

Institutions Dealing with Agricultural Support Services: A Synthesis

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Introduction

The Mountain Farming Systems' (MFS) Programme at ICIMOD is currently undertaking work on strengthening/reorienting institutional arrangements for sustainable mountain agriculture in the Hindu-Kush Himalayan (HKH) Region. The objectives are to review existing institutions directly/indirectly involved in the development of mountain agriculture and to identify the successful experiences that can be replicated elsewhere.

In this context, ICIMOD sponsored reviews of existing institutional arrangements dealing with (a) policies and programmes; (b) research and development; and (c) support services for mountain agriculture. These reviews were carried out in various countries of the HKH Region, namely, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. This synthesis report is based on the reports prepared by individuals and institutions for the respective countries. However, it deals only with agricultural support services, highlighting the lessons learned from past experiences and the major issues to be considered in future for strengthening/reorienting the institutional set-up for developing sustainable mountain agriculture.

This synthesis report is prepared in keeping with the 'mountain perspective framework' prepared by MFS (ICIMOD).

Support Services - What Do They Mean?

Support services constitute one of the three vital components of a whole institutional set up. Support services, in general, relate to extension, material inputs, credit supply, and marketing/ processing facilities. Agricultural extension refers to all kinds of information

related to agricultural production, marketing, and processing. Agricultural inputs include seeds, fertilisers (organic/inorganic), pesticides, insecticides, breeding animals, veterinary services, grasses, saplings of fruits and vegetables, etc. Their timely availability is crucial for improved farming. Similarly, availability of credit, particularly for resource-poor farmers, is vital for improving farming.

Marketing and processing constitute another important support service which is often neglected in agricultural production systems. Production and marketing aspects, in the past, have often been segregated, bringing harmful consequences.

Types of Support Services' Institutions

There are various types of institutions dealing with support services. Three major types have been classified by the project: (a) GOs (or government organisations/ institutions), run by the State and little influenced by the market; (b) NGOs/INGOs (non-governmental organisations/ institutions, both national and international), mostly autonomous, self-governing types; and, lastly, (c) private sector agencies such as individual traders - middlemen, wholesalers, retailers, etc whose code of conduct or operations are mainly guided by market forces.

These various institutions have their own mandates and structure. While some have a 'single function' others have multiple functions under their mandate. Table 1 indicates this. It lists the key institutions in various countries of the HKH Region. This list is not a comprehensive one, nevertheless, it shows the country-wise involvement of different types of institutions in providing support services to farmers.

Table 1: List of Key Institutions Engaged in Agricultural Support Services by Type and Country in the HKH Region

Country	Institutions	Support Services by Type			
		Extension	Inputs	Credit	Marketing and Others
I BHUTAN	1. Department of Agriculture/Livestock/Forestry	X			
	2. Agri. Machinery Centre		X		
	3. National Seeds and Plant Protection Centre		X		
	4. Food Corporation				X
	5. Bhutan Development Finance Corporation			X	
	6. Irrigation Division		X		
	7. Agro-Industries' Corporation	X			X
	8. Special projects/programmes	X	X	X	X
II CHINA	A. Central Govt./State/Province District/Prefecture				
	B. County/Township/Village Government				
	1. Science and Technology Institutions at village level	X	X	X	X
	o Seed Station		X		
	o Extension Station	X			
	o Soil Fertility Station	X	X		
o Plant Protection Station					
2. Agri. Supply and Marketing Coop.		X		X	
3. Agri. Bank/Rural Credit Coop.			X		
III INDIA	1. National Seed Corporation		X		
	2. National Agricultural Cooperative + Marketing				X
	3. National Bank for Agricultural Development			X	
	4. Department of Agriculture/ Extension	X			
	5. Indian Farmers' Fertilisation Corporation	X	X		
	6. District-level Agencies	X	X	X	X
	7. Agricultural Sciences' Centre	X			
	8. Himachal Pradesh Horticultural Produce Marketing and Processing Corporation	X			X
	9. Private Sector Traders			X	X
	10. Universities/Colleges	X			
IV NEPAL	1. Department of Agriculture (e.g., crops, horticulture, livestock, fisheries)	X			
	2. Department of Forestry/Watershed Management	X	X		
	3. Agricultural Inputs' Corporation	X	X		
	4. ADB/SFDP			X	X
	5. NFC/DDC	X	X		X
	6. Special Projects/Programmes	X	X	X	X
	7. NGOs/Private Sector	X	X	X	X
V PAKISTAN	1. ADB/FBC - Federal Bank Corporation			X	
	2. PASSCO-Pakistan Agricultural Storage and Services Corporation				X
	3. Agriculture and Storage Ltd.				X
	4. Sarhad Rural Support Programme (SRSP)	X	X	X	X
	5. Baluchistan RSP	X	X	X	X
	6. AKRSP	X	X	X	X

