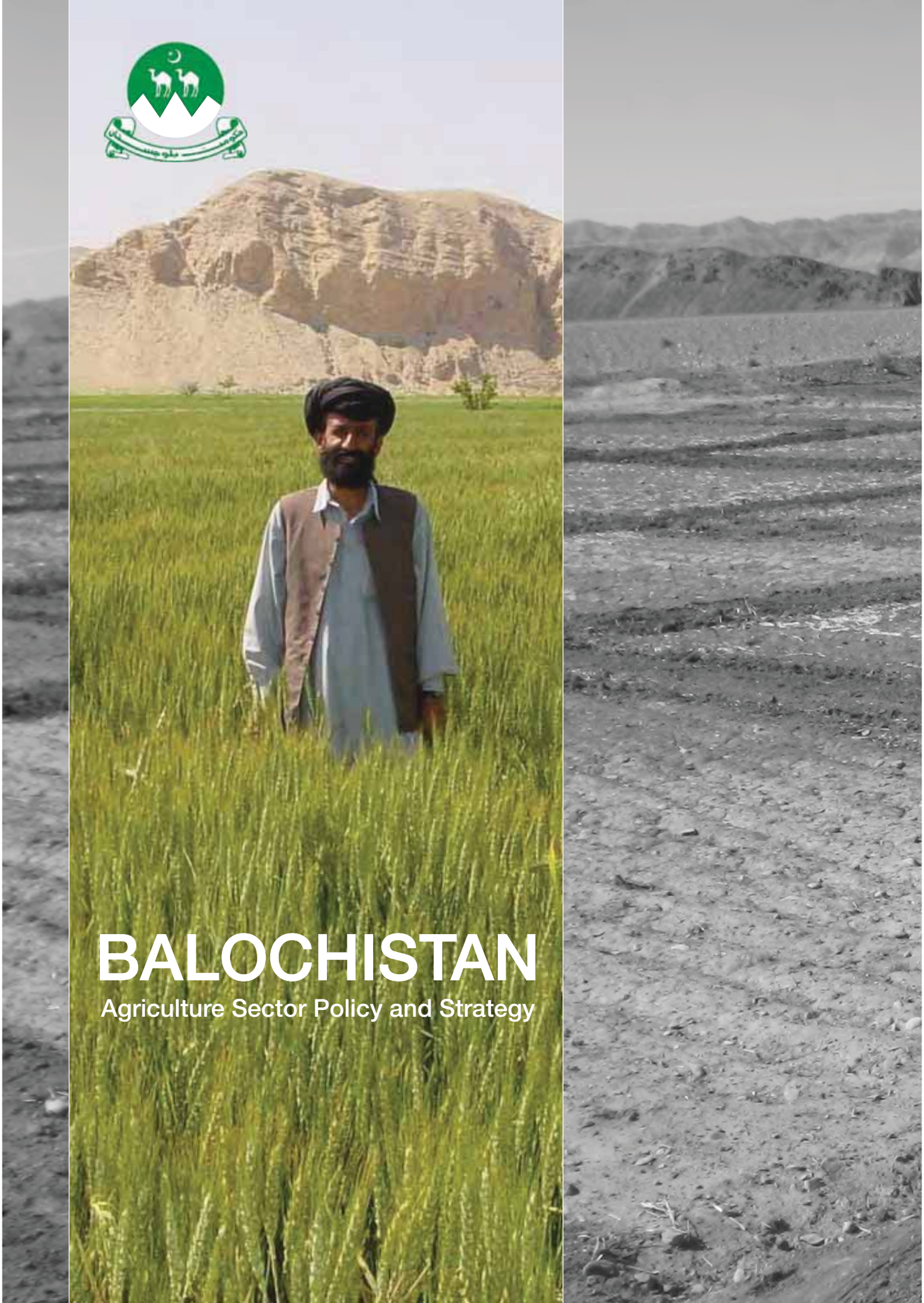


BALOCHISTAN

Agriculture Sector Policy and Strategy

This report was prepared with support from the United Nations Food and Agriculture Organization (FAO), the U.S. Agency for International Development (USAID), and the Australian Development Aid (through the Department of Foreign Affairs and Trade, DFAT). The contents of the report is the sole responsibility of the Government of Balochistan and does not necessarily reflect the position of FAO, USAID or the Australian Development Aid or their respective governments.

Nawab Sanaullah Khan Zehri
Chief Minister
Government of Balochistan

Under the 18th Constitutional Amendment, the Province of Balochistan has been given leadership for its own development. The new Government that took over after the May 2014 elections is extremely cognizant of the great opportunity, as well as the enormous responsibility, that this places on us.

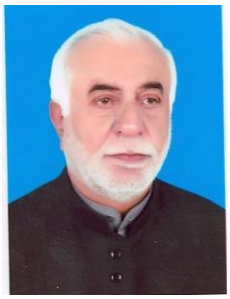
Agriculture is one of the mainstays of our economy, a way of life for many of our people, and an essential part of our culture and tradition. Balochistan does not have the agricultural natural resources that other provinces possess. In particular, water for our crops, our livestock, and sometimes even for our people, is a major problem. But we need to make the best use of what Allah has given us. This report prepared with the help of top international experts tells us that if we use our land, water, climate and coastal areas well, we can create a prosperous agriculture sector that can provide employment and good incomes to many of our people. I believe that this is possible and the Government of Balochistan has an obligation to make this happen.

The new policy proposes an alliance for change that will draw upon Government, private sector, NGOs to support local farmers, herders and fishers to take charge of their own development. It is the hard working people of Balochistan that will have to take the strain of building this province, but it is our sacred duty to help them in this.

I would like to thank all those from inside and outside the province who have helped prepare this new policy. A particular thanks go to the Food and Agriculture Organization (FAO) who provided the services of two international experts. The international team worked closely with the concerned departments of the Government including the Departments of Agriculture, Fisheries, Forestry and Wildlife, Irrigation and Livestock. The staff of these departments, both in Quetta and in their field offices, gave generously of their time despite many other pressing duties. The Planning & Development Department guided the whole process.

As part of the policy formulation process, there were also a series of workshops held in Quetta, as well as the different agro-climatic zones of the province, where the private sector, farmers, NGOs, academics, Government staff and national and international experts came together to talk about the way forward. This is the first time that such a deep and comprehensive consultation process has been undertaken and the quality of the output reflects the hard work done. Funds for this work were provided by the United States Agency for International Development (USAID) and by Australian Development Aid through the Department of Foreign Affairs and Trade (DFAT) through their respective Agricultural Development Projects in Balochistan.

Now that the problems have been discussed, solutions formulated and a clear development pathway identified, it is time to move from planning to action. No one will do this job for us, the Government, it is clear from the report, can facilitate the change, but the hard work must be undertaken by people themselves; whether on the farms, in businesses or in services, we must all strive to do the best with what we have so that future generations of our people will still possess our environmental endowments while enjoying a higher standard of living. I therefore call upon all of you – the people of Balochistan - and all their friends, both inside and outside the country, to commence this great work.



