1982 |
| 12. | Dr. Bill Gress   | Seed Drying, Packaging and Storage               | 14 Feb - 19 Feb 1983 |
| 13. | Dr. J.E. Douglas                                       | Seed Program Development and Management          | 21 Feb - 12 Mar 1983 |
| 14. | Mr. Binod Sijapati<br>Mr. K.B. Hamal                   | Seed Handling and Marketing                      | 1 Jun - 1 Sep 1983   |
| 15. | Dr. A.H. Boyd<br>Dr. J. Pedersen<br>Dr. Charles Vaughn | Seed Storage and Quality Control Workshop        | 26 Jul - 17 Aug 1984 |
| 16. | Dr. Baldev Prasad                                      | Biological Control of Insects                    | 28 Jul - 4 Aug 1984  |
| 17. | Dr. W.C. Couvillion                                    | Seed Pricing                                     | 16 Jul - 28 Jul 1984 |

11. CONSTRUCTION REVIEW

| No. | Site        | Project           | Contractor's Name        | Contract Date | Contract Amount (Rs)  | Work in Progress % |
|-----|-------------|-------------------|--------------------------|---------------|-----------------------|--------------------|
| 1.  | Damauli     | Small Warehouse   | Standard Construction    | 040.4.23      | 450,697.20            | 100                |
| 2.  | Waling      | Small Warehouse   | Gorkha Construction      | 038.3.23      | 486,632.33            | 100                |
| 3.  | Ghorahi     | Small Warehouse   | Anna Nirman Sewa         | 038.10.5      | 793,830.60            | 100                |
| 4.  | Dhadimbosi  | Mini Seedhouse    | Annapurna Construction   | 038.1.9       | 350,070.50            | 100                |
| 5.  | Trishuli    | Mini Seedhouse    | Dhara Shrestha M. Sewa   | 038.1.4       | 252,779.97            | 100                |
| 6.  | Sunderbazar | Mini Seedhouse    | Santosh & Laxman H. Sewa | 038.1.31      | 335,884.66            | 100                |
| 7.  | Kruphat     | Mini Seedhouse    | Dhan Nirman Sewa         | 038.7.4       | 247,554.85            | 100                |
| 8.  | Gyandi      | Mini Seedhouse    | Muktinath Nirman Sewa    | 038.12.24     | 531,155.25            | 100                |
| 9.  | Galkot      | Mini Seedhouse    | Siddiganesh Lama Nirman  | 038.6.4       | 388,659.82            | 100                |
| 10. | Morpha      | Small Warehouse   | Narendra Nirman Sewa     | 035.12.22     | 1,242,115.76          | 100                |
| 11. | Chaurijhari | Small Warehouse   | Swaradwari Const. Sewa   | 039.1.9       | 899,430.86            | 70                 |
| 12. | Surkhet     | Small Warehouse   | Chruha Const. Sewa       | 039.2.19      | <del>530,437.90</del> | 100                |
| 13. | Charikot    | Mini Seedhouse    | Thosetapu Nirman Sewa    | 039.2.19      | 424,589.38            | 100                |
| 14. | Naajhuwa    | Mini Seedhouse    | Tribeni Construction     | 039.4.10      | 323,819.74            | 100                |
| 15. | Ilam        | Small Warehouse   | Jaya Santoshi Ma Nirman  | 039.9.15      | 408,834.17            | 100                |
| 16. | Sindhuli    | Attached Seedroom | Sudhami Builders         | 039.10.6      | 97,898.50             | 100                |
| 17. | Daman       | Seed Godown       | Shankar & Trishul Const. | 039.12.17     | 191,650.64            | 100                |
| 18. | Okhaldhunga | Mod. Seedhouse    | Star Construction        | 039.11.26     | 427,124.00            | 100                |
| 19. | Diktel      | Mod. Seedhouse    | Tammar Construction      | 040.1.15      | 546,862.50            | 90                 |
| 20. | Phidim      | Mod. Seedhouse    | Khagendra Const.         | 040.2.9       | 466,305.60            | 100                |
| 21. | Pakhribas   | Mini Seedhouse    | Ditya Construction       | 040.2.30      | 227,975.80            | 100                |
| 22. | Patan       | Mini Seedhouse    | Anirudra Nirman Sewa     | 040.3.21      | 371,200.35            | 100                |
| 23. | Sanfebazar  | Small Warehouse   | Tammar Construction      | 040.3.31      | 1,317,723.00          | 90                 |

Contd...