Source: Based on the country reports presented.

Note: The main objective of the list is to give an idea about the types of institutions that are involved in providing support services. The list includes mainly GOs and a few NGOs. Regarding the private sector, there are hundreds of them, mostly localised, and they are not included in the list.

Mandate/Structure/Function and Their Relevance to Mountain Areas

General Mandate/Structure/Function

Most institutions have a general mandate to facilitate the development of mountain agriculture. In order to fulfil this mandate they have a delineated scope. In many cases, more than one institution is found to have the same scope and this can create problems in effective functioning.

ICIMOD has developed a conceptual framework, called the "Mountain Perspective Framework", to facilitate sustainable mountain agriculture. Realising its potential usefulness, the perspective has been used to analyse the constraints or gaps and the potential of existing

institutions. This analysis is summarised in Table 2.

A generalised model of the structure of institutions established in the HKH Region is shown in Figure 1. This also shows the flow of services from top to bottom. The main purpose of the sketch is to give a general idea about the different tiers of institutions involved at various levels, i.e., from the centre to the village, and the flow of support services accordingly. The model in Figure 1 is self-explanatory and it shows that there are some hierarchial structures from the centre to the district and to the village level, particularly in GOs. NGOs and private sector agencies do not have such tight compartments. They operate very flexibly and are mostly location-specific without any strong channel from the bottom to the top or vice versa.

Figure 1: Structure of Institutions Related to Agricultural Support Services: A Generalised Model of the HKH Region

Level	GOs	NGOs/Private Sector
Centre/Federal Govt.	Ministries - Agriculture/Forestry/ Land Reform/Finance/Crop	*
State/Province/ Development Region	Regional Centres	*
Prefecture/Zone	Branch Offices	*
County/Township/ District/Dzonkhag	Offices/Sub-branches	*
Gewog/llaka	Service Centres	*
Village	Farmers	*

Note: NGOs/private sectors/traders may have little or only a partial hierarchial structure compared to GOs. Most NGOs/private agencies function independently at one level (e.g., district/village, etc).

Table 2: The Status of Responses of the Given Mandate/Structure/ Function of Existing Agricultural Support Services to the Imperatives of Mountain Conditions

Mountain Conditions and Their Imperatives	Selected Countries of the HKH Region				
	Bhutan	China	India	Nepal	Pakistan
Inaccessibility	Z	X	Z	Z	Z
1. People-centred (decentralisation)	B	A	B	B	B
2. Use of local resource + indigenous knowledge	D	A	D	D	C
3. Mobile services	E	B	E	D	D
4. Diversified farming (not monoculture)	C	A	D	B	D
Fragility/Marginality	Z ¹⁾	Y	Y	Y	Y
1. Combination of annual + perennial crops	C B	B A	D A	B B	D B
2. Promotion of horticultural crops	C	D	E	D	C
3. Services with diversified structure/mandate	D	A	B	D	A
4. Promotion of local participation/institutions etc					
Diversity	Y	X	Y	Y	Z
1. Diversified activities	B	A	B	C	D
2. People's participation for location-specific management	B	A	C	C	B
3. Product-specific services	B	B	B	B	C
4. Conservation and harnessing gains from diversified products	B	B	B	C	C
Niche	Z	Y	Y	Z	Z
1. Harnessing with conservation of unique products	B	B	B	B	B
2. Association/Cooperative for minimising over-exploitation	D	B	D	D	C
Overall Status (Generalisation)	From inadequate to partially adequate	From partially adequate to satisfactory level of adequacy	From inadequate to partially adequate	From inadequate to partially adequate	Inadequate