Sardar Muhammad Aslam Bizenjo
Minister Agriculture & Cooperatives
Government of Balochistan

Agriculture is the mainstay of the economy of Balochistan and the majority of the people – and their families – depend on agriculture for their living. Increasing the income of our resource poor and cash constrained farmers and creating more employment in rural areas are key priorities of the Ministry of Agriculture & Cooperatives and the Provincial Government of Balochistan. Due to blessings of different agro-ecological zones Balochistan is called the fruit-basket of the country, producing 90 per cent of all grapes, cherries and almonds, 60 per cent of peaches, pomegranates, apricots and 70 per cent of all dates produced in Pakistan. Just as an example; our 'Shundokhani' grape variety is one of the most popular grape varieties in Pakistan and dates from Panjgur are famous for their quality. The majority of all onions consumed in Pakistan are grown in Balochistan. Balochistan is endowed with a unique environment for the production of a variety of fruit and field crops in the five different agro-ecological zones. The potential for increasing the volume, quality and the value of these crops in a sustainable way, is considerable. Balochistan, still has ample land for cultivation of crops that are required to feed the increasing number of Pakistanis.

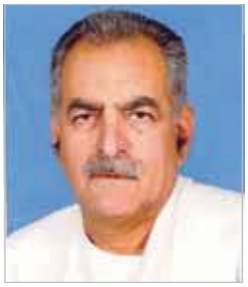
But apart from these opportunities and as outlined in this Agriculture Sector Policy and Strategy, Balochistan faces problems in particular with water for our crops. But also the business orientation and mindset of our farmers should be changed. Nowadays farmers and traders only add little value to Balochistan apples, almonds and dates. I encourage the private sector, farmers, NGOs, academics, researchers and the Government to increase their efforts to link our farmers with profitable markets and to produce better quality products to the benefit of our Balochistan farmers.

I am impressed and pleased with this very comprehensive policy document, because it does not only identify the problems but it also provides solutions. I am grateful to the national and international experts who conducted this thorough stakeholders consultation process. Special thanks must go to representatives of relevant Provincial and National Authorities of the Government of Pakistan and Balochistan, FAO, entrepreneurs, traders, processors and farmers who generously gave their time to discuss and express their opinions. Indeed I also wish to thank the United States Agency for International Development (USAID) and the Department of Foreign Affairs and Trade (DFAT) of Australia, who funded this project.

However, we should move quickly from planning to action and one of the highest priorities is the proper management of our water resources for the future production of crops in a more efficient way. Balochistan cannot afford to waste water as we are doing today and water use efficiency has to be increased and on farm water management to be improved. Immediate actions on the ground are required and this strategy document shows us the way forward.

Of course we need to make sure that farmers have technologies and skills for producing, storing, packaging and transporting their products, as well as the necessary market linkages. The Government cannot do this alone and we should closely cooperate with the private sector, Universities, Training Institutes and organizations such as the Food and Agriculture Organization (FAO) and Donors.

As Minister of Agriculture, I feel responsible to maximally support and implement the recommendations as mentioned in this Agriculture Strategy in order to generate more income, employment and bring prosperity to the farmers of Balochistan. Let us utilize the Balochistan year of agriculture 2015 -16, to start and make tangible progress on the issues addressed in this Agriculture Strategy.



Dr. Hamid Khan Achakzai
Minister for Planning and Development
Government of Balochistan

Over the last two decades, a number of natural and socio-economic factors have hampered the development of Balochistan's agriculture sector. The1998-2004 droughts put pressure on our rangelands, rivers and streams, and the underground aquifers, while the2010 floods damaged crops, livestock and rural infrastructure in many districts. Balochistan has also suffered severely from the effects of the Afghan war. It hosted an unprecedented number of refugees providing them food, shelter and economic opportunities in both the urban and rural areas. Continuing security problems have further damaged livelihoods and resulted in a flight of capital and skilled people. They have also made the private sector wary of investing in the province, and donors reluctant to undertake development projects. Finally, Balochistan had not had adequate returns from the extraction of its natural gas and mineral resources, and had not been allocated its due share in national development funds. The latter constraint has been partially addressed in recent allocations.

The above factors severely limited the capacity of the Balochistan government to put in place policies and programmes for sustainable and efficient use of its natural and human resources. As a result, growth has tended to lag behind other provinces, and we have not been able to provide profitable employment opportunities to our people. It is imperative that this situation be changed. Balochistan is blessed with many opportunities. It has good land, water, and climate; vast mineral resources; and hard working people. It also occupies a strategically important position which could make it a regional hub for trade and transport.

The 18th Amendment has provided a new chapter in the history of the province, giving us the chance to take charge of our own destiny and future. Responsibility for key sectors, including agriculture, now rests with the province. We are also responsible for the allocation of public development resources of Balochistan.

Among our highest priorities is the development of our water resources. Much of our water flows into the sea while we are depleting our aquifers. A determined and well designed effort needs to be made to capture the flood water for farming. Similarly, our rangelands, which produce a wealth of livestock, need to be managed better, as do our coastal zones. We also need to make sure that farmers have the right technology to produce, store and transport their products, as well as the necessary market linkages to guide their production decisions and obtain better financial rewards for their efforts. Among other things, the role of the government has to change. The public sector can no longer be seen as a place of employment and instead must focus on providing help, support, guidance and a clear and transparent regulatory system for the private sector, civil society and farmers who are the ultimate drivers of the future of the province.

Details of actions to achieve this are set out in this report which was prepared by a team of national and international experts from the UN Food and Agriculture Organization (FAO) with funding from Australian Aid and USAID. I would particularly like to thank Senior Policy Advisor Mr.Daud Khan and International Project Manager Mr. David Doolan for their hard work.

It is now up to us to implement these actions, especially since much can be achieved through more efficient and effective use of what we are already spending. As Minister of Planning and Development, I pledge to do all that is in my power to generate agriculture sector growth to provide more attractive employment and incomes for our people and manage our natural resources in an efficient and sustainable manner, so that future generations can derive livelihoods from our land, sea and water.

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A. Introduction

In line with the 18th Constitutional Amendment, responsibilities related to agriculture, livestock, forest and fisheries development have been decentralised to the provinces. In order to handle the increased responsibilities resulting from devolution, the Provincial Government of Balochistan, supported by FAO under the USAID- funded Balochistan Agriculture Project (BAP) and AusAID funded Assistance to Agriculture in the Balochistan Border Areas Project (ABBA),formulated this Agriculture Sector Policy and Strategy (ASPS)[1]. The work was coordinated by the Planning and Development Department, with strong involvement of the other concerned Departments[2]. The ASPS, in consultation with stakeholders:

- Assessed the existing situation of agriculture in Balochistan, with a particular focus on key constraints and major potentials;
- Reviewed past agriculture policies, and related legal/regulatory frameworks, to assess if they provide a suitable framework to guide development efforts in the coming years;
- Set out a high level vision and approach to guide future interventions in the sector with a major focus on implementation arrangements;
- Suggests a series of actions, anchored at district and lower levels to accelerate agriculture sector growth and enhance food security in the different agro-climatic zones;
- Proposes actions at provincial level to support local actions, including restructuring and strengthening key agriculture related organisations, particularly the concerned departments, to meet their new responsibilities in an efficient and effective manner; and
- Provides tentative estimates of the investments needed.