| No. | Site         | Project                             | Contractor's Name         | Contract Date | Contract Amount (Rs) | Work in Progress % |
|-----|--------------|-------------------------------------|---------------------------|---------------|----------------------|--------------------|
| 24. | Chainpur (B) | Small Warehouse                     | Star Construction         | 04.04.26      | 1,358,247.60         | 100                |
| 25. | Chainpur (C) | Mini Seedhouse                      | DF Construction           | 04.04.9       | 278,711.19           | 70                 |
| 26. | Iyuthan      | Mod. Seedhouse                      | Rishi Shanti Const.       | 04.03.21      | 384,324.60           | 95                 |
| 27. | Dipayal      | Mod. Seedhouse                      | Star Construction         | 04.04.16      | 602,237.54           | 100                |
| 28. | Dadeldhura   | Seed Store                          | Muktinath Nirman Sewa     | 04.04.26      | 212,067.00           | 100                |
| 29. | Terathum     | Mod. Seedhouse                      | Ganga Pd. Dhundana Nirman | 04.04.8       | 689,083.60           | 90                 |
| 30. | Bhojpur      | Mod. Seedhouse                      | Tulsilaxmi Construction   | 04.03.21      | 316,320.18           | 70                 |
| 31. | Falpa        | 200 MT Seedpdown                    | Rambha Construction       | 04.05.12      | 412,976.39           | 100                |
| 32. | Udairpur     | Small Warehouse                     | Yak & Yoti Construction   | 04.05.2       | 931,125.96           | 90                 |
| 33. | Khumaltar    | Seed Laboratory                     | Mariwan Lal & Brothers    | 03.7.26       | 973,761.06           | 100                |
| 34. | Sunderbazar  | Chaukidar Qtr                       | Chankaman Threstha        | 03.12.9       | 24,883.06            | 100                |
| 35. | Dhadingbasi  | Chaukidar Qtr                       | Hyankaji Kadel            | 04.02.30      | 25,065.64            | 100                |
| 36. | Dailikh      | Mod. Seedhouse                      | Purbeli Nirman Sewa       | 04.04.26      | 535,009.20           | 100                |
| 37. | Galkot       | Chaukidar Qtr                       | Siddhi Ganesh Nirman Sewa | 03.11.12      | 17,226.45            | 100                |
| 38. | Gyandi       | Chaukidar Qtr                       | Muktinath Nirman Sewa     | 03.12.24      | 20,480.03            | 100                |
| 39. | Chariket     | Chaukidar Qtr                       | Thase Tapoo Nirman Sewa   | 03.10.27      | 20,645.94            | 100                |
| 40. | Najawa       | Chaukidar Qtr                       | Tribeni Construction      | 04.03.9       | 18,092.07            | 100                |
| 41. | Khumaltar    | Genetic Seed Storage Covering Shed. | Maryanlal & Brothers      | 04.04.12      | 89,630.00            | 100                |

NB: Contract cost of Chaukidar Quarter of Galkot, Gyandi, Chariket and Najawa is included in the total activity of respective sites.

12. COMMODITY PROCUREMENT (Major items only)

12.1 Procured till December 31, 1984

| Items  | Quantity<br>Received |
|--|----------------------|
| Honda motor bike with spare parts                                    | 12                   |
| International Harvester Scout II vehicle<br>with spare parts         | 9                    |
| Clay barn ventilator   | 41                   |
| M2B Clipper Cleaner with screens                                     | 10                   |
| Dole Portable Moisture Tester  | 37                   |
| Voltage Stabilizer   | 8                    |
| Hand Operated Seed Drum Treater                                      | 40                   |
| Model 30 Seed Cleaner  | 17                   |
| Tarpaulins   | 56                   |
| Cenco Const. Temp. Oven  | 1                    |
| Sprayer  | 40                   |
| Every Platform Scales  | 28                   |
| Fumigation Cover   | 20                   |
| Model 76 FG 3M" 107" Coper 90  | 1                    |
| Spare parts for crippen cleaner Model<br>A-342LH Serial No. 2300-467 |                      |
| Cyclone Sample Mill, 220/50 Belt driven                              | 1                    |
| Model A Z/4340N Electric Automatic<br>Steroclave 220V 50 cycle       | 1                    |
| UNA Dyn Dehumidifier 220V  | 1                    |
| Bag Closer   | 10                   |
| Clipper TV Winoover  | 1                    |

| Items  | Quantity Received |
|--|-------------------|
| Overhead Projector   | 2                 |
| Slide Projector with zoom lens   | 2                 |
| B 100 x Blacklight Lamp 220 V  | 2                 |
| Van Chevrolet, Eng. No. T 1015 (Grant from AID)  | 1                 |
| Universal Moisture Testers   | 10                |
| Seed Plant Vacuum Cleaning System  | 5                 |
| Bally Case & Coller Genetic Seed Storage Unit  | 1                 |
| Water Turbine & Generating set   | 1                 |
| Diesel Generator 15 KW   | 1 (USA)           |
| Diesel Generator 5 KW  | 1 (NEPAL)         |
| Picup-up Chevrolet (US AID Grant)  | 1                 |
| Automatic Voltage Regulator  | 1                 |
| Refrigeration System for Germination Room<br>One special remote RM-100-1 Condensing unit<br>with 1-BA 100 A-1 Evaporator | 1                 |
| Control Box for 20° Germination Room   | 1                 |
| Control Box 30° Germination Room   | 1                 |
| Axial Fans: 220 CFM  | 2                 |
| Single Phase Heater  | 2                 |
| Maize Miller   | 21                |
| Honda Generator (Portable)   | 1                 |
| Suzuki Generators  | 2                 |
| Yamaha Generator 5000 T 3 phase  | 1                 |
| Dole 400 parts   | -                 |
| Calculators  | 20                |