Note: 1

<u>Grading</u>	<u>Status</u>	<u>Scoring</u>
A	Internalised and fully operating	5
B	Internalised and partially operating	4
C	Internalised but yet to be operating	3
D	Perceived but yet to be internalised	2
E	Not perceived	1

Note: 2

<u>Grading</u>	<u>Status</u>	<u>Scoring</u>
X	Highly responsive/relevant	4
Y	Just responsive/relevant	3
Z	Partially responsive/relevant	2
O	Not responsive/relevant	0

Footnote

- 1) Because fragility is not so problematical (due to low pressure on land), support services do not have to respond to fragility in a major way. Therefore, the response shown is not strong, but this does not imply that they are not responsive to it.

Their Relevance to Mountain Areas

Mountain areas are different from other areas, e.g., the plains. Therefore, the imperatives indicated by various mountain conditions (e.g., remoteness, fragility, diversity, etc) again differ from others. Keeping this in mind, various agricultural support services' institutions have been assessed in relation to their relevance to mountain areas. This analysis has been carried out by assessing whether the attributes of the present institutions, regarding their mandate/structure/function, are responding positively to the imperatives of mountain conditions or not. Then, as per their magnitude of response, a grade has been accorded. For instance, A grade highly responsive, B medium responsive, C partially responsive, and so on.

Table 2 depicts the country-wise scoring/grading by various mountain conditions. The table shows that the attributes of the mandate/structure/function of the institutions in China are highly responsive to most operational implications of mountain conditions. This implies that the rapid progress in agriculture and rural development in Ningnan county of China is related to this high degree of responsiveness.

Apart from China, most countries are found to have responded partially to the imperatives of mountain conditions. This means there is adequate room for improvement by strengthening their institutions.

Lessons Learned: Future Direction towards Strengthening Institutional Arrangements

A review of existing institutions, in terms of their mandate, structure, performance, and effectiveness/impact, has generated several important lessons to be considered for sustainable mountain agriculture. In this review process, various institutions were found to be very effective and were making a substantial impact on agriculture and rural welfare in mountain areas.

An enquiry was undertaken to understand the elements behind this success by internalising the 'mountain perspective framework' or methodology. It was found that

the mandate/structure/function of such effective institutions were highly responsive to the imperatives of mountain areas (Table 3). Therefore, it is believed that a positive response to these imperatives will help improve the effectiveness of institutional arrangements in mountain areas.

Major Policy Issues for the Future

1. Technology Transfer. In most mountain areas of the HKH Region, the effectiveness of agricultural extension activities has long been debated. The present review of institutional arrangements also raises the same issue. It has also been noticed that the effectiveness of extension services can be improved, provided the technology transfer is integrated with credit, necessary inputs, and marketing facilities. This has been learned from the experiences of LAC/PAC/DDC and SCR/ in Gorkha in Nepal; Himachal Pradesh Fruit Marketing Corporation in India; and AKRSP, SRSP, and BRSP in Pakistan. To formulate a concrete policy, further research on the subject should be undertaken.
2. Provision of Incentive/Disincentive. Provision of rewards for success and punishment for failures could be an important aspect in improving the efficiency of institutions. This has been seen in the case of Ningnan county and some NGOs operating in Nepal and other parts of the HKH Region.
3. Private Sector/NGOs: An Alternative Approach for Effective Support Services. The role of the private sector/NGOs has been increasingly emphasised not only in improving delivery systems but also in making the system cost-effective from a macro-perspective. Some remarkable initiatives in this direction are listed below.
 - o Fertiliser distribution - 10 per cent of the total demand has been met in the eastern part of Nepal.
 - o Production and distribution of seeds, saplings, grasses, cross-bred animals, etc in different parts of the HKH Region.
 - o In Sunsari veterinary services provided by a private individual are becoming more popular than government-provided services despite the fact that farmers have to pay for the former service.