The policy and strategy document was prepared by a team from FAO Headquarters[3]. The team worked with senior Government staff, including Secretaries of concerned departments as well as the Chief Secretary, the Additional Chief Secretary and the Chief Justice. The team has also worked closely with staff of the BAP and the ABBA projects, particularly to draw on their successful experience related to technology dissemination, strengthening value chain linkages, and developing community organizations, including for women.

In order to involve all stakeholders in the policy making process, workshops have been held in Quetta, as well as in all agro-economic zones with private sector (including farmers), NGOs and concerned Government departments. Workshop participants discussed potentials, constraints, issues and solutions for developing agriculture in Balochistan and made proposals about what needed to be done, who should do it and how it should be done. The workshop also explored the challenge of implementing policies and suggested new and innovative approaches that would make policies and programmes more likely to succeed. In addition, questionnaires were prepared in consultation with the concerned Departments to collect information from their field staff.

The Government has recently completed preparation of a Comprehensive Development Strategy (CDS) for Balochistan which sets the high level objectives for the economy as a whole and for all sectors. The CDS gives high priority to social and human development aimed at reaching the agreed Millennium Development Goals. However, it is also recognized that there is a need to support the productive sectors of the economy in a sustainable manner. Key principles informing Government policy in these sectors should be a focus on sustainability and quick returns on investment. The ASPS builds on the work done by the CDS by focusing on proper and sustainable resource use, which will provide increases in output, incomes and employment. However, this will require fundamental changes in the way that development efforts are undertaken with the major driving force for change and development being moved much closer to farmers and communities than it is presently.

1. Agriculture in this sense refers to Crops, Fisheries,Forests, Irrigation and Livestock.
2. Request from Planning and Development Department Government of Balochistan vide letter Ref No. P&D-RO(F/A)73/2012/5160 of 31st July 2012.
3. Comprising Daud Khan, Policy Expert and Ali Mekouar, Legal Expert.

B. The Current Situation of Resource Use

Balochistan is the largest province in Pakistan in terms of land area. It covers a wide range of agro-climatic conditions (see Annex 1), including some which give it a strong comparative advantage in relation to other provinces and to countries in the region.

The development of agriculture in Balochistan depends critically on a sustainable and efficient use of its three critical resources – access to the fishing areas along its coastal belt; the rangelands and forest which stretch across much of the drier areas; and good soil and water in some of the upland areas and in the lowlands. Currently resources in all three areas are overexploited, with current usage levels well in excess of their long term sustainable yield rates. At the same time these resources are mismanaged and underutilized in that the economic and social benefits, in terms of incomes and employment, derived from these scarce resources are much less than they could be.

The Coastal Area[1]

Balochistan has a coastal belt of some 750 km which is generally sparsely populated, except for the urban and port development area around Gwadar. Fisheries provide a major source of incomes and employment in the area with 5,000, mainly small wooden vessels[2] operating from the villages and settlements along the coastline. In addition, larger boats from Gwadar and Karachi operate in the territorial waters of Balochistan which stretch 12 miles from the coast. Much of the catch from the larger vessels is landed and processed in Karachi with only 120,000 tons landed in Balochistan out of a total estimated annual catch of 350,000 tons.

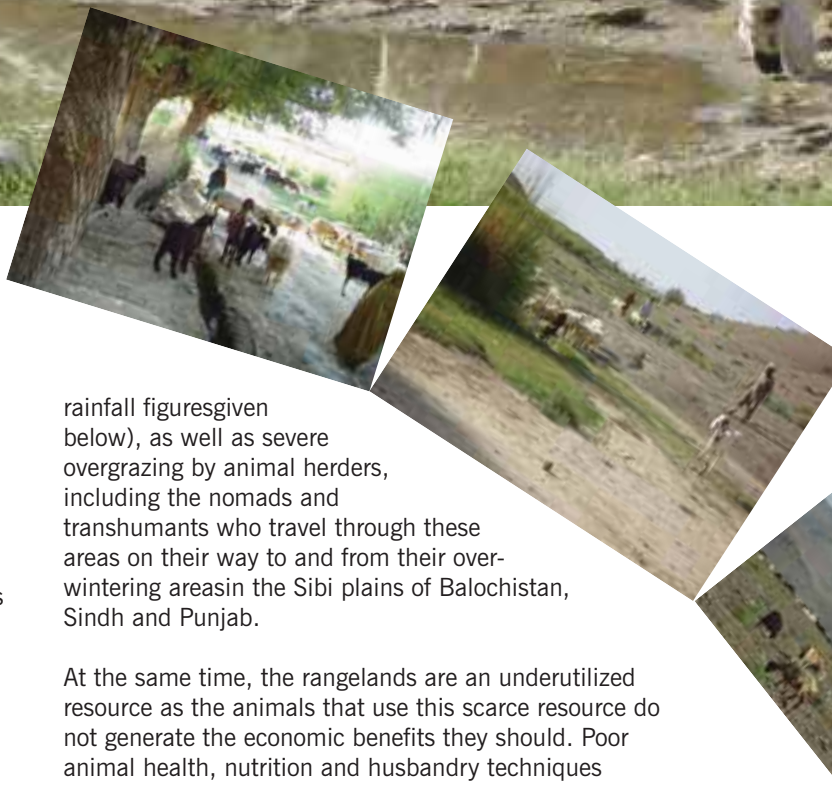
Surveys carried out in the coastal belt reveals that the fishery sector is over-exploited and in a poor state. The fishing effort has systematically increased over many years with clearly unsustainable techniques and tools practised, such as use of nets with very fine mesh size, year around fishing without any closed season, and degradation of mangrove areas.

At the same time the fish, once landed, is under-utilized. Icing, processing and storage facilities are almost non-existent. This severely limits the sale of fresh fish – only about 10-15% of the annual catch is frozen and exported or transported to major fresh fish markets such as Karachi or Hyderabad. Much of the catch is poorly handled on and off the fishing boats, poorly preserved and sun dried, and then transported to fish meal factories in Karachi and other cities for the production of poultry feed.

1. Institutional responsibilities for the coastal belt are shared mainly between the Department of Fisheries and the Balochistan Coastal Development Authority. The Provincial remit extends to the 12 nautical mile limit, the area from there to the edge of the EEZ (currently 200 nautical miles but with an expansion to 350 miles being considered) comes under the remit of the Federal Government's Ministry of Ports and Shipping, the mechanisms to ensure complementary policy and management strategies have yet to be fully defined.
2. http://www.fao.org/docrep/006/y4849e/y4849e0a.htm

In effect the fishing effort is directed at the trash fishery for low value poultry feed with the valuable species like prawns are effectively by catch, in the reverse of a properly managed fishery where only by catch is sold as poultry feed. Poor drying methods and the large amounts of dirt and dust in the dried fish, further reduce value. If the fishery sector was better managed, with fish allowed to mature to a commercial size and improved handling, processing, storage and marketing, the value could be increased manyfold.