12.2 Ordered for Procurement

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| Items                | Quantity |
|----------------------|----------|
| Trail Bikes          | 2        |
| OSAW moisture meters | 4        |
| Hygrometers          | 25       |
| 2.5 KVA Genset       | 7        |
| M2B Seed Cleaners    | 5        |
| Bar Closers          | 5        |
| Parts for JH Scout   | -        |

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13. STATUS OF SEED PRODUCTION SITES

| No. | Site        | Supervising<br>AIC Office | Seedhouse<br>Status      | Name of<br>JT  | PCV                                   | Remarks                                    |
|-----|-------------|---------------------------|--------------------------|----------------|---------------------------------------|--|
| 1.  | Chariket    | Chariket                  | In use                   | N.R. Bapkota   | -                                     | IHDI cooperating & a<br>farmer run system. |
| 2.  | Trishuli    | Trishuli                  | In use                   | R.C. Foudel    | Served by R. Iltis                    |  |
| 3.  | Dhadinbesi  | Dhadin                    | In use                   | R.N. Chrestha  | Served by Larry                       | Solar dryer installed                      |
| 4.  | Garkhat     | Garkha                    | In use                   | D.K. Chrestha  | Served by Rick                        | Farmer run Pilot site                      |
| 5.  | Sunderbazar | Besisahar                 | In use                   | J.B. KC        | Served by R. Iltis                    |  |
| 6.  | Galkot      | Baglung                   | In use                   | D.R. Sharma    | Being served by Mike                  |  |
| 7.  | Gyandi      | Kusma                     | In use                   | R.C. Bhushal   | Served by Jarel                       |  |
| 8.  | Majhuwa     | Tamghas                   | In use                   | K.N. Chapagain | Served by Bill                        | Womens' organization<br>formed             |
| 9.  | Bijumar     | Gyuthan                   | Under<br>completion      | B.M. Sharma    | Being served by<br>Cheryl Browning    |  |
| 10. | Rampurta    | Chhaldhunga               | In use                   | R.L. Mandal    | Being served by Jayne                 | Potential for farmer-run<br>system         |
| 11. | Dipawal     | Doti                      | In use                   | N.B. Dhani     | Being served by John                  |  |
| 12. | Patan       | Baritadi                  | Completed                | J.C. Bista     | Being served by Steve                 |  |
| 13. | Varaha      | Diktal                    | Completed                | S.L. Khatri    | -                                     |  |
| 14. | Chaurpur    | Mhandbari                 | Under cons-<br>truction  | H.K. Prasain   | Being served by<br>Mark Hickenheiser  |  |
| 15. | Phidim      | Phidim                    | Completed                | B.K. Raj       |                                       | Potential for a<br>cooperative centre      |
| 16. | Pakhribas   | Chankuta                  | In use                   | O.K. Chrestha  | Being served by Jim                   | AIC cooperating                            |
| 17. | Jirikhimti  | Terathum                  | Completed                | D.R. Budathoki |                                       | Potential for farmer-run<br>system         |
| 18. | Bhojpur     | Bhojpur                   | Under cons-<br>truction  | D.K. Bhattarai | Being served by<br>Richard Rosecrance | Farmer organization<br>set-up              |
| 19. | Daflekh     | Daflekh                   | Completed                | S.D. Mandal    | -                                     |  |
| 20. | Chaurijhari | Chaurajhari               | Under cons-<br>truction. | K.P. Pokharel  |                                       | ICF cooperating                            |

Note 1. Seed production is on-going at all these sites.

2. Chaurijhari site combines both mini-seedhouse and warehouse functions.

14. SEED PRODUCTION PROGRAM (1984-85)

14 A. Wheat

| NO.   | DEVELOPMENT REGION             | TYPE        | DISTRICT      | AREA (ha) | ESTIMATED PRODUCTION (m.t.) |
|-------|--------------------------------|-------------|---------------|-----------|-----------------------------|
| 1.    | EASTERN DEVELOPMENT REGION     | Rampurtar   | Okhaldhunga   | 11        | 16.50                       |
| 2.    |                                | Phidim      | Fenchthar     | 12        | 18.00                       |
| 3.    |                                | Chainpur    | Bankhuwasabha | 17        | 25.50                       |
| 4.    |                                | Fakhribas   | Dhankuta      | 16        | 24.00                       |
| 5.    |                                | Jirikhimti  | Terathum      | 9         | 13.50                       |
| 6.    |                                | Yamkha      | Khetang       | 9         | 13.50                       |
| 7.    |                                | Bhojpur     | Bhojpur       | 17        | 25.50                       |
| 8.    | CENTRAL DEVELOPMENT REGION     | Trishuli    | Muzakot       | 22        | 33.00                       |
| 9.    |                                | Charikot    | Dolakha       | 10        | 15.00                       |
| 10.   |                                | Dhadingbesi | Dhading       | 7         | 10.50                       |
| 11.   | WESTERN DEVELOPMENT REGION     | Arushat     | Gorkha        | 11        | 16.50                       |
| 12.   |                                | Sundarbazar | Lamjung       | 27        | 40.50                       |
| 13.   |                                | Gyandi      | Parbat        | 16        | 24.00                       |
| 14.   |                                | Galkot      | Baglung       | 7         | 10.50                       |
| 15.   |                                | Majhuwa     | Gulmi         | 27        | 40.50                       |
| 16.   | MID-WESTERN DEVELOPMENT REGION | Bijuwar     | Iyuthan       | 10        | 15.00                       |
| 17.   |                                | Chaurijhari | Rukum         | 11        | 16.50                       |
| 18.   |                                | Dailekh     | Dailekh       | 9         | 13.50                       |
| 19.   | EAR-WESTERN DEVELOPMENT REGION | Patan       | Baitadi       | 5         | 7.50                        |
| 20.   |                                | Dipayal     | Doti          | 4         | 6.00                        |
| TOTAL |                                |             |               | 257       | 385.50                      |

