

Agricultural Research and Extension Project

Ministry of Agriculture and Nepal Agricultural Research Council, Nepal

Developing agricultural communications in Nepal

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Uendra Phuyal

Development communication specialists, SEEPORT

Uendra Phuyal, Lalitpur 14, Nakhipot; tel 535105, upendra@wlink.com.np

c/o SEEPORT, Kha 1-591 Sachetan Margh, Bhimsengola, Baneshwor, PO Box 3635, Kathmandu; tel 470305, fax 487 793, seeport@col.com.np

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Introduction

This report is based on the task planned for the month of September 1999. It complements the earlier report of the consultants (Paul Mundi and Upendra Phuyal, September, 1999). The major accomplishments made during the month of September are highlighted in the report. Dr. Paul Mundy, an international consultant, was frequently consulted through email during the period of consultancy. He has also gone through the draft report and made many corrections and comments which have been well incorporated in the report.

Most of the problems and issues related to agriculture communication in Nepal were identified during our initial joint (national and international communication consultants) input period (August, 1999). Some additional and complementary tasks were planned for the month of September that are successfully completed.

During this period, the contents and sources of ACD's publication and radio programme were briefly analyzed. The results of the analysis reflect that ACD would need to widen its information source beyond present limit and diversify content to cover information on social and marketing aspects.

Training schedule and course packages are developed for some of the key communication training needs identified during the consultancy inputs.

Some of the new problems and issues such as Regional Communication, Documentation and Publication Units (RCPDU) in RARSs, acoustically treated audio recording room for Regional Communication Units (RCUs) in RAD are identified through meeting and discussion with different levels of concern personnel. Lists of some additional and some new equipment are developed for RCU, CPDD and IAAS media lab.

Possible solutions are recommended to each of the identified communication problem.

Content and sources analysis of ACDs publication and Radio programme

The content of ACD's publications and radio programmes was analysed to look into the subjectwise coverage and find the sources how these information are being received by ACD. Currently, our observation and understanding shows that ACD is facing a serious problem of right information to disseminate through its multi-media channels. The result of the content and source analysis clearly indicate that the sources of information for ACDs radio and publication narrowly limited to the periphery of NARC, DOA and DLS. The information sources for these media should be widened beyond the present limit and include related line agencies, institutions, NGO and individuals who can contribute relevant and useful information. IAAS could be a rich sources of information for ACD. IAAS's students of Extension Department, as part of their practical work, have to produce extension materials such as booklets, pamphlets, posters, flip-charts, etc., covering a wide range of agricultural and livestock topics. Many of these materials could be very useful but they are not used after they are evaluated for exam purposes. These materials could have been used in ACD's extension publication with a limited amount of editing and design work.

Content and Sources analysis of ACD's Publication

Ten different types of publications, booklets, leaflets, folders and two by-monthly agricultural magazines published during the fiscal year 2054/55 and 2055/56 were randomly drawn from the ACD's publication store. The content (subject coverage) and sources of information were analysed by a simple method (frequency counting). Though this was not an in-depth systematic study, it gives a general idea of the distribution of coverage of content by subject areas and the origin of information (source) for ACD's print media.

The finding of this simple analysis indicates that ACD publications are mostly text based and wordy. They cover a range of subject areas within the agriculture system. However, it also give indication that there is relatively low coverage on livestock related subjects and almost no coverage on marketing, social aspects of farming such as group organization and group processes, extension methods and approaches, social mobilization etc. It also shows that whatever the information materials are being received by ACD they are mostly from relevant and specialized sources. Authors/contributors of the articles are, mostly, the subject mater specialists or experts in their own specialized fields. However, it is also learned that seasonally relevant and useful articles are always lacking to put in the regular publication of ACD. It is hoped that the recent decision made by the publication editorial committee to increase the honorarium for article contributors would help solve this problem to some extent. However, it is more

important to change the attitude of researchers, scientists and extensionists so they see that the dissemination of innovations that benefits farmers should be their responsibility too.

An analysis of the content and level of language used indicates that ACD's publications are mostly targeted to extension workers but not appropriately to farmers.

Recommendations

- Produce publications that also focus on social aspects such as marketing of agricultural products, group organization and group process, agriculture credit, agro-based entrepreneurship and farm management.
- Use the appropriate level of content and language for specific audience groups. If the publication is targeted to farmers, it should contain less text, more illustrations and pictures, and should be written in simple language.
- Other recommendations made in our previous report (Mundy Phuyal report Sept 99) are equally valid and important for the improvement of ACD's publications.

Content and sources analysis of ACD' s Radio Programme

As ACD under the Ministry of Agriculture is only the responsible organisation which is producing and broadcasting daily farm radio programme through Radio Nepal, it is important to know the coverage of the contents and the sources through which it receives information for inclusion in the programme. The information and ideas generated through this simple analysis is believed to be of great use to improve the farm radio programme by including the new and potential topics and targeting to specific audience group.

For this purpose, 30 radio programmes (early two weeks of February and last two weeks of October 1999) were analyzed to look into the distribution of coverage contentwise and the sources of information.

The result of this simple analysis shows that more than fifty percent of programme content is on agronomic and horticultural crops, while the coverage of livestock topics (poultry, pigs, cattle, buffaloes etc) makes about 17 percent of the broadcast programmes. Programme content on crop protection related topics is relatively low (11 %). It seems that about 90 % of the programmes are studio based (straight talk and acted discussion), and the remaining 10% are field-based interviews of farmers, extension officers and subject-matter specialists.

It is appeared that ACD's farm broadcasting lacks programmes on marketing, group processes and social mobilization and programmes to specific target groups such as women farmers, rural youth, and grass root level extension workers.

The key sources of information for farm radio programme are mostly the ACD's in-house publications and file copies of old radio scripts. Similarly, books and manuals on related subjects are also seldom used while writing radio scripts. Field interviews are other first-hand sources of information but not sufficiently used in the programme.