The coastal area is also under-utilized, little effort has been made to develop aqua-culture. Aqua-culture production in Pakistan has rapidly increased since 2000, from around 10-15,000 tons, to over 100,000 tons in 2007 but, with the exception of trout culture in the northern regions, virtually all aqua-culture consists of with various carp species. Little systematic effort have been made to exploit Balochistan's vast fresh, brackish and marine water resources to grow commercial species such as sea bass, bream and shrimp.



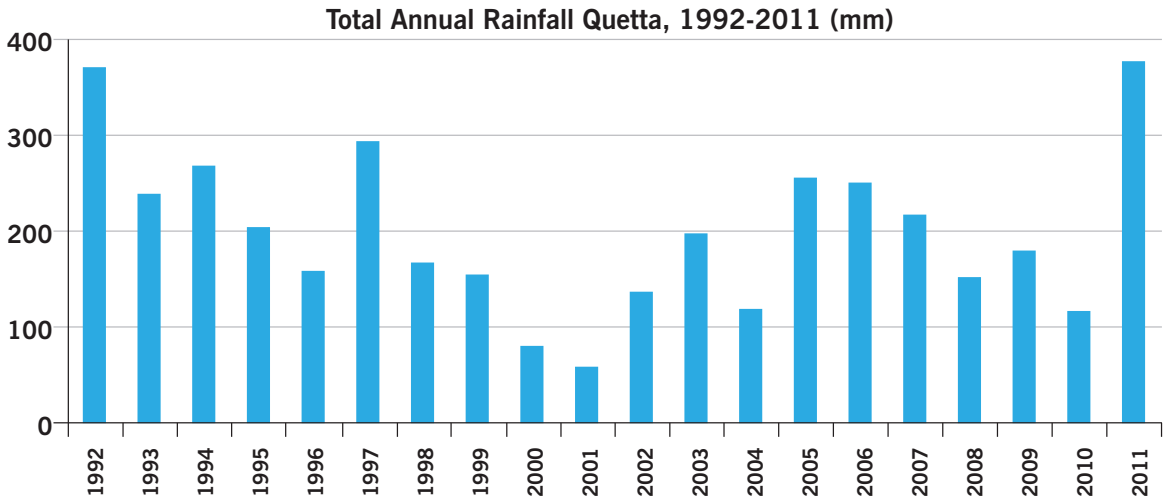
Rangelands and Forest Areas

The rangelands and forest areas in Balochistan cover some 32.3 million hectare (ha),constituting 93% of total land area of the province. Rangelands stretch from the higher altitudes in the north to the flat, desert-like areas in the south. Some 12 million sheeps, a similar number of goats and 0.38 million camels livestock census of 2006 depend on these rangelands for feed and water. Forests mainly comprise some mixed shrubs and thorny species adapted to the arid conditions of Balochistan cover the vast majority of this area, with 650,000 ha of other trees, including juniper (141,000 ha), Acacia spp,wild olives(190,000ha), Fraxinus spp (Ash),wild pistachios (Pistacia khinjuk300,000ha), Chilghoza andother pines (25,000 ha). The Juniper Forest of Ziarat, the second largest forest of its kind in the world, comprising some of the oldest living trees on earth, has been recently declared a Biosphere Reserve by UNESCO in view of its global significance.

The overall condition of rangelands is poor and has been deteriorating rapidly both due to the prolonged drought of 1998 to 2004 (see annual rainfall figuresgiven below), as well as severe overgrazing by animal herders, including the nomads and transhumants who travel through these areas on their way to and from their over-wintering areasin the Sibi plains of Balochistan, Sindh and Punjab.

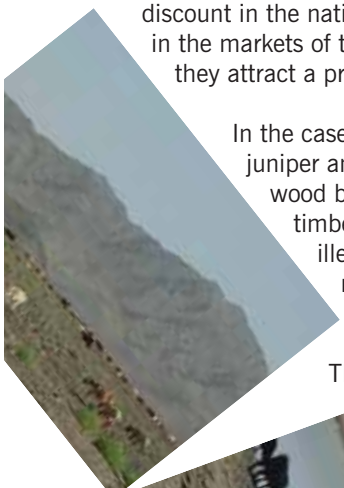
At the same time, the rangelands are an underutilized resource as the animals that use this scarce resource do not generate the economic benefits they should. Poor animal health, nutrition and husbandry techniques (including inbreeding, lack or watering and resting places)result in large number of deaths, low carcass weight and generally poor condition of animals. In addition, neither the Government, nor the local communities who often charge the nomads or transhumants for the use of grazing areas, make systematic efforts to manage and improve the rangeland. The wool and meat off the animals yields low returns due to poor techniques and bad handling.

Long standing Government policies prohibit the export of live animals. These were originally designed to address



Source: Agricultural Research Institute, Quetta

Pakistan's protein deficiency at a national level but have militated against Balochistan range-reared animals. These animals have a different flavour and fat distribution to those reared in the irrigated lowlands. They often sell at a discount in the national market, but are much in demand in the markets of the Gulf States and Middle East where they attract a premium.



In the case of forests, high value trees such as juniper and wild pistachio are cut down for fuel-wood by local communities, or by traders for timber, through legally obtained licenses or illegal means. Some efforts are being made to manage the forest, prevent illegal or low value utilization of forest trees, or to replant degraded areas. The Forest and Wildlife Department works to develop forest nurseries of suitable species for rehabilitation of scrubland and small forest areas, but is hampered by the arid nature of much of the province rendering it unsuitable for forestry as traditionally defined. Moreover, there is limited involvement of the local communities, which makes it virtually impossible to manage plantations until economic maturity.

The rangelands offer an immense resource to the Government and people of the province. However with ownership title vested in the State but open-access usufruct rights results in overuse. The issue goes back to Aristotle who opined that “Ownership of property is necessary because nobody will take care of property if nobody owns it”, and has more recently been termed the 'tragedy of the unmanaged commons' where the cost to any livestock owner of adding one more animal to his flock is insignificant, but the action of thousands of livestock owners doing the same is significant to the State and to the environment. This overuse caused by State ownership combined with local community usage needs to be resolved if a sustainable use and management has to be introduced. A robust solution, developed in countries with large 'commonages', such as the United States and Australia, has been the enactment of appropriate legislation which allows long term leasing. This approach ensures that the interests of the lessee and the state are brought into alignment, and promotes the management of the resource for long term sustainability.

Water Resources

Balochistan has good groundwater resources in a number of areas but the combination of good soils, suitable climate and accessible groundwater in areas such the Pishin-Lora, Nari and Zhob basins has led to the unsustainable expansion, under current water use practices, of fruit and vegetable production in these areas, particularly in the early 1990s. Continued expansion of area and production in response to the high financial returns from these crops has resulted in Balochistan emerging as the leading producer of a number of fruits such as apples, grapes, cherries and apricots, as well as an important off season producer of vegetables such as onion, potatoes and carrots.

In order to help growth of fruit production in the province, the Government introduced a policy of subsidizing the pumping of groundwater by electricity-powered tubewells. Farmers were to be charged a very low fixed cost (currently Rs 6,000 per month irrespective of the hours worked or amount of water pumped). The difference between this price and actual costs is shared between the Provincial and Federal Governments. As a result of the large expansion of fruit production and of tubewells in the province, this policy has resulted in a huge fiscal drain on the Government, currently about Rs 8 billion per year, as well as overexploitation of the aquifer and a rapid lowering of the groundwater table. Farmer response to the falling water table is to dig deeper and install larger capacity tubewells, both of which exacerbate the overexploitation as well as the fiscal cost.