Varieties: RR-21, UF 262 (in lower elevations), NL 30 (in Bijuwar) and Tribeni

14. B. Maize\*

| NO.   | DEVELOPMENT REGION             | SITE        | DISTRICT      | AREA (ha) | ESTIMATED PRODUCTION (m.t.) |
|-------|--------------------------------|-------------|---------------|-----------|-----------------------------|
| 1.    | EASTERN DEVELOPMENT REGION     | Rampurtar   | Okhaldhunga   | 10        | 15.00                       |
| 2.    |                                | Phidim      | Panchthar     | 3         | 4.50                        |
| 3.    |                                | Chainpur    | Sankhuwasabha | 3         | 4.50                        |
| 4.    |                                | Fakhribas   | Dhankuta      | 10        | 15.00                       |
| 5.    |                                | Jirikhimti  | Terathum      | 2         | 3.00                        |
| 6.    |                                | Yamkha      | Khotang       | 2         | 3.00                        |
| 7.    |                                | Bhojpur     | Bhojpur       | 5         | 7.50                        |
| 8.    | CENTRAL DEVELOPMENT REGION     | Trishuli    | Nuwakot       | 5         | 7.50                        |
| 9.    |                                | Charikot    | Dolakha       | 5         | 7.50                        |
| 10.   |                                | Dhadinebesi | Dhading       | 4         | 6.00                        |
| 11.   | WESTERN DEVELOPMENT REGION     | Arughat     | Gorkha        | 6         | 9.00                        |
| 12.   |                                | Sundarbazar | Lamjung       | 5         | 7.50                        |
| 13.   |                                | Gyandi      | Parbat        | 2         | 3.00                        |
| 14.   |                                | Galkot      | Baglung       | 2         | 3.00                        |
| 15.   |                                | Majhuwa     | Gulmi         | 5         | 7.50                        |
| 16.   | MID-WESTERN DEVELOPMENT REGION | Bijuwar     | Pyuthan       | 4         | 6.00                        |
| 17.   |                                | Chaurijhari | Rukum         | 2         | 3.00                        |
| 18.   |                                | Dailekh     | Dailekh       | 1         | 1.50                        |
| 19.   | FAR-WESTERN DEVELOPMENT REGION | Patan       | Baitadi       | 1         | 1.50                        |
| 20.   |                                | Dipayal     | Doti          | 0.5       | 0.75                        |
| TOTAL |                                |             |               | 77.50     | 116.25                      |

Varieties: Khumal yellow, Arun, Rampur composit, Hetauda Composit and Sarlahi Seto.

\* The original program curtailed from 138 ha to 77.5 ha.

14. C. Rice \*

| NO.   | DEVELOPMENT<br>REGION                | SITE        | DISTRICT      | AREA<br>(ha) | ESTIMATED<br>PRODUCTION (m.t.) |
|-------|--------------------------------------|-------------|---------------|--------------|--------------------------------|
| 1.    | EASTERN<br>DEVELOPMENT<br>REGION     | Rampurur    | Okhaldhunga   | 2            | 4.0                            |
| 2.    |                                      | Phidim      | Panchthar     | 1            | 2.0                            |
| 3.    |                                      | Chainpur    | Sankhuwasabha | 1            | 2.0                            |
| 4.    |                                      | Pakhribas   | Dhankuta      | 2            | 4.0                            |
| 5.    |                                      | Jirikhimti  | Terathum      | 1            | 2.0                            |
| 6.    |                                      | Yamkha      | Khotang       | -            | -                              |
| 7.    |                                      | Bhojpur     | Bhojpur       | 1            | 2.0                            |
| 8.    | CENTRAL<br>DEVELOPMENT<br>REGION     | Trishuli    | Muzkot        | 1            | 2.0                            |
| 9.    |                                      | Chariket    | Dolakha       | 1            | 2.0                            |
| 10.   |                                      | Dhadinebasi | Dhadine       | 1            | 2.0                            |
| 11.   | WESTERN<br>DEVELOPMENT<br>REGION     | Krushat     | Gorkha        | 2.5          | 5.0                            |
| 12.   |                                      | Sundarbazar | Lamjung       | 1            | 2.0                            |
| 13.   |                                      | Gyandi      | Parbat        | 1            | 2.0                            |
| 14.   |                                      | Galkot      | Baglung       | 1            | 2.0                            |
| 15.   |                                      | Hajura      | Gulmi         | 1            | 2.0                            |
| 16.   | MID-WESTERN<br>DEVELOPMENT<br>REGION | Bijuwar     | Pyuthan       | 1            | 2.0                            |
| 17.   |                                      | Chaurajhari | Rukum         | 1            | 2.0                            |
| 18.   |                                      | Dalilekh    | Dalilekh      | 1            | 2.0                            |
| 19.   | FAR-WESTERN<br>DEVELOPMENT<br>REGION | Patan       | Baitadi       | 4            | 8.0                            |
| 20.   |                                      | Dipayal     | Doti          | 2            | 4.0                            |
| TOTAL |                                      |             |               | 26.50        | 53.00                          |