Recommendation

- ACD's radio programme would need to focus major areas that farmers need information for their farming practices. Crop production, livestock production and marketing are the key components of Nepalese farming system that need to be addressed in a more balanced way.
- It would also need to produce and broadcast programmes on group process, social mobilization, marketing, agro-based enterprises, extension approaches, etc., targeted to specific audience groups.
- Farm radio programmes would be more effective if there were more interviews of scientists, subject matter specialists, extension officers, veterinary doctors in their respective fields, giving more practical and useful information to farmers, and farmer interviews based on their experience of successful farming.
- Need to seek new and latest sources of information through regular contact with NARC scientists, researchers, SMSs, extension officers and farmers out in the field.

- As in ACD's publication and video units, the radio unit would also need to introduce some reward or financial incentive system in order to encourage script writers and contributors to the radio programme. It is realised that the provision of financial incentives has shown effect by enhancing willingness of the concern individuals in contributing information and offering cooperation to ACD's print and TV production programmes. However, it seems likely to give negative effect to radio programme due to feeling of radio unit staff being discriminated and neglected. It is also understood from radio unit staff at ACD and RCU that when they approach concerned scientists and specialists for interviews and other information they seem reluctant to cooperate. Therefore, some financial incentive or reward system would help solve this problem to some extent.

Development Communication Training

Specific skill-oriented training is identified as high priority action be taken to improve the quality of ACD, Regional Communication Units (RCUs) and NARC's Communication unit's (CPDD) agriculture communication output and services. The communication training needs identified are:

1. Science writing and editing course for NARC's CPDD and Regional Communication, Publication and Documentation Unit (RCPDU) staff.
2. Librarianship training for CPDD and RCPDU staff.
3. PowerPoint (software) running and computer-based video projection for CPDD staff.
4. In-service training for ACD's radio and video unit staff, especially on video magazine production, advanced video editing (computer editing), radio magazine and drama production.
5. Writing and editing extension publications for ACD's print unit and RCU staff.
6. Desk-top publishing and graphic design for ACD's print unit and CPDD's staff.
7. Development communication and media production techniques for ACD, CPDD, RCU and RCPDU management-level staff.
8. Radio script writing and programme production techniques for RCU staff.
9. Video camera operation and basic techniques on video production for RCU staff.
10. Press and printing technology course for ACD's press operators

These above mentioned development communication training should be given high priority for the overall improvement of the agriculture communication system in Nepal. Some of these training courses would need to be organized as an urgent requirement in order to strengthen communication programmes of ACD, CPDD and RCU. Some of the specific skill training which could have direct impact on the work performance and need to be organized immediately are writing and editing extension publication (for ACD's print unit staff, radio and video programme production course (RCU's staff), desktop publishing and graphic design course (ACD and CPDD's print unit's staff). Because, shortage of these skills is clearly reflected in the current work performance and output level of the respective units.

Course package for video and radio programme production technique

Different relevant institutions in Kathmandu were visited to identify suitable course package and appropriate training resource for adequate hands on exercise for the trainees. Nepal Television, Radio Nepal, Radio Sagarmatha, World View International Foundation, Academy of Audio-Visual Arts and Sciences (AAVAS) were visited to explore suitable institution for radio and video programme production training. Nepal Television and Radio Nepal do not run such short courses on a regular basis. Seldom they organize short courses for their in-house staff based on their own requirement. However, they have not planned any short courses in this fiscal year that could be useful to ACD and RCU's staff. Regarding this, a private media production and training institute called Academy of Audio

Visual Arts and Sciences (AAVAS) appeared to be a suitable place for video and radio related training. AAVAS seems to have capable and experienced resource persons and equipped with all facilities needed for hands on exercise. As AAVAS management also agreed to provide specific course packages on radio and video as per RCU's need, this institute would be an appropriate place to conduct radio and video training for RCU staff (see annex 9).

Since same staff of RCU's (3 from each region) have to undertake both radio and video training, it seems more convenient as well as economic to merge these two courses (radio and video) in one package for a period of 4 weeks. However, total training period should be divided into two slots based on the skill level and additional skill needed to enable trainees to perform their jobs satisfactorily.

Our observation of work performance of RCU staff in Surkhet, Pokhara, Kathmandu and Biratnagar revealed that they need more training and hands on exercise on video (handling equipment and producing simple video programmes) than on radio. In all RCU levels, they are producing and broadcasting weekly radio programme reasonably well. However, in video they have not been able to take even some usable footages so far, except in the Eastern Region (Biratnagar). It seem that they should start from very basic concepts and practice of photography video camera operation and techniques of video production. Therefore, it is suggested that proposed four-week training period should be allotted as the first or last three weeks for video and one week for radio training. Though this one month training would not be enough either, however they can be given a further refresher and upgrading courses for enabling them to produce professionally acceptable radio and video programmes.

Course package for publication editing and designing training

Writing editing and designing extension publications is a highly skilled job. Publication editing and production staff of ACD and CPDD must be skilled in editing and designing publications which seems lacking at present. In our initial report (Mundy Phuyal report '99) we observed this as a serious problem effecting the usefulness of ACD's publications and made recommendation to train those staff (staff working in print production unit). In order to identify suitable place for such training, a few related institutions were visited. The Nepal Press Institute seems to be an appropriate place for this training. Accordingly, a two-weeks course package on publication editing and designing is developed (see annex 10) for ACD and CPDD staff. This course is proposed to be held on first week of February 2000. This is agreed by Nepal Press Institute too. The date for other training courses will be decided later. However these courses will have to be included in budget planning for the year 2000.