At the same time, water in the province is being underutilized. There are good groundwater resources in many areas outside the main fruit producing belt that have not been tapped. Moreover, in the case of fruits and vegetables, the groundwater, pumped up at a large financial, economic and environmental cost, is very inefficiently used. Irrigation techniques are wasteful and largely comprise wild and unrestricted flood irrigation. Varieties are also outdated and, more importantly from the market perspective, very variable. This means that buyers and processors cannot count on a reliable supply of produce. Poor packing and high post-harvest losses further reduce the economic value that Balochistan derives from its groundwater.

The traditional karez system is still extant in many districts, though much depleted in the areas that have seen massive tubewell expansion due to the draw down of the water table. This traditional system works on the principle of storing rainfall within the soil profile, away from the desiccating effects of sun and wind. In Balochistan surface storage of water can expect to lose 3m(10ft) to evaporation in a single year, this loss is practically eliminated if rainfall and runoff are encouraged to infiltrate the soil. This recharge is particularly important for Karez systems and shallow tube-wells; anecdotal information indicates that the reduction in abstraction brought about by sustained load shedding is also helping the deep water table (this needs formal studies to confirm). The Government has had a program of "Delayed Action Dams" (DAD) to promote this recharge. However the results are a subject of debate[1], nonetheless the concept of using structures to slow down runoff and extend the

1. The silt load brought down by the flash floods precipitates out behind these dams, eventually (after 3 to 5 years) creates an impermeable layer that prevents water ingress into the subsoil, effectively turning these dams into evaporation ponds. Techniques exist to support infiltration of this water into the stream bed below the dam but need extensive and rigorous study for efficacy under Balochistan conditions before a major program of expansion is undertaken.

period when it can percolate through river channels into the water table, is sound. This warrants further investigation as to the most appropriate methodologies/structures so that an expansion of such structures can be based on solid evidence of efficacy.further investigation as to the most appropriate methodologies/structures so that an expansion of such structures can be based on solid evidence of efficacy.

The province also underutilizes water available from other sources. Balochistan has an allocation of 3.87 million acre feet from the perennial canals in the Indus Basin Irrigation System and up to another 4.62 million acre feet from the non-perennial flows. Due to lack of canal capacity, only some 3.05 million acre feet are drawn. Moreover, due to lack of maintenance of the canal system and poor on-farm water management, a significant proportion of this water is lost/wasted.

Similarly, there is a large amount of flood wateroutside the Indus Basin Irrigation System, of which only a limited proportion is utilized through small dams, diversion systems or water spreading (sailaba farming). For example, some of the command areas of the dams recently completed have not been brought under cultivation. This water can be used for food crops, industrial crops such as cotton, or high value horticulture products such as high quality dates production in Kharan.

Considerable potential also exists for the expanded cultivation of low water requiring crops on micro catchment water harvesting systems. These include fuel-wood species,that would reduce pressure on the rangelands;as well as almond, fig, olive and pistachio trees, that would help increase incomes. Such low water requirement crops could be cultivated on community (shamalat) lands surrounding existing settlements but would require community involvement and agreement. These present a significant opportunity if developed systematically and with management being on a community basis.

Available Water Supplies in Balochistan (million acre feet)

	Available	Currently Utilized	Potential
Perennial (Indus Basin System)	3.87	3.05	0.82
Flood (Indus Basin System)	4.62	-	4.62
Flood Water (outside the Indus System)	12.76	3.00	9.56
Groundwater	0.87	0.49	0.38
Total	**22.12**	**6.54**	**15.58**

C. A New Approach to Resource Use

The unsustainable overexploitation of critical resourcesneeds to be addressed in an urgent manner.[1] An enforcement-based approach, whereby laws and regulations are used to manage resource use, has proved unsuccessful. For example, the Balochistan Ground Water Rights Administration Ordinance (1978) and its amendments establish the overall framework for management of groundwater. However, existing regulations requiring the spacing between tubewells are ignored, often with the collusion of local officials; while any attempt to enforce them result in strong and vociferous protest.[2]

Discussions with various stakeholders in Balochistan, as well as experience from other parts of Pakistan and internationally, suggest that recourse management issues are best managed though a collaborative approach that involves all stakeholders, particularly the private sector and rural communities. There is also a need to explicitly recognize that during a process of change there are gainers and losers and that these need to come together and make agreements on how such conflicts are handled. Generally it has been found that the Government has an essential role to play in this process by providing the "rules of the game", ensuring that rules are not captured or ignored by elites, that the needs of the poor and vulnerable groups are adequately addressed and that adequate conflict resolution mechanisms are in place.

Experience from the Balochistan Agricultural Project in Muslim Bagh tehsil of Killa Saifullah District illustrates the power of community level actions, where representatives of several Community Organisations banded together to prevent installation of a tube-well within one mile of an existing karez system. Support to such local actions and empowerment should be an objective of policy.

The private sector, community organizations and NGOs also need to play an important role as service providers, to link farmers to the market and to facilitate the interaction between farmers and the legislative/regulatory systems. However, due to the circumstances of Balochistan, particularly the scattered and dispersed nature of the population, the private sector, community organizations and NGOs are less developed than in other parts of Pakistan and the Government will initially have to play a strong proactive role that goes beyond simply setting the "rules of the game". This would be accompanied by strong effort to develop the private sector, community organizations and NGOs to take a much stronger role over the medium to longer term in promoting development, as well as ensuring that the poor and other vulnerable groups are fully integrated into the development process.

1. The Chief Justice referred to the subsidy on electricity for tubewells as a subsidy for collective suicide.
2. The 1978 Ordinance, as amended, is silent on spacing between tubewells, and the relevant regulations could not be found – although frequently mentioned in meetings, no one was able to reference them precisely

Improving Legal Governance

Currently there are more than 250 pieces of primary and subsidiary legislation of relevance to Balochistan's agriculture sector. Besides these written statutes, customary rules relating to tenure, access or usage rights to natural resources, including land and water rights, grazing rights and rangeland management, fishing rights, rights to timber and non-wood products, etc., are still widely recognized and exercised in Balochistan, within both sedentary and migrant communities. However, agriculture-related legislation is, by and large, poorly enforced. Factors explaining this low implementation rate may include the following:

I). Limited knowledge and understanding of existing legal instruments, which are not always gazetted, and thus publicly available;

ii). Outdated nature of certain laws (e.g., Forest Regulation 1890[1], Pests Act 1959), which no longer match realities on the ground;

iii). Inconsistencies between certain legal provisions (e.g., under environmental and pesticides acts);

iv). Incompatibilities between certain written laws and customary rules (e.g., in respect of water and grazing rights); and