Table 3: Solutions or Responses of Institutional Interventions (Regarding Agricultural Support Services) to the Imperatives of Mountain Conditions

Mountain Conditions/Characteristics Accessibility	Responses of Agricultural Support Services to the Imperatives of Mountain Conditions
<p>Remoteness, closedness, low external dependency, poor mobility, high transport cost, etc (Inaccessibility)</p>	<ol style="list-style-type: none"> 1. People-centred management mechanism (conservation of natural resources as well as mobilisation of financial resources for saving and small fund raising) <ul style="list-style-type: none"> o AKRSP/SRSP/BRSP in Pakistan o SFDP in Nepal o Potato cooperative in Lahul Spiti (H.P.) 2. Local resource-centred inputs <ul style="list-style-type: none"> o Biofertiliser-azolla o (LAC/PAC) - indigenous green manuring plants 3. Mobile Services <ul style="list-style-type: none"> o Mobile banking o Mobile veterinary services in Nepal o Mobile milk collecting centres in China o Mobile cheese-making units in Nepal o Mobile beekeeping in Pakistan 4. Establishment of small processing units for value-adding activities <ul style="list-style-type: none"> o Cream separators in Nepal o Local methods of converting high-volume, low-value products into low-weight high-value products <ul style="list-style-type: none"> - hard cheese in the eastern parts of India and Bhutan - dry/smoked meat in Tibet 5. High-value low-weight products <ul style="list-style-type: none"> o Silk in Ningnan county and other parts of China o Vegetable seed production <ul style="list-style-type: none"> - Ningnan, China - Himachal Pradesh, India - Gilgit area, NWFP, Pakistan
<p>Fragility/Marginality</p> <p>Vulnerable to disturbance, prone to disaster, landslides, soil erosion, low-carrying capacity, area/people away from 'mainstream', low surplus and input absorption capacity</p>	<ol style="list-style-type: none"> 1. Combination of annual and perennial crop cultivation <ul style="list-style-type: none"> o Mulberry and cereal crop cultivation in Ningnan o Fruit trees and vegetable cultivation in Himachal Pradesh, India 2. Emphasis on total biomass production <ul style="list-style-type: none"> o Wheat cultivation in U. P. hills/eastern part of Nepal (PAC/LAC) o Barley cultivation in eastern part of Nepal (PAC/LAC)

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<p>Fragility/Marginality</p> <p>Vulnerable to disturbance, prone to disaster, landslides, soil erosion, low-carrying capacity, area/people away from 'mainstream', low surplus and input absorption capacity</p>	<ol style="list-style-type: none"> 3. Incentives/subsidies for farmers on <ul style="list-style-type: none"> o land terracing (recommended in Pakistan, and it is taking place in Nepal through the EEC project in Lele/Bhardeo area) o SALT programme in <ul style="list-style-type: none"> - China - India - Pakistan - Nepal o Fodder cultivation on terraces o Bio-fertiliser production and their usage o No subsidies on chemical fertilisers (most fertilisers are used by rich farmers). Now the Govt. of Nepal has abandoned subsidies for fertilisers, except for urea. 4. Livestock credit should be accompanied by the binding provision of an improved fodder resource base on private as well as common land 5. Emphasis on women's development programmes in order to bring them into the 'mainstream' <ul style="list-style-type: none"> o Provision for women's programmes in AKRSP, SRSP, and BRSP in Pakistan o <i>Mahila mandal</i> in U. P., India o PCRW in Nepal o There is no women's programme as such in China because the Government thinks women have also become part of the 'mainstream' of development, particularly over the last four decades. Women are working hand in hand with men and it is felt that there is no need for such programmes. 6. Need for an integrated package of support services, and technology transfer should be for their distribution (integrated with seeds, fertiliser credit, management, etc) <ul style="list-style-type: none"> o Because poor, marginal farmers operate their farming activities on a very small scale, making provision for and receiving inputs' supply (e.g., seeds, technical knowledge, credit, etc) is not economical and suitable for farmers. The same may apply to formal and informal support service institutions due to 'inaccessibility'. Supply of inputs in a package, therefore, will respond positively to mountain conditions o LAC/PAC/DDC in Nepal o SCF/NECPS/other NGOs in Nepal o SRSP/AKRSP in Pakistan o Provision of RNR (Renewable Natural Resources) strategies in Bhutan to provide an integrated package of inputs o CHIRAG in U. P. hills, India