Recommended training schedule

Subject	No. of Participants	Cost-estimate	Date, Location
Video and radio production techniques	15 to 17 participants (ACD-15, CPDD-1, IAAS-1, LAC-1)	NCR 372000 (inclusive of lunch, refreshment, transportation and materials)	January, 2000, AA-VAS Tripureshwor Kathmandu
Writing, editing and designing extension publication	12 to 14 participants (ACD-4, CPDD-2, IAAS-1, CATC-1, LAC-1, RARS-5)	NCR 2700000	February, 2000 Nepal Press Institute, Tripureshwor, Kathmandu

Science writing and editing course to NARC's CPDD and Regional Communication, Publication and Documentation Unit (RCPDU) staff	6 (CPDD – 1, RCPDU – 5)	US\$ 33000 (@ \$5500 per participant)	August, 2000 Institute of Development Communication, UPLB, The Philippines
Librarian training to CPDD and RCPDU staff	6 (RCPDU – 5, CPDD – 1)	US\$ 30000 (@ \$5000 per participant)	September, October, 2000 India
In-service training to ACD's radio and video unit staff specially on video magazine production, advance video editing (digital editing) radio magazine and drama production.	4 (Video – 2, Radio – 2)	US\$ 22000 (@ \$5500 per participant)	Sri Lanka, Philippines, Thailand
Development communication and media production techniques to ACD, CPDD, RCU and RCPDU management level staff.	15 (ACD – 3, CPDD – 2, RCU – 5, RCPDU – 5)	US\$ 82500 (@ \$5500 per participant)	UNDP/DTCP Manila, Iowa State University, Cornell University
Press and printing technology course for ACD's press operators	3 (ACD – 2, IAAS – 1)	US\$ 15000 (@ \$5000 per participant)	India, Thailand

Institute of Agriculture and Animal Science (IAAS)

In our earlier report (Mundy Phuyal report Sept '99) we have proposed a two-week intensive short course on development communication and media production to be offered by IAAS. This course was proposed to be run for selected staff of ACD, CPDD, CATC and RCU as well as faculty members and future trainers in development communication from IAAS itself.

I re-visited IAAS on 13 September and discussed the proposal with the senior academic staff of the Department of Agriculture Extension and Rural Sociology. They liked the idea very much and showed their willingness to run the course in collaboration with the communication consultants. However, they have also strongly realised that necessary equipment and facilities such as computers and related software, audio and video tools of the trade for media production hands on exercise would have to be made available for running the training course effectively. Such basic equipment and facilities would need to be developed in IAAS for running the development communication courses in future as well.

IAAS's Department of Agriculture Extension and Rural Sociology is already capable and has a great scope for conducting academic degree as well as short courses on development communication. If the proposed media lab is established and updated with necessary media equipment and communication teaching facilities, it would be an appropriate venue for producing trained manpower on development communication (short as well as degree courses) required in the country.

Strengthen IAAS media lab

In the long run, IAAS's Department of Agriculture Extension and Rural Sociology would need to have its own printing press with medium capacity and a video production system with editing set. The Department already has a makeshift photography lab with a few cameras and enlarging lenses. As photography is one of the most important part of development communication and a very close ally of print media, it would need to be strengthened with an appropriately built darkroom and related facilities for B/W photo processing. it woul have dual purpose, in-house B/W photo processing for using in publication as well as practical exercise for the students taking photography as non credit course or hands on exercise for short courses on development communication.

IAAS has strongly realized the need for strengthening its development communication teaching and media production facilities, however, owing to resource constraints it is looking for outside support. It can be believed that if such facilities are developed in IAAS , it would benefit hundreds of thousands of students, trainees of short courses and the trainers who have to impart skill on development communication courses.

However, IAAS would need to ensure the sustainable use of these facilities. For this, IAAS's Department of Agriculture Extension and Rural Sociology would have to hire trained people to work on desk-top publishing, press operation and audio and video production. It would also need to ensure the generation of the operational cost through selling its media production services (mostly print and video) to IAAS's other departments, projects, government agencies and NGOs that may need such services.

Recommendations

- IAAS would need outside support to purchase most necessary equipment and technical assistant for establishing the proposed media lab and printing unit. We have recommended a list of most necessary equipment for the media lab in our earlier report. This is presented here too with inclusion of some additional ones along with cost estimate (see annex 6).
- Print: Computers, printers, scanner , process camera, platemaker , offset press (medium duty), guillotine machine, stitching machine etc.
- Audio: Audio recording and editing studio, several portable cassette recorders, microphones, editing console
- Video: A few VHS cameras for students' hands-on use, at least one Betacam (better to have two) camera and editing system for Betacam format, DC light pack and studio lighting system.
- Photography: 35 mm cameras, enlargers, dark room to be strengthened.
- Video projection system (LCD Data Projector) for teaching as well seminar presentation

IAAS departments of Agriculture Extension and Rural Sociology should find suitable place with adequate space to home these equipment and operate them effectively. It should also develop a workable norm to generate and revolve fund for its sustainable operation and maintenance of the equipment.

Regional Communication Unit

Earlier in the month of August, We (Mundy and Phuyal) visited RCUs in the Mid Western and Western Region and observed their communication activities, outputs and opportunities to strengthen their communication programmes. Further to this, I visited RCU in Eastern and Central Regions. As we mentioned in our September report, the situation of RCUs in Mid-West and Western is almost identical where as situation in Eastern and Central region is different than the earlier two but there is again dissimilarities between the latter two.

Looking at their activities and the level of performance and output, the RCU in the Eastern Region (Biratnagar) seems to be doing relatively better job. Radio programmes are being run well once a week

(every Wednesday). Programme formats are mostly script-based straight presentation and a few interviews.

Some of the recorded cassettes were randomly monitored and reviewed during the visit. Overall, the radio programmes are of broadcast standard. However, there is a lot of room to improve on formats and planning of the programme to achieve a balance of coverage of the subject areas. Radio programme would be more effective and useful if more field based and participatory programmes could be produced and aired.

As in the other regions, no field-based programmes have been produced due to the weight of the equipment, and the lack of portable recorders and transportation. In addition, audio recorder that is provided to RCUs is only AC power-operated but has no scope to operate with batteries. This set of equipment is made for studio-based use. Therefore, if RCU is expected to produce more interesting field-based and participatory programmes, they should be provided with lightweight portable recorder. For instance, similar to the one ACD is having at present and using effectively for field recording. The one ACD is having is: **Sony TC-D5, Pro II cassette recorder.**

Unlike other regions, Eastern Regional Radio Station is situated far away (about 200 km) from the location where RCU is situated (Biratnagar). This is requiring more travel cost comparing to the other regions. The budget allocated for travel cost for the fiscal year 055/056 has not been sufficient. In the next budget planning it would need to be considered to allocate sufficient budget.