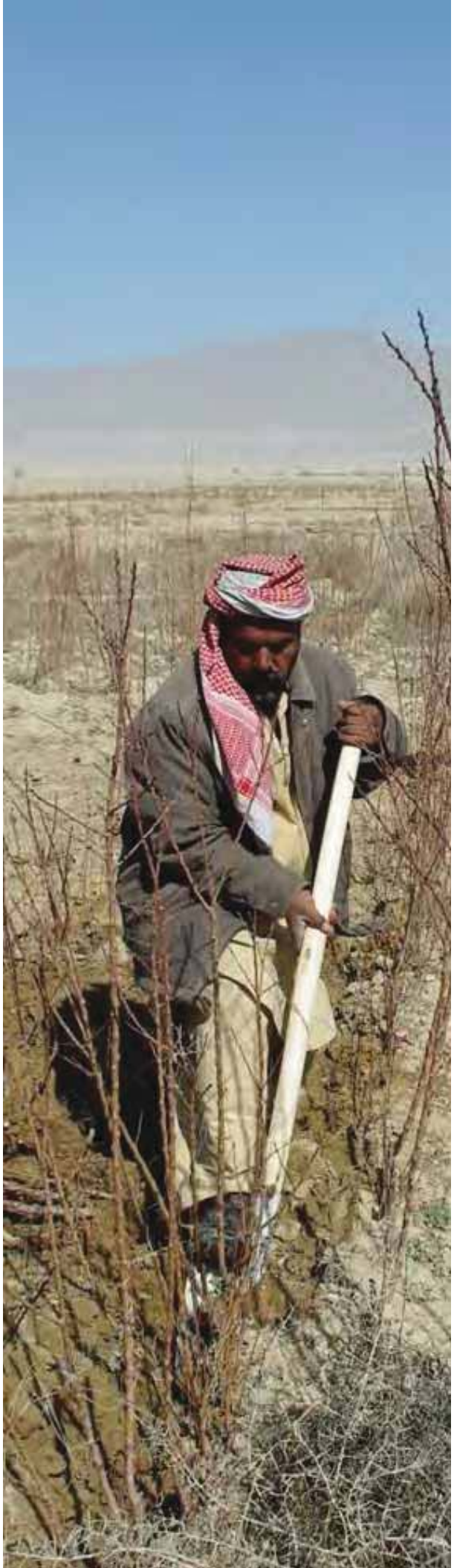
v). Lack of clarity, post-18th Amendment, regarding the division of legal and institutional responsibilities between federal and provincial levels.

Fiscal Issues

Pakistan has a very low taxation level whichhas fallen over time from 13% of GDP to 9%. In addition, much of the tax resources come from income and corporate taxes, and from custom duties, while the agriculture sector is exempt from taxation. The low level of taxation constrains Government overall ability to provide essential services and to invest for further growth and development. Also the revenues from the narrow tax base mainly accrue to the Federal Government. This leaves the provincial governments heavily dependent on allocations from the Federal Government.

The provincial Government needs, over time, to expand its own tax base. Agriculture, which benefits from public spending, both in the form of subsidies and investments, should play a major role in this process. Currently all returns from Government investment in agriculture accrue to producers without any increase in tax collected by the Government to fund further investment or O&M costs. Although a large segment of the farming population comprises small producers, many of who are below the poverty line, there are some very large and wealthy producers in Balochistan cultivating hundreds of acres of lucrative orchards. These agriculturalists need to pay their due share of taxes to the exchequer; move away from a “begging bowl mentality” that is constantly seeking handouts and subsidies; and take their seat at the table as a partner of Government that contributes revenues and hence has a say in how these are to be spent.

1.Currently being reviewed and redrafted by the Forest and Wildlife Department GoB and an example of a Government Department coming to grips with the changing nature of its remit and deficiencies in the supporting legislation.



D. A New Agriculture[1] Policy

The primary objective of agriculture policy in Balochistan is to raise incomes and employment of the rural people, while at the same time halting, and eventually reversing, the rapid resource degradation taking place. There is also a need to improve the participation of women and other vulnerable groups in economic and social life and to ensure the food security of the population – currently 30% of the population of Balochistan suffer severe to moderate hunger.

Achieving these policy objectives will require a strong proactive role by Government to create the right institutional, legal and incentive systems to support agriculture to be more efficient and profitable; to halt unsustainable resource use; and increase both the employment opportunities and value added. In the current situation, Government departments are dominated by large numbers of poorly qualified staff with only a small cadre of high quality technical staff. As such, Government is not ready or able to play the role of facilitator of new partnerships to manage resources, or act as promoter of a more efficient and profitable agriculture system. Under the new policy a strong effort will be undertaken to build capacity of the Government to play a new role and work more closely with partners. At the same time complementary efforts will be undertaken with local communities, NGOs and private sector to build their capacity and to overcome current entrenched distrust.

Given the large geographic area and scattered population in the province, it is also essential to bring the Government processes and procedures into the computer age, with greater investment in staff capacity building and training to utilise the productivity enhancements accruing to the use of information technology. This will require a reorientation away from traditional paper based systems with which many senior staff are most comfortable, and thus will require significant investment in staff training and development, as well as investment in the appropriate hardware and facilities.

In implementing the new policyparticular attention will be given to

1. Agriculture in this sense refers to Crops, Fisheries,Forests, Irrigation and Livestock.

two critical factors – employment and gender. The rapidly growing population has created a “youth bulge” in the province. While a part of the added population moves from rural areas to the big urban centres inside and outside the country, there remains a dire shortage of jobs, particularly for the youth. It should be recognised that employment is generated by the private sector, which in turn is encouraged by a government supported favourable enabling environment. The current system which gives high priority and prestige to public employment has resulted in Government Departments with large numbers of low level and low skill operatives. At the same time, a strong focus on women will be integrated/prioritised into all development actions in Balochistan. Women in the province are among the most disadvantaged segments of Pakistani society, with poor literacy rate (23%), the highest maternal mortality rate (6.3%), the lowest participation in labour force (5.1%), and negligible share in public sector employment. Women are prevented from enjoying their rights due to negative customary practices, and poor access to education and health, and in cases of injustice, to the judicial system.The greatest resource of Balochistan is its people and the Province is wasting/underutilising 50% of this resource.

Actions at Local Level

The overriding need of the province is to manage its fragile environment in a better manner and exploit the numerous win/win situations. In the case of areas under intensive horticulture, efficiency, particularly in the use of scarce water resources will be improved, while at the same time provision of high quality seed and planting materials will be facilitated to ensure that yields of products demanded by the market are maximised - the Province must focus on optimising financial returns to its scarce water and not just raising yields per hectacre. There is also a need to rationalize use of fertilizers, both balanced chemical and organic, and address misuse and overuse of pesticides. This would not only reduce costs and increase returns,but also ensure that soil, water and biotic resources are not damaged.Consumers everywhere are increasingly health conscious and products that can be certified as using low levels of chemicals and other inorganic inputs can fetch better prices. Horticulture farmers in Balochistan, if provided good guidance and assistance, are in a good position to exploit this.

In the more agro-climatically fragile areas, in arid areas or in higher elevations, conservation of the karez system, enhancement of rainfall and runoff percolation into the soil, better soil and water conservation methods, as well as water harvesting techniques and small irrigation schemes,will be undertaken to increase yields of both crops and livestock. Similarly, in the canal irrigated areas, improved on-farm water management can yield good results but needs to move beyond watercourse lining to all aspects of efficient water use below the farm outlet.