Varieties: CH-45, Himali and Mansauli.

\* The original program curtailed from 47 ha to 26.5 ha

15. FADS FINANCIAL STATEMENT  
(US Dollars)

| 1                                     | 2                                 | 3                   | 4  | 5                                      | 6                                      | 7                                      | 8  |
|---------------------------------------|-----------------------------------|---------------------|--|--|--|--|--|
| Budget Line                           | Budgeted<br>1/14/80<br>to 8/31/85 | Expenditure<br>1980 | Revised<br>Budget<br>1/14/80<br>to 8/31/85 | Cumulative<br>Expenditure<br>Till 1981 | Cumulative<br>Expenditure<br>Till 1982 | Cumulative<br>Expenditure<br>Till 1983 | Cumulative<br>Expenditure<br>Till Nov 1984 |
| <b>I. <u>Technical Assistance</u></b> |                                   |                     |  |  |  |  |  |
| 1. Salaries and Post<br>Differential  | 324,000.00                        | 50,285.76           | 398,000.00                                 | 150,165.12                             | 244,999.37                             | 334,629.79                             | 413,919.42                                 |
| 2. Staff perquisites                  | 153,000.00                        | 23,540.57           | 155,000.00                                 | 53,533.23                              | 77,952.30                              | 95,213.42                              | 115,404.44                                 |
| 3. Travel & Per-diem                  | 144,000.00                        | 8,172.81            | 151,000.00                                 | 29,103.94                              | 45,537.96                              | 61,629.68                              | 73,334.77                                  |
| 4. Miscellaneous                      | 20,000.00                         | 1,762.00            | 20,000.00                                  | 4,892.66                               | 7,175.03                               | 11,382.04                              | 15,122.03                                  |
| 5. In-Country Logistic<br>Support     | 167,000.00                        | 35,993.53           | 250,000.00                                 | 95,928.90                              | 165,656.72                             | 259,934.04                             | 355,564.85                                 |
| 6. Contingencies                      | 130,000                           | -                   | 104,000.00                                 | -                                      | -                                      | -                                      | -  |
| Total Technical Assist.               | 938,000.00                        | 119,755.43          | 1078,000.00                                | 333,723.85                             | 541,321.38                             | 762,788.97                             | 973,345.51                                 |
| FADS Overhead                         | 168,000.00                        | 21,555.89           | 227,000.00                                 | 65,518.48                              | 109,113.96                             | 161,843.60                             | 193,647.07                                 |
| <b>Total</b>                          | <b>1106,000.00</b>                | <b>141,311.42</b>   | <b>1305,000.00</b>                         | <b>399,242.33</b>                      | <b>650,435.34</b>                      | <b>924,632.57</b>                      | <b>1166,992.58</b>                         |
| <b>II. <u>Overseas Training</u></b>   |                                   |                     |  |  |  |  |  |
| 1. Training Cost                      | 430,000.00                        | -                   | 502,000.00                                 | 53,455.71                              | 146,469.80                             | 303,102.10                             | 390,741.32                                 |
| FADS Overhead                         | 77,000.00                         | -                   | 105,000.00                                 | 10,918.14                              | 30,451.11                              | 66,963.75                              | 77,893.82                                  |
| <b>Total</b>                          | <b>507,000.00</b>                 | <b>-</b>            | <b>607,000.00</b>                          | <b>64,373.85</b>                       | <b>176,920.91</b>                      | <b>370,065.85</b>                      | <b>468,635.14</b>                          |