Orientation to RCU staff. During the visit, (on 16 and 18 September) RCU staff (Biratnagar) were given orientation on how to take useful and acceptable visual footages for video programme production. Meanwhile, idea was also shared about characteristics of formats and writing script for video. Similarly, RCU staff were given a more elaborative orientation on basic concept and characteristics of different types of radio programme formats. I believe that this orientation has been useful to the RCU staff towards improving the video and radio programmes.

Programme to specific audience. RCU staff are also initiated to produce and broadcast radio programmes to specific target audiences such as women farmers, rural youth and field extension workers. The tentative content for these new target groups has been shared with RCU staff. However it is difficult to produce a complete list of content here.

Women's programme. Since women have a major contribution in farming, they should not be overlooked in any development endeavor. They would need to be encouraged and initiated in improved farming, community participation, social mobilization, group saving and credit, income generation etc. In order to address such specific issues and problems related to rural women, a specific radio programme should be devoted to women farmers. Though there could be many more specific and relevant topics, here are some to be started with:

- Kitchen gardening
- Vegetable and fruit processing
- Nutrition aspects of fresh vegetables and fruits
- Sericulture
- Bee keeping
- Marketing
- Mushroom cultivation

- Poultry, pigs
- Group saving and credit
- Income generation
- Community participation etc.

Rural youth programmes. Migration of rural youth for search of job in town and cities has been a severe problem in the country. There could be many income generating and self employment opportunities available in the villages based on agriculture and livestock enterprises. Rural youth would need to be encouraged and initiated to undertake agro-based entrepreneurship at the village level. Specific radio programme targeted to these rural youth would help encourage and initiate them towards farming and agro-based enterprises. Relevant and useful contents are to be identified and incorporated in the programme devoted for the rural youth. Here are some to start with:

- Agricultural equipment maintenance and services
- Agro-vet enterprises
- Fruit, vegetable and agro-forestry nursery
- Commercial cultivation of fresh vegetables
- Bee keeping
- Vegetable and cereal seed production
- Poultry keeping etc.

RCU's relation with livestock directorate

Like in other regions, there is a problem of smooth functional relation and close coordination between RAD and RDLS specially on matter of RCU's programme and activities in serving for both crop and livestock needs. Since RCUs are located with RAD, livestock personnel have feeling that RCU's programmes are not the part of their responsibilities. There is also some feeling that they (livestock personnel) do not have access to RCU's communication facilities. From this, it is understood that there is a psychological gap in understanding, perhaps created by the organizational and administrative location of RCUs. This gap exists even in central level between ACD and DLS. This situation would entail the restructuring of ACD's present organizational placement and administrative position shifting it up from DOA to directly under MOA.

Recommendations

Staffing. For the RCU to be functional effectively, there should be at least a core team of three persons deputed as full time staff. The team of staff should composed of an officer, a JT and a JTA level. Their job need to be defined and specified (Annex 1). Though administratively, RCUs are located with RAD, but technically they should be under the line of command (programme, budget and technical support) of ACD.

Relations with other departments and divisions. In order to achieve better coordination and support in providing communication services to all departments and division of MOA, ACD should be shifted up from the present organizational level and placed directly under the MOA.

Office facilities. Basic logistics facilities for operationalizing RCU such as furnitures and shelves for the safe keeping of the tools of the trade, vehicle for field recording of audio and video programmes need to be provided. A small studio for programme production and computer for keying and storage of script would need to be available for RCU to function effectively and efficiently.

Radio programme production studio. One specific problem related with the farm radio programme production and broadcasting in Eastern Region is the physical distance (about 200 km) between the Regional Radio Station (RRS) (Dhankuta) and the RCU (Biratnagar). RCU staff have to travel to RRS Dgankuta every week to produce weekly programme which is not economic and efficient in term of cost and staff time. The optional solution to this problem is to build a small recording studio in RAD, Biratnagar where RCU staff could produce radio programmes and send recorded cassettes to RRS Dhankuta for broadcasting. This will allow sending several programmes to RRS at a time and reduces the staff's travelling time and cost, and also enhance staff's skills and confidence to produce better radio programme by themselves. Such a small studio would be needed for making the regional farm broadcasting interesting and effective even in other regions too except Central Region. In Central Region ACD's production studio can be shared for regional programme production as well which is being effectively done at present without any difficulties.

Regional Agricultural Research Station (RARS) Tarahara

Unlike other stations, RARS Tarahara seems to be in better position in terms of its information and communication activities. There was one officer-level staff who used to coordinate information and training activities. However, he is on study leave now. This gap need to be filled by an appropriate staff.

NARC outlying stations (RARS) would required to carry out different communication activities such as dissemination of research results through various communication channels, managing and updating library, organizing seminars, workshop, field days and facilitating researchers to have access to scientific information system. In order to carry out these communication functions, all five RARS would need to have a communication and documentation unit.

Function of RCPDU

The small team of staff designated at Regional Communication Publication and Documentation Unit (RCPDU) would facilitate and coordinate the communication, publication and documentation of the research result and information access to the researchers working at the RARSs. Their roles and functions would include:

- Compiling research findings and producing and distributing in the form of periodic and annual reports.
- Contribute to NARC newsletter providing with RARSs technology update. .
- Providing research generated technologies to RCU of RAD and collaborating with radio and video programme production.
- Documenting research publications produced in-house and received from out side research institutions.
- Produce proceedings of seminars and workshops organized at regional levels.

- Provide necessary information and regional information base to CPDD to produce NARC's annual reports, newsletter, research briefs, brochures, video film etc.
- Up-dating and managing the station library.
- Organizing seminars, workshop, field days, exhibition etc.
- Providing information and organizing programmes for visitors.
- Compiling impacts points and circulating to DADO in the regions.
- Developing data base of recommended and pipeline technologies at regional level.