Finally, in the coastal belt the fish stock will be better managed, giving it time to recover, making the fishing effort more sustainable through use of better gear and techniques, and improving processing, storage and marketing. This may imply an overall lower level of fishing effort, and lower direct employment in fishing. It would , however offer better overall employment prospects due to expanded processing, marketing and storage.

Due to the geography and population distribution patterns of Balochistan, as well as difficulties for outreach into remote areas by Government Departments based in Quetta, most actions will need to be undertaken at local level through Districts, Union Councils and Community Organizations. These local level actions would require:

- Acceptance by all parties of the concept of an 'Alliance for Change' where Government, Private Sector (including farmers) and Civil Society come together to recognise the need for each to change their role and take on new responsibilities - "If we always do what we always did, we will always get what we always got!"

- Enhanced capacity of the key stakeholders through training, community mobilization efforts and facilitation that brings together Government, farmers, local communities, NGOs and private sector to play a strong and proactive role in development of agriculture and the management of local resources;

- Transformation of Government's role from direct provider of inputs and subsidies to an unbiased source of information on market opportunities and more appropriate technology, and a regulator and overseer of quality and truth in labelling of inputs and outputs;

- Partnerships and coalitions between local representatives of Government Departments and farmers, community organizations, private sector, NGOs and other stakeholders with the aim to make public service providers more responsive to farmers' needs and manage resources in an efficient and sustainable manner;

- Strengthening private sector, community organization and the NGOs to play such a role;

- Progressively introducing a system of taxation, cost recovery and user charges to raise revenue from the agriculture sector; and

- Increasing productivity, quality and value added to the key resources of the province to improve incomes and livelihoods, particularly of the poor and other vulnerable groups.

A preliminary set of proposed actions is set out in the table below. These proposed actions build on the District level workshops conducted in the different agro-climatic zones.

Local Level Priority Actions for Sustainable Resources Use and Increased Incomes

	Key Stakeholders who need to work together with Enhanced Capacity	Building Partnerships to Improve Resource Use and Raise Productivity	Increase Value Added and Incomes
1. Water			
Ground water	Large and small farmers using tubewells; farmers relying on springs and kerezes, sailaba and khuskhaba, Irrigation Department, Department of Agriculture and Cooperatives, Quetta Water and Sanitation Authority, Ziarat Valley Development Authority, WAPDA	Collaborative agreements between large farmers and associations of small farmers in key fruit production areas to reduce groundwater extraction in overexploited areas, enhance recharge (evaluation of Delayed action dams, leaky dams and other structures), to be combined with support for alternative energy and productivity enhancement. Support for increased groundwater use in underutilized areas. Adoption of more efficient irrigation systems, perhaps through transfer of subsidy from energy use to capital investment for improved water use efficiency. There is also a pressing need to introduce a system of realistic (i.e. fully costs water) pricing for private water extraction from the public aquifer, and for use of water in the canal system.	Support for improved grading, storage, packaging and marketing of fruits and vegetables Support to input supply chain for more efficient irrigation delivery systems (over wild flood) Support to technical training on how to use the more efficient water delivery systems.
Water from the Indus Basin System	Large and small farmers using water from the canal system, Water Users Associations, Irrigation Department, WAPDA	Completion of major works by WAPDA, to be combined with command area development by Irrigation Department, and watercourse improvement and on-farm water management by Irrigation Department and WUAs. Emphasis on on-farm water use that matches crop, soil, water, season and market requirements (rather than engineering), combined with a water pricing (fully costing against capital and recurring costs) and trading system to allow efficient farmers to sell any water surplus to their requirements.	Support for improved cropping practices. Animal health services and marketing, particularly of dairy products.
Flood Irrigation (Sailaba farming?)	Local communities living near rivers or drainage lines, Irrigation Department	Flood diversion and water spreading works developed by irrigation department in collaboration with community organization or traditional representative bodies on a cost-sharing basis.	Support for water conservation and suitable agricultural practices. Encouragement of local firms to undertake these works udner Departmental supervision/regulation.

Micro- catchment water harvesting	Local communities, Forestry and Wildlife Department, Agriculture and Cooperatives Department, Irrigation Department	Soil and water conservation schemes on gently sloping lands with potential close to village areas.	Support to development of small scale catchments, including water harvesting and storage; and supply of appropriate planting material for cultivation of drought tolerant perennials for fruit (e.g. olive, pistachio, almond, grape) and fuel wood production.
2. Forestry and Rangelands			
Rangelands	Villages and communities using and living in rangelands, transhumant and nomadic populations, Forestry and Wildlife Department	Collaborative agreements between the Forestry and Wildlife Department and community organizations or traditional representative bodies to improve and better manage rangelands and forests. Improved animal health services to be provided by private sector and NGOs. Assessment of alternative ways of securing long-term usufruct rights for communities while retaining land tile with the State.	Assessment of long term leasing arrangements for communities interested in improved range management and development of suitable agreements under applicable law.
Forest Areas	Local communities, Forest and Wildlife Department, nomad and transhumant communities	Regularisation of customary rules governing forest land to confer long lease or title to communities to manage forested areas; develop joint management on currently degraded or underutilised land. Community based program and community managed rangeland integrated with enhanced livestock productivity from fewer animals.	Supply of appropriate planting material. Community forestry activities on a cost/benefit sharing basis. Community development program working in rangelands and animal husbandry and enhanced livestock marketing.
3. Coastal Areas			
	Fisherfolk of the coastal zone, merchants involved in the marketing of fish and fish meal, boat and net suppliers, Fisheries Department, Balochistan Coastal Development Authority, Gwadar Development Authority, Pasni Fisheries Harbour Authority	Collaborative agreements with fisherfolk to improve management of fish stocks (perhaps modify the food/cash for work to a food/cash for no catch for a limited period to build up stocks), combined with training and development of coastal infrastructure/ alternatives (cf IFAD Coastal Development project).	Investment in fewer, better fishing rigs and boats, improved catch handling and processing to attract higher prices for less effort etc. Development of employment opportunities in fish handling and processing for displaced fisherfolk.
	Fish famers in coastal and inland areas, Fisheries Department, merchants involved in fish marketing, feed suppliers, and hatchery operators in public or private sector	Agreements between Fisheries Department and fish farmers to supply fry/fingerlings and technical advice; with feed suppliers; and with traders.	Creation of fish ponds for both home consumption and marketing.

Complementary Action at Provincial Level

The local initiatives set out above will be accompanied by complementary actions at provincial level aimed at improving the enabling environment for sustainable development. This would comprise a setof actions directly in support of sustainable productive activities, along with a set of actions aimed at improving the institutional and regulatory frameworks, as well as to strengthen the private sector, community organisations and NGOs.

While the lead role will necessarily be taken by Government, the other stakeholders have to be ready, willing and able, to move to a new paradigm to realise the potential of the agriculture sector. Specifically NGOs need to have the technical capacities in the disciplines they work in . In addition, they also have to have the skills and knowhow to effectively build linkages between Government, farmers and traders so that incomes can improve. This will require technical training as well as an understanding of markets, their operation and how farmers can best use market access to increase incomes.