|   | 1                  | 2                 | 3                  | 4                 | 5                  | 6                  | 7                   | 8 |
|---|--------------------|-------------------|--------------------|-------------------|--------------------|--------------------|---------------------|---|
| <u>III. Commodities</u>                       |                    |                   |                    |                   |                    |                    |                     |   |
| 1. Cost of Commodities                        | 721,000.00         | 168,300.91        | 485,000.00         | 243,040.79        | 371,049.90         | 431,585.74         | 464,457.99          |   |
| IADS Fees                                     | 72,000.00          | 16,830.09         | 49,000.00          | 24,304.07         | 37,105.09          | 43,158.67          | 46,445.89           |   |
| <b>Total</b>                                  | <b>793,000.00</b>  | <b>185,131.00</b> | <b>534,000.00</b>  | <b>267,344.86</b> | <b>408,154.99</b>  | <b>474,744.41</b>  | <b>510,903.88</b>   |   |
| <u>IV. In-Country Training</u>                |                    |                   |                    |                   |                    |                    |                     |   |
| 1. Direct Cost                                | 98,000.00          | 2,155.43          | 98,000.00          | 18,543.69         | 26,503.27          | 39,959.26          | 46,795.64           |   |
| IADS Fees                                     | 2,000.00           | 43.11             | 2,000.00           | 370.88            | 530.08             | 799.19             | 935.91              |   |
| <b>Total</b>                                  | <b>100,000.00</b>  | <b>2,198.54</b>   | <b>100,000.00</b>  | <b>18,914.57</b>  | <b>27,033.35</b>   | <b>40,758.45</b>   | <b>47,731.55</b>    |   |
| <u>V. Social &amp; Physiological Research</u> |                    |                   |                    |                   |                    |                    |                     |   |
| 1. Direct Cost                                | 98,000.00          | -                 | 59,000.00          | 1,947.55          | 27,045.37          | 34,238.39          | 38,332.69           |   |
| IADS Fees                                     | 2,000.00           | -                 | 1,000.00           | 38.95             | 540.91             | 684.78             | 766.67              |   |
| <b>Total</b>                                  | <b>100,000.00</b>  | <b>-</b>          | <b>60,000.00</b>   | <b>1,986.50</b>   | <b>27,586.23</b>   | <b>34,923.17</b>   | <b>39,099.36</b>    |   |
| <b>Total Direct Cost and Fees</b>             | <b>2606,000.00</b> | <b>328,640.00</b> | <b>2606,000.00</b> | <b>751,862.11</b> | <b>1290,130.87</b> | <b>1845,124.45</b> | <b>2,233,362.51</b> |   |
| <u>VI. Pre-Contract Expen.</u>                |                    |                   |                    |                   |                    |                    |                     |   |
| 1. Direct Cost                                | 7,000.00           | 7,000.00          | 7,000.00           | 7,000.00          | 7,000.00           | 7,000.00           | 7,000.00            |   |
| <b>Total</b>                                  | <b>2613,000.00</b> | <b>335,640.96</b> | <b>2613,000.00</b> | <b>758,862.11</b> | <b>1297,130.87</b> | <b>1852,124.45</b> | <b>2,240,362.51</b> |   |

16. FINANCIAL REPORT (IN-COUNTRY LOGISTIC SUPPORT)\*

(U.S. Dollars)

| Budget Line              | 1980<br>Expenditure | 1981<br>Expenditure | 1982<br>Expenditure | 1983<br>Expenditure | 1984<br>Expenditure |
|--------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Local Staff Support      | 11,151              | 17,290              | 22,000              | 28,250              | 17263               |
| Office Operation         | 14,761              | 8,743               | 11,110              | 9,910               | 7,593               |
| Travel & Per Diem        | 639                 | 1,827               | 6,616               | 12,062              | 13,229              |
| Housing & Utilities      | 8,573               | 9,649               | 9,458               | 8,428               | 6,621               |
| Vehicle Operation & Ins. | 3,541               | 8,997               | 12,394              | 16,467              | 15,676              |
| Pilot Project            | -                   | 177                 | 8,488               | 13,327              | 40,593              |
| Miscellaneous            | 2,033               | 519                 | 852                 | 1,090               | -                   |
| <b>Total</b>             | <b>40,698</b>       | <b>47,202</b>       | <b>74,926</b>       | <b>90,534</b>       | <b>101,975</b>      |

\* Rounded figures as per local records

17. HIG EXPENDITURE FROM JANUARY 1980 TO DECEMBER 1984

| Item   | Budget<br>1980-85                     | Cumulative<br>Expenditure<br>till Dec 82 | Cumulative<br>Expenditure<br>till Dec 83 | Cumulative<br>Expenditure<br>till Dec 84 | Remarks   |
|--|---------------------------------------|--|--|--|---|
| A. Personal/Office Assistance  |                                       |  |  |  |   |
| 1. Technicians   | Rs 750,000                            | Rs 86,000                                | Rs 121,000                               | Rs. 200,000                              | Includes part-time service of - Project Director, Project Coordinator and members of coordinating committee   |
| 2. JTs   | Rs 386,800                            | Rs108,000                                | Rs 250,000                               | Rs. 400,000                              | Includes 20 HIG JTs working at 20 Project sites.  |
| 3. Office & Services   | Rs 500,000                            | Rs144,000                                | Rs 192,000                               | Rs 240,000                               | Working note: Rs. 3,000 per month office rooms and Rs. 1,000 per month office facilities.   |
| 4. IIC Field Staff   | Rs 196,000                            | Rs 20,000                                | Rs 50,000                                | Rs. 150,000                              | Working note: Considered 3 staff (1) Manager (2) storekeeper (3) Watchman engaged in 20 different sites.  |
| 5. Seed Plant & Lab  | Rs2800,000                            | Rs1680,000                               | Rs2030,000                               | Rs2270,000                               | Includes: Khumaltar Lab (Botany Division) and the seed plants handling foundation seed.   |
| 6. Vehicle Operation/<br>Miscellaneous<br>Support cost   | Rs500,000                             | Rs 300,000                               | Rs 400,000                               | Rs 450,000                               | Includes: Vehicles used by IIC and HIG for project work including trucks for haulage of inputs  |
|  | <u>Rs6234,000</u><br>1/<br>\$ 413,000 | <u>Rs2336,000</u><br>1/                  | <u>Rs3043,000</u><br>1/                  | <u>Rs.3580,000</u><br>1/<br>\$ 237,000   | 1/ Conversion rate \$1 = Rs. 15.10  |
| B. Commodities HIG<br>Seed Plants and<br>Seed Lab. equipment<br>in existing new<br>facilities (not US<br>granted) pesticides | \$ 100,000                            | 60,000                                   | 80,000                                   | 100,000                                  | Includes: Seed Lab. Equipment (1) Khumaltar (2) Hetauda (3) Bhairahawa (4) Tarahara (5) Nepalgunj<br><br>Seed Plant: (1) Khumaltar (2) Hetauda (3) Bhairahawa and Itahari<br>Use of pesticides, chemical and seed dressing material |