Mountain Conditions/Characteristics Accessibility	Responses of Agricultural Support Services to the Imperatives of Mountain Conditions
<p>Diversity</p> <p>Varied micro-climates, diverse flora and fauna, localised production technologies and systems, limited replicability</p>	<ol style="list-style-type: none"> 1. Diversification of farming <ul style="list-style-type: none"> o Farming system in Bhutan where crops, livestock, horticultural crops, and forestry are very much integrated o Ningnan county, China - mulberry trees with vegetables and some annual crops o Combination of fruit/vegetable cultivation with apiculture (non-land based activity) in Himachal Pradesh, India
<p>Niche</p> <p>Highly potential but specific product, commodity availability, liable to overexploitation, unique product system availability which may be termed 'comparative advantage'.</p>	<ol style="list-style-type: none"> 1. Off-season vegetable cultivation and fruit production in Himachal Pradesh, India 2. Harnessing medicinal plants and marketing/processing primitive products in Ningnan county, China 3. Dairy Development Corporation, Nepal - promotes yak/<i>chauri</i> farming in the high hills/mountains by providing necessary inputs, cheese-making 4. The Agricultural Development Bank also promotes livestock keeping in the middle and high hills/mountains by providing loans for goat and sheep herding which also serves as a major means of transportation for goods and materials in the U.P. hills and Himachal Pradesh, India, NWFP of Pakistan, and Nepal 5. Horticultural Produce and Marketing Corporation promotes the harnessing of fruits and vegetable production and is a national centre for mushroom-marketing in Himachal Pradesh, India 6. The Tea Development Board in Nepal promotes tea planting in the eastern region and provides the necessary inputs. Tea and cardamon cultivation has also contributed to improving the environment and in forest conservation/protection.

4. Rural Credit. Rural credit mostly goes to livestock in Nepal. Therefore, it should be tied up with increased fodder production and the replacement of unproductive animals. Similarly, the credit for other agricultural items could be tied to provisions of other associated services.

Issues Emerging

1. Sustainability. There are some successful institutions that have brought positive improvements in agriculture. Such institutions in Nepal include Lumle/

Pakhribas Agricultural Centres, CARE International, and Action Aid. But these are all supported by external funding. It is difficult for Nepal to sustain such centres. The Indo-German Dhauladhar Project in H.P. is another such project. **What is needed to make such institutions financially viable?**

2. Scale of Operations. Most NGOs or special programmes have proved to be effective institutions for delivery. They include Save the Children Fund, CHIRAG, Lahul Spiti Potato Cooperation, AKRSP, and SRSP, etc. The success of institutional arrangements is

linked to the scale of operations. The scale of operations of NGOs is smaller than that of GOs. **What is needed to establish appropriate sizes and scales of operations for various types of institutions?**

3. Approach for Integration. What could be the effective strategies and approaches for integrating technology with necessary inputs, credits, and other support services? Bhutan is making some efforts towards this integration by devising Renewable Natural Resources' (RNR) strategies for its coming development programmes. The strategies seek to integrated crops-livestock-forestry

programmes under one umbrella, from the centre to the district and village level.

4. Strategies/Criteria for Mobilising Private Sector/NGOs. The private sector/NGOs prove to be more effective in the delivery of support services. In this context, there is also some debate about privatising agricultural extension activities. **But what are the criteria/yardsticks that should be considered for privatising in a manner so that the farmer has access to information without much financial burden?** Otherwise, the flow of information will be accessible only to resource rich farmers, leaving resource poor farmers outside the mainstream, as in the past.