Recommendations

As our earlier recommendation (Mundy Phuyal report Sept 99) RARS Tarahara should also has a Regional Communication Publication and Documentation Unit (RCPDU) designated with at least three core staff, a Communication Officer, a Communication assistant (T5 level) and a Library Assistant. They should be given training on development communication and librarianship to develop their skill in order to carry out communication activities effectively. The duty/responsibility skill and qualification required for these staff is given in Annex 2.

Though RARS Tarahara has already installed email, most of the staff are not using email facility due to lack of skill on how to use it. Therefore, it would be a useful idea to train at least an appropriate person to handle email and internet who then can train other staff of RARS. This approach could be applied to all five RARS and NARC's division at Khumaltar as well.

Annexes 1: Staff needs at Regional Communication Units

Position	No. of Staff	Duties	Skill and qualification
Communication Officer (class III)	1	Unit chief, plan, coordinate and manage regional-specific publications, radio and video programmes in collaboration with ACD. Train district staff on audio visual aids	M.Sc.in extension, development communication with graduation in agriculture (B.Sc. Ag)
Video camera operator (JT)	1	Shoot video film, write script for video and radio. Assist in video and radio programme production. Train district staff on audio visual aids	I. Sc. Agriculture. Training on communication or adult education. Skill in media production.
Radio Technician (JT)	1	Record radio interviews .Write scripts, produce radio programmes. Assist in other media production train district staff.	I.Sc. agriculture. Training on communication or adult education. Skill in media production

Annex 2: Staff need for RARS's publication and documentation, communication unit

Position	No. of Staff	Duties	Skill and Qualification
Communication officer (S1 or S2)	1	Lead RCPDU. Plan, coordinate, and manage RARS's communication publication and documentation activities. Compile, edit and produce periodic and annual reports, publish region specific research findings for extension use. Organize seminars, workshops, field days, handle visitors etc.	M.Sc. in agri. Extension or development communication. Understanding of farmers needs and adoptive research etc.
Communication Assistant (T5)	1	Coordinate and organize seminars, workshop, training. Operate and maintain audio visual equipment. Coordinate with RCU and ACD to produce radio video and print media for extension use. Organize field days, exhibitions, etc. Take care of visitors to the station. Assist in overall communication activities of the station.	I.Sc. Ag. Trained in development communication, skill in AV aids and their operation.
Library Assistant (T5)	1	Update and manage station library. Facilitate acquisition of relevant journals to station's scientists. Coordinate with NARC's central library for information acquisition and provide photo copies of content pages of new acquisitions.	I.A. or equivalent. Trained in library science and development communication, skill in email and internet use.

Annex 3: Content and source analysis of ACD's publications

Different types of ACD's publication (booklets, folders, leaflets)

Publications	Subject/content	Information source
Bee keeping (Booklet, 29 pp)	Detailed information about bee keeping	DOA, Industrial Entomology Division
Paddy cultivation (Booklet, 17 pp)	Detailed information about paddy cultivation	NARC scientist
Child Nutrition: in brief (leaflet, 2 pp)	Brief information of child nutrition	Central Food Lab.
Rabies (Folder)	Brief information about rabies disease and its control	Vet. Specialist, DOLS
Sesame (Folder)	Brief information about sesame cultivation	NARC, Oilseed Research Program.
Seed testing (Booklet, 17 p)	Detail information about seed testing procedure	Seed Lab Tarahara
Plant hopper control in paddy	Brief information about plant hopper in paddy	NARC, Plant Protection Division.
Banana cultivation (Booklet, 13p)	POP about banana cultivation	Horticulture Division
Sericulture (Booklet, 20p)	Detail information about silk worm rearing and silk production	DOA, Industrial Entomology Division
Agriculture and environment (Folder)	A brief information about the relationship between agriculture and environment	DOA, Soil Testing and Service Division

Agriculture bi-monthly magazine

Year 35, No. 4

Private sector in fertilizer dealing	Policy related matter about the fertilizer dealing by private sector	MOA, Fertilizer Unit
Principle of motivation and its effect on farmers	Articles describes on how to use the principles of motivation in real situation	DOA, DADO, Kathmandu (R. C. Sharma)
Agriculture and women	Condition of women farmers and some policy related issues to improve their condition	MOA, WFDD (S. K. Subedi)
Cooperative dairy: on encouragement to farmers	Deals with importance with the cooperative dairy in Nepal	National Cooperative Development Board (N. Paudel)
Compost	Compost making procedure, use and importance of compost in farming	N. Saud, Agriculture Specialist
Shearing and its effect on wool quality and health of sheep.	Effect of shearing on the quality of wool and physical health of sheep	NARC, (C. R. Upreti, Scientist)
Insects and their control in colecrops	Control measures of different insects in cole-crops	DOA, Crop Protection Division (B. Pokhrel)
Peste des petits ruminants	Diagnosis and treatment of peste des petits disease in sheep and goat	DLS, Animal Health Division (Dr. S. N. Mahato, Dr. S. C. Ghimire)

Agricultural bi-monthly magazine

Year 36 No. 1

Articles	Content	Source
New varieties in potato	Varietal characteristics newly released varieties of potato	NARC, Potato research programme (B. B. Khatri & S. L. Shrestha)
Protection of post harvest-losses of food grain	Different measures to prevent post harvest losses of food grains	DOA, Post Harvest loss Control Division (R. Chipalu Pradhan)
Improved barley cultivation	Package of practices of barley cultivation	NARC, Agril. Botany Division (M. L. Baidha)
Tuberculosis disease in animals	Disease symptoms, diagnosis, treatment and control measures	DPLS, FMU Control Division (Dr. G. N. Gongol)
Leafy vegetable crops	Brief cultivation practices of different leafy vegetable crops	Vitamin A Programme (R. K. Shah)
Calf care	Reasonably detail information about caring young calves	DOLS, Livestock Production Division (R. P. Paudel)
Fix column: JTA & Old lady Nigar cultivation	Two-way discussion about niger cultivation	ACD Publication Unit
Bi-monthly farming activities	Farming activities of respective two months	