| Item   | Budget<br>1980-85 | Cumulative<br>Expenditure<br>till Dec 82 | Cumulative<br>Expenditure<br>till Dec 83 | Cumulative<br>Expenditure<br>till Dec 84 | Remarks   |
|--|-------------------|--|--|--|---|
| C. Participant Training                          | \$ 42,000         | 16,920                                   | 35,000                                   | 63,000                                   | Includes 11 academic and 62 non-academic  |
| D. Social physiological Research Personnel       | \$ 5,000          | 3,000                                    | 4,000                                    | 4,500                                    | Includes indirect support of personnel, labs and other resources.   |
| E. Construction                                  |                   |  |  |  |   |
| 1. Seed Lab.                                     | \$ 45,000         | 27,000                                   | 35,000                                   | 41,000                                   |   |
| 2. Genetic Store                                 |                   |  |  |  |   |
| 3. Small Warehouse                               | 162,000           | 97,200                                   | 130,000                                  | 150,000                                  | Warehouses include, Damauli, Waling, Surkhet, Marpha, Palpa, Dandeldhura, Sindhuli, Udaypur, Chainpur (b), Sanfebagar, Chaurijhari, Goraki, Ilam and Man. |
| 4. Mini Greenhouses                              | 4400,000          | 240,000                                  | 325,000                                  | 380,000                                  |   |
| 5. Land  | 98,000            | 72,000                                   | 85,000                                   | 85,000                                   |   |
|  |                   |  |  |  |   |
| F. In-Country Training Personnel and Facilities. | 20,000            | 8,850                                    | 15,000                                   | 20,000                                   | Includes 298 officials for the training courses their salaries, per diem and also other training expenses. Also training centre facilities.               |
| G. Evaluation                                    | 2,000             | 1,000                                    | 1,500                                    | 2,000                                    | Includes: Assistance provided for external and internal evaluations.  |
|  | <u>\$1398,000</u> |  |  | <u>1192,500</u>                          |   |

APPENDIX - I

MINUTES OF THE TENTH MEETING OF THE SFIS-PROJECT COORDINATION  
COMMITTEE (PCC) HELD ON FEBRUARY 10, 1984 AT AIC CENTRAL OFFICE.

Decisions/Observations

1. That the release of construction funds is going to be in accordance with pre-approved contracts or amendments implying that any excess of expenditure should be taken care of by AIC from own resources.
2. The question of time extension for Chaurijhari and Surkhet where construction has lagged behind was also discussed. It was decided that reasons for delay in construction completion and the justification, if any, for time extension should first be examined by the Engineering Division of AIC, and in the event of a case for consideration, a report thereof be made to AIC Chairman for necessary decision.
3. It was noted that the new seed testing laboratory and genetic storage unit at Khumaltar, though completed, are awaiting taking-over by the Department of Agriculture. Therefore, early action on this aspect was emphasized alongwith a plea for regular utilization of the laboratory as well as the genetic store.
4. The committed desired careful planning of the seed improvement training course to be organized in July 1984 with the help of Mississippi State University and Kansas State University so as to ensure participation by about 30 suitable candidates and selection of an appropriate training centre for the purpose.

5. On the question of loan to seed growers the consensus of opinion was to avoid recommending defaulters as a matter of national policy. However, the AIC Chairman offered to intervene if the seed production plans are hampered in future due to non-availability of AD3 loan to farmers at the project sites.
6. The committee was informed that the mini-seedhouses and small warehouses created by the project are, by and large, being utilized properly as envisaged. Since seed production has begun at all the sites, the mini-seedhouses are commissioned, as and when completed, to cope with the cleaning, handling and storage of improved seed.

In the end, the Chairman, Dr. T.N. Pant made a reference to the current PaGD i.e. 31 August 1984 and advised that, in view of the short time left, steps should be taken to fully integrate the SPIS activities into AIC without disturbing the on-going work. If necessary, an action plan to achieve this goal should also be developed.

Thereafter the meeting dispersed hoping to meet again before August next.