Annex 4: ACD'S farm radio programme

Month: October, 1998

Day	Date	Format	Content
Saturday	3	Magazine	Soil acidity correction, use of FYM, cut worm control
Sunday	4	Magazine	Soil testing, Control of root rot of banana
Monday	5	Q&A	General coverage
Tuesday	6	Straight talk	Improved wheat cultivation techniques
Wednesday	7	Interview	Farmer's interview on farming
Thursday	8	Straight talk	Poultry and sheep farming
Friday	9	Dialogue	JTA and an old lady converse on garlic cultivation
Saturday	10	Straight	Rat control, fish farming
Sunday	12		
Monday	13	Q & A	On different subjects related to farming
Tuesday	14	Discussion	Importance of fresh vegetables on human diet
Wednesday	15	Interview	A veterinary doctor talks about animal health
Thursday		Straight talk	Poultry feed, how to prepare and use
Friday		Dialogue	JTA and an old lady, discussion with a prize winning woman farmer on the occasion of world food day
Saturday		Dialogue	Announcement of results of listener's contest, Listener's reply are received through post mail.
Sunday			

Month: February, 1999

Day	Date	Format	Content
Sunday	14	Straight talk	News on different events and activities, off-season vegetable cultivation
Monday	15	Q & A	On different subjects related to farming
Tuesday	16	Discussion	Discussion on sunflower cultivation acted by broadcasters
Wednesday	17	Interview	Interview with DADO Myagdi about the district's farming activities
Thursday	18	Straight talk	Batai keeping and poultry diseases and their control
Friday	19	Dialogue	JTA and an old lady covering different topics on farming
Saturday	20	Farm news	News on different agricultural activities and events
Sunday	21	Straight talk	Soil fertility management, banana diseases and their control
Monday	22	Q & A	On different subjects related to farming
Tuesday	23	Discussion	Studio acted discussion of kitchen gardening
Wednesday	24	Interview	Interview with farmer about his successful farming
Thursday	25	Straight talk	Care and management of lactating cows and buffaloes, feed for pigs
Friday	26	Dialogue	JTA and an old lady dialogue on soil fertility management
Saturday	27	News, talk	Farm news, straight presentation on integrated crop management
Sunday	28	Magazine	Farming activities, some tips on vegetable farming, balance use of fertilizers and banana wilting disease and its control

Annex 5: List of additional equipment required for Regional Communication Units

Description of items	Quantity	Unit Price (US\$)	Total cost (US\$)
Radio			
1. Sony Professional Audio Cassette Recorder, TC D5	5	900	4500
2. Audio mixer, 6 channel	5	750	3750
3. Dynamic or bi-directional microphone	5	250	1250
4. Acoustic treatment of audio recording room	5	1000	5000
Video			
1. VCR with multi-system	5	700	3500
2. TV Monitor, Sony trinitron 21"	5	700	3500
3. S-VHS Editing recorder, BRS822*	5	5500	27500
4. Editing remote control*	5	2500	12500

* These equipment are recommended only if RCUs are to produce simple video at regional level for community show.

Annex 6: List of equipment for IAAS's media lab and press unit

Description of items	Quantity	Unit Price (US\$)	Total cost (US\$)
Print			
1. Computer (IBM Compatible) for computer lab	20	2000	40000
2. Laser printer	1	800	800
3. Flat bed scanner, colour	1	1000	1000
4. Offset press, Adast Dominant, 19*25, 715C	1	57000	57000
5. Image maker, Size 20*24, 20% - 500% Auto Focus, Auto Exposure	1	2000	2000
6. Plate Maker, Size 24*36, Metal halide light up sources	1	2500	2500
7. Paper cutting machine, semiautomatic, Size 36' cutting length	1	1600	1600
8. Stitching machine, Capacity 16 mm	1	1200	1200
Radio			
1. Sony Professional Audio Cassette Recorder TC D5	3	900	2700
2. Dynamic or Bi-directional microphone	3	250	750
3. Acostic treatment of audio recording room	1	2000	2000
Photography			
1. Still camera, Nikon FM2 SRL	2	500	1000

Video equipment

The types of video equipment and format to be choose for IAAS depend on the purpose and level of video use. If it is only for teaching purpose for hands on exercise, VHS format would be reasonable, though it is not a professional video system. If IAAS media unit would plan to produce professionally acceptable stuff and sell its video production services to other potential clients (IAAS's other departments, INGOS, NGOs, extension agencies and projects) it would have to choose either U-matic or Betacam (professional standard) formats. However U-matic is again likely to be out of use as broadcast standard because of fast advancing video technologies. Therefore, if IAAS can afford its operation and maintenance and devise mechanism for its sustainability, Betacam would be an appropriate choice. Initial establishment cost for this system is comparatively higher than the other two video fprmat. The establishment of Betacam video system may cost about US\$ 70000.

Annex 7: List of equipment for CPDD of NARC

Description of items	Quantity	Unit Price (US\$)	Total cost (US\$)
1. Video projection system (LCD Data Projector)	1	4500	4500
2. Laptop computer to run video projection	1	3000	3000

Annex 8: Training demanded by ACD staff

A set of questionnaire was circulated to individual staff of ACD asking what additional skills do they need to perform their job better and produce better quality output. Most of them returned the completed questionnaires indicating their training needs which are summarized here. Though all the training they indicated as their need would not, necessarily, be the needs of ACD, but coincidentally many of these training also reflect the job related skill need of ACD which we have also identified as the key communication training need of ACD.