APPENDIX - II

Reports and Publications

1. Semi Annual Report - 1980
2. Annual Report - 1980
3. Semi Annual Report - 1981
4. Annual Report - 1981
5. Semi Annual Report - 1982
6. Annual Report - 1982
7. Semi Annual Report - 1983
8. Annual Report - 1983
9. Semi Annual Report - 1984
10. Annual Report - 1984
11. Baseline Survey Schedules
12. Training manual for in-country training (in Nepali)
13. Revised Project Implementation Strategy
14. Technical handouts for training courses
15. Seed Program Development Strategy
16. Report of Dr. Paul F. Kaplan on "Social/Economic Factors Influencing Seed Production, Storage Distribution and Usages in Hill Areas of Nepal".
17. Report of Dr. J.F. Harrington, on "Vegetable Seed Production"
18. Report of Mr. R.G. Griffiths, on "Field Inspections and Seed Analysis".
19. Suggestions for improving the production and quality of food crop seed under Agriculture Inputs Corporation - by S.S. Bal
20. Report of Dr. J.E. Douglas on "National Seed Program".
21. Report of Mr. P.R. Mezynski on "Seed Production and Storage".
22. Course Syllabus for Seed Production, Processing and Storage - by Dr. E.D. Perdan
23. Report of Mr. Paul Kostra on "SPIS Project".
24. "Towards a Stronger Seed Program" - a paper by Mr. S.S. Bal
25. Technical commentaries - by Dr. Russell H. Bradley

APPENDIX-II

26. "Experience in Reaching Improved Seed to Small Farmers in the Hills of Nepal" - a paper by Mr. S.S. Bal.
27. Report of mid-term evaluation - September 1982.
28. Report on seed marketing - by Binod Sijapati and K.B. Namal (AFROSO).
29. "Mini-Seedhouse Operation for Hill Seed Production and Supply in Nepal" - by S.S. Bal.
30. Report of Dr. W.C. Couvillion on "Seed Pricing".
31. "To Serve Hill Farmers with Improved Seeds and Farming Inputs" - Informational Brochure, Jan 1985.
32. "Hill Seed Supply in Nepal" - a paper by Mr. S.S. Bal.
33. Report on drying procedures and facilities for maize in the hill areas of Nepal by Dr. A.H. Boyd.
34. Report on seed and grain storage management workshop by Dr. A.H. Boyd.
35. Report on Nepal seed quality control and storage workshop by Dr. A.H. Boyd, Dr. J. Pedersen and Dr. C. Vaughan.
36. "Seed Technology Research Needs in Nepal" by Dr. J.C. Delouche.

APPENDIX-III

Field trips (by Project Supervisor and  
Field Supervisor) in the last one year  
(From Jan-Dec 1984)

| No  | Dates            | Site visited                          |
|-----|------------------|---------------------------------------|
| 1.  | Jan 18-20        | Gorkha, Hetauda, Janakpur & Lahan.    |
| 2.  | Jan 27-Feb 1     | Bhairahawa, Bharatpur and Farwanipur. |
| 3.  | January 30-2 Feb | Kalekhu, Damauli, Sundarbazar         |
| 4.  | February 16      | Trishuli                              |
| 5.  | February 4-9     | Chaurijhari                           |
| 6.  | February 22-29   | Khotang, Okhaldhunga                  |
| 7.  | March 7-14       | Pakhribas & Chainpur                  |
| 8.  | March 12-15      | Arughat                               |
| 9.  | March 26-27      | Bhairahawa                            |
| 10. | April 2-12       | Dipayal, Baitadi & Dandeldhura        |
| 11. | April 9-15       | Dang, Pyuthan                         |
| 12. | April 20-22      | Hetauda and Fattepur                  |
| 13. | April 24-29      | Phidim                                |
| 14. | April 27         | Phidim                                |
| 15. | April 29-4 May   | Gyandi and Baglung                    |
| 16. | May 7-11         | Phidim                                |
| 17. | May 21-2 June    | Phidim, Pakhribas, Jirikhimti         |
| 18. | June 6-15        | Rampurtar                             |
| 19. | June 24-27       | Dhangadhi, Mahendranagar              |
| 20. | July 10-11       | Dhading                               |
| 21. | Aug 4-5          | Kalekhu, Manayangarh, Hetauda         |
| 22. | Aug 7-8          | Hetauda                               |
| 23. | Aug 21-22        | Gorkha                                |
| 24. | Sept 3-5         | Bhairahawa                            |

APPENDIX-III

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| No. | Dates         | Site visited                          |
|-----|---------------|---------------------------------------|
| 25. | Aug 13-Sept 2 | Gharikot, Rampurta,<br>Pakhribas.     |
| 26. | Sept. 13-16   | Bhairahawa/Hetuda                     |
| 27. | Nov 12-13     | Trishuli                              |
| 28. | Nov 14-19     | Bijuwar                               |
| 29. | Nov 22        | Sundarbazar                           |
| 30. | Dec 9-16      | Khotang                               |
| 31. | Dec 11-20     | Tansen, Majuwa,<br>Bijuwar, Dang etc. |

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