Print Unit:

Name	Responsibility	Qualification	Training need	Training taken
Rajan Karki, Press Operator	press Operation, print production,	B.A.	Printing technology	MIS
Kaji Ratna Maharjan	Computer operation	I.A.	DTP and graphic designing	
Sanukaji Dangol	Press operator		Printing technology	
Ganga Dutta Acharya, Ast. Com. Officer	Writing, editing agricultural publication	B.Sc.Ag	Dev. Com., Computer word processing	
Harihar Kafle, Ast. Com. Officer	Writing, editing Agri. Publication	B.Sc.Ag. (Agi.Ext.)	Mass com., DTP	

Radio Unit

Name	Responsibility	Qualification	Training need	Training taken
Dev Raj Gauli, Ast. Radio Broadcaster	Writing radio script and broadcasting programme	IL	Radio and video programme production	
Shyam K. Rijal, Ast. Radio Broadcaster	Programme recording	I. A.	Audio, video recording, editing	MIS, India
Prakash M. Shrestha, Asst. Radio Broadcaster	Writing script, broadcasting programme	B. A.	Radio programme production	Group course on agri. Extension and Com.
Shree R. Pudasaini, Broadcaster	Writing script, broadcasting programme	B. Com.	Radio drama and magazine production	Educational radio program production
Binod Giri, Broadcaster	Writing script, broadcasting programme	I.A.	Radio drama and magazine production	Community broadcasting

Video Unit

Name	Responsibility	Qualification	Training need	Training taken
Thir B. Pandey, Asst. Com. Officer	Scripting and video production	M.S. Dev. Com.	Dev. TV production, script writing for video	
Madhav P. Shrestha, Cameraman	Video camera work	I. A.	Video editing	
Madan K. Subedi, Soundman	Sound system control	SLC	Video camera work, video production	Radio programme

				production
Bhagawan P. Khatiwada	Writing script for radio and video, publication editing	B.Sc. Ag.	Dev. Com., MIS.	
Mohan Shrestha,	Video editing	B. Com.	Computer based non-linear editing (MIRO DC-30 Plus)	

Management/Administration

Name	Responsibility	Qualification	Training need	Training taken
Dhruba Narayan Manandhar, Agri. Com. Officer	Overall mgnt., supervision, monitoring of radio, video and print units	M.S. Ext. Edu	Dev. Com.	Different training on agri. extension
K. B. Khadka, clerk	Office support	SLC	Any relevant training	
Krishna Devi Rajthala	Executive typist		Word processing	

**Annex 9: Technique of TV and radio program production hands on training
specially designed curriculum for ACD's trainees**

WEEK I

Television program Pre-Production

Day 1:

The idea and research

- On the look out for ideas
- The format of production
- Research enlarging knowledge
- Video clip show/ Analysis & Discussion

Day 2.

- a. The Script
- b. The story line
- c. Development Writing
- d. Samples of Script—Demonstration Analysis & Discussion

Day 3.

Script Writing Exercise

Day 4.

- a. Script Analysis
 - Suggestions to improve
- b. The Organisation
- c. TV production: Who does what?

Day 5.

Hands on training/ Discussion: Ideas

Day 6.

Story Development/ Script Writing

Week II

Production

Day 1:

- The camera
- a. Camera support
 - b. The camera controls

Day 2:

Composition and Movement
Camera demonstration

Day 3:

Lighting

Lighting demonstration

Day 4: Video and Audio Recording

Audio Quality in Video

Demonstration

Day 5: Video Color System

- Program Format
- Documentary
- Magazines
- Docu-drama
- Panel
- Talk shows

Day 6: Production Planning

- Research
- Pre and Post Production

Week III.

Post Production

Day 1: Handling the Camera

Day2: Handling the Camera

Day 3: Editing

- a. Grammar editing
- b. Process of editing
 - i. Continuity sheet (shooting)
 - ii. Logging
 - iii. Paper editing

Day 4: Editing Exercise

Day 5/6: Practical on script writing, camera and editing.

Curriculum for intensive hands on training on technique of radio production

Week I.

Day 1:

Getting Organized for Radio

- a. Essential components for Radio Training
 - i. Equipment
 - ii. Factor
- b. Operational Technique/ The Tools of Radio broadcasting
 - i. Component of sound
 - ii. Storage media
 - iii. Studio
 - iv. Microphone

Day 2:

- a. Voice Speech
 - i. Pronunciation
 - ii. Vocal Stressing
 - iii. The link
- b. Listening Exercise
- c. Analyzing Exercise

Day 3 /4:

Writing for Radio

- a. Purpose of Script program audience-listeners
- b. Radio makes picture
- c. Structure
- d. Clarity
- e. Writing exercise

Day 5:

Theoretical Aspect of Program Production

- a. Exercise

Day 6:

Prototype- Program Production.

Note: towards the end of the training the trainees will be asked to go to the field (e.g Kalimiti vegetable wholesale market) for information collection and ultimately produce their own program.

Annex 10: Editing and publishing course package and schedule

Day One

9:30-11:30 Role of Communication in Development

11:30-11:40 **Tea Break**

11:40-12:40 Communication Skills

12:40-1:40 **Lunch**

1:40-4:30 Discussion on related publication.
Problem identifications.

Day Two

9:30-11:30 Basic elements of writing News

11:30-11:40 **Tea Break**

11:40-12:40 The 5WH and Accuracy, Balance and Credibility in Journalism.

12:40-1:40 **Lunch**

1:40-4:30 Practical exercise in news writing

Day Three

9:30-11:30 The editing for specific audience

11:30-11:40 **Tea Break**

11:40-12:40 The contents of media

12:40-1:40 **Lunch**

1:40-4:30 Writing, editing extension publications (participants would have to edit, design and produce actual materials)

Day Four

9:30-11:30 Characteristics of booklet, pamphlet, folder, flip-chart , poster etc

11:30-11:40 **Tea Break**

11:40-12:40 Illustration in extension publication

12:40-1:40 **Lunch**

1:40-4:30 Concept and process of community communication process

Day Five

9:30-11:30 Communities in a feature

11:30-11:40

Tea Break

11:40-12:40

Writing a feature

12:40-1:40

Lunch

1:40-4:30

Editing a feature
Issues collection

Day Six

9:30-11:30

Discussion on the issues

11:30-11:40

Tea Break

11:40-12:30

Tips and techniques of feature writing

12:40-1:40

Lunch

1:40-4:30

Designing a publication samples.

Day Seven

9:30-11:30

Ethical issues in Journalism.

11:30-11:40

Tea Break

11:40-12:40

Writing development news

12:40-1:40

Lunch

1:40-4:30

Discussion on designing samples.

Day Eight

9:30-12:40

Information collection (Field Visit)

12:40-1:40

Lunch

1:40-4:30

Rewriting and editing the collected information
Discussion
Designing a publication

Day Nine

9:30-11:30

Writing continued: interviewing, selecting issues and media

11:30-11:40

Tea Break

11:40-12:40

Interview techniques

12:40-1:40

Lunch

1:40-4:30

Dummy/designing the publication.
Discussion

Day Ten

9:30-11:30 **Introduction to Aldus Page Maker**
Open, Close, New,
Practical

11:30-11:40 **Tea Break**

11:40-12:40 Save, Page Setup, Tool Box,
Practical

12:40-1:40 **Lunch**

1:40-4:30 Importing Text and Graphic, Master Page, Guides & Rules
Practical

Day Eleven

9:30-11:30 Editing - Cut, Copy, Multiple Paste, Paste, Clear, Close
Practical

11:30-11:40 **Tea Break**

11:40-12:40 Change, Find, Revert, Type Style and Alignment
Typespace,
Practical

12:40-1:40 **Lunch**

1:40-4:30 Indents/tabs, Paragraph,
Practical

Day twelve

9:30-11:30 Page Layout- column guides, guides and & Rules
Practical

11:30-11:40 **Tea Break**

11:40-12:40 Fill and Line, Bring to Front, Sent to Back
Practical

12:40-1:40 **Lunch**

1:40-4:30 Insert/Remove Page, Define Colors and Define
Practical

Day Thirteen

9:30-11:30 Page Layout- column guides, guides and Rural
Practical

11:30-11:40 **Tea Break**

11:40-12:40 Text Warp, Rounded Corner, Cascade/ Tile
Practical

12:40-1:40 **Lunch**

1:40-4:30 Group, Ungroup, Lock, Unlock, Mask, Unmark
Practical

Day Fourteen

9:30-11:30 Control Palette, Style Palette, Master Pages
Practical

11:30-11:40 **Tea Break**

11:40-12:40 Font, Size, Leading , Set Width, Type Style,
Expert, Tracking, Print
Practical

12:40-1:40 **Lunch**

1:40-4:30 Introduction to Adobe Photoshop
Image Scanning, Importing from Foto Look/Foto Snap and
Editing
Practical

Day Fifteen

9:30-11:30 Final Publication of the Samples

11:30-11:40 **Tea Break**

11:40-12:40 Final Publication Continue

12:40-1:40 **Lunch**

1:40-4:30 Final Publication Publish
Certificate Distribution

Annex 11: Organizational and individual contacted

Organization and address	Name	Job title
World View International Foundation, Kupandole, Kathmandu	Bimal Rawal	Director, Operation
Academy of Audio-visual Arts and Sciences Tripureshwor, Kathmandu	Dipendra Gauchan Manod Shrestha Hem Bista	
Nepal Press Institute Tripureshwor, Kathmandu	Chiranjibi Khanal Hasta Gurung	
Nepal Television, Singha Durbar, Kathmandu	P.B. Shakya Ganesh Ghimeri	Program Director Training Director
Radio Nepal, Singha Durbar, Kathmandu	Rajendra Sharma	Director
Apetech computer, Kantipath, Kathmandu	Prabin Saran	Training coordinator
ICIMOD, Jaulakhel, Lalitpur	Greta Rana Jon Gregson	Senior Editor Connectivity consultant
DADO, Bharatpur, Chitwan	C. K. Devekota L. N. Paudel	Agri. Ext. Officer Asst. Agri. Ext. Officer
IAAS, Rampur, Chitwan	S. N. Tiwari N. N. Joshi N. P. Gupta	Professor Lecturer Professor
RAD, Biratnagar	Balaram Singh Manoj Yadav Tek Raj Maskey Navaraj Mainali	Regional Director Ext. Officer Junior Technician JTA

	Shiva Chandra Mishra	Ext Officer
RARS Tarahara	Chitranjan Yadav Hari Prasain	Director Planning Officer
DADO , Sunsari	Hem Sagar Gautam Ram Lakhan Mandal Ram Prasad Sivakoti	CADO Horticulture Officer Asst. Planning Officer
RDLS, Biratnagar	Arun Sankar Ranjit Shivendra Kumar Singh	Regional Director Livestock Officer
DADO, Morang	Daman Bahadur Dhungana B. L. Shah Basanta Aryal	CADO Ext. Officer JT
DADO, Jhapa	Dwarika Prasad Dahal	CADO

Appendix 12: Abbreviations

ACD	Agriculture Communication Division, Ministry of Agriculture
CPDD	Communication, Publication and Documentation Division, NARC
DOA	Department of Agriculture
DLS	Department of Livestock Services
IAAS	Institute of Agriculture and Animal Science
JT	Junior technician (extension worker)
JTA	Junior technical assistant
MOA	Ministry of Agriculture
NARC	Nepal Agricultural Research Council
NGO	Non-government organisation
RARS	Regional Agricultural Research Station
RCPDU	Regional Communication Publication and Documentation Unit
RRS	Regional Radio Station

Appendix 13: Curriculum vitae of consultant

Upendra Phuyal

Upendra Phuyal is an independent development communication specialist based in Kathmandu. He has a BSc degree in Agriculture and Animal Husbandry from the G.B. Pant University of Agriculture and Technology, India, and an MS degree in Development Communication from the Agricultural University of Malaysia. He worked for 12 years in the Nepal Ministry of Agriculture's Agriculture Communication Division, where he was Acting Chief from 1990 to 1991. In 1993 he moved to Lumle Agriculture Research Centre, where he served as chief of the Information Section until 1996. Since 1997 he has been an independent consultant in development communication , specialising in video, radio, audio-visuals and print production, and in communication research.

Upendra Phuyal, Lalitpur 14, Nakhipot; tel 535105, email upendrap@hotmail.com

c/o SEEPORT, Kha 1-591, Sachetan Margh, Bhimsengola, Baneshwor, PO Box 3635, Kathmandu; tel 470 305, fax 487 793, email seeport@col.com.np