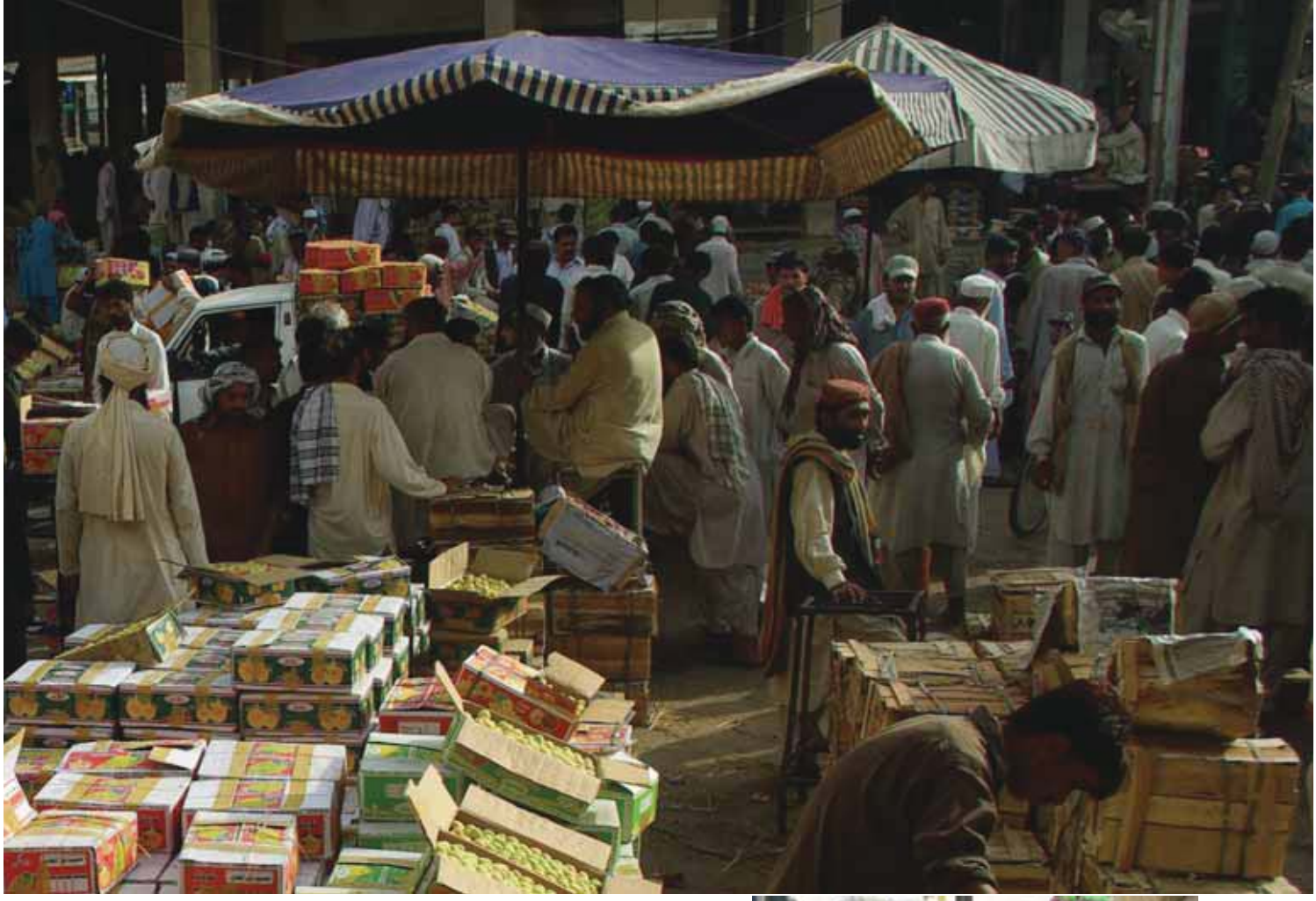
The private sector has to be willing to engage in the longer term development of the production base of Balochistan, so that both they, and producers, can benefit. This will necessitate that they move away from exploitative relations so often the underpinning basis of transactions with farmers - not only in Balochistan but also the rest of Pakistan – to longer term partnerships. In addition there has to be a realisation from all actors, particularly farmers and private sector, that unless they are prepared to contribute to the cost of service provision in the agriculture sector, their voice will not carry much weight in the halls of power. However, if they do make significant contributions to the development of their sector then their views will have to be taken into account, for example, if farmers and supply chain businesses provide fundsfor research studies, then their voice not only will be heard but must be listened to.

Direct Support to Local Actions

The provincial Departments of Agriculture, Fisheries, Forestry, Livestock and Irrigation will increasingly work in support of local initiatives, providing help and assistance as needed and making linkages nationally and internationally to facilitate the producers of Balochistan. Support will need to be concentrated in:

Technology Generation and Dissemination

Agriculture is increasingly becoming a knowledge dependant industry, from information on the latest techniques to market information on specifications, prices, packaging and consumer demands. Generating, testing and disseminating newknowledge for production, harvesting, packaging and processing are essential prerequisites for growth. In particular, there is an urgent need to improve the genetic makeup of livestock in the province which is suffering from excessive inbreeding; bring in new rootstock and varieties for orchards and vegetables, and promote Integrated Pest Management. However, in order to launch a new technology dissemination programme, a new partnership is to be built between the public and private sector. Currently the research team in the Department of Agriculture number about 2,500 staff, with another 4,500 for extension, but new technologies generated and introduced by these staff is very limited. On the other hand, large commercial farmers make overseas visits to observe international best practices, but then lack the facilities and technical skills to adapt what they learn to



local conditions. Good models where collaboration between lead farmers and the public sector, possibly on a cost sharing basis, is needed, along with greater use of new extension methodologies such as Farmers' Field Schools that have been shown to be highly effective in Balochistan.

Value Chain Development

Commercial production of horticulture, livestock and fisheries products for both national and international markets should continue to be the main drivers of economic growth and employment. The provincial Government needs to provide targeted support to build these value chains, epically by bringing national and international buyers into contact with Balochistan's farmers, fishers and livestock breeders. Support in building linkages has to be targeted at medium to large-scale, commercial producers and processors of horticultural products, off-season vegetables and disease free planting material; speciality products, both fresh and processed, for niche markets such as cumin (zeera), olive oil, and wheat for pizza producers. Support needs to be targeted to small and medium farmers for maize, particularly hybrid maize, in highland irrigated areas, for the feed industry; and to settled, transhumant and nomadic communities for sheep and goats, both for the live markets as well as for processed products such as wool, meat, hides and skins, and the fifth quarter; and to coastal communities for high value fish from the sea. Experience of ongoing projects indicates a high potential for improvement of the value chain and to add value locally. Some of the critical activities the Government has to take, to improve

the value chains, are promoting use of improved grading, packaging and storage practices (these should be operated in the private sector supported by Government actions in creating a favourable enabling environment (e.g. reform of the marketing acts); running trade fairs, trial shipments and supporting overseas tours; and improving the regulatory and dispute resolution mechanisms governing trade in commodities. A case in point is the Cooperatives Act where the training of staff focuses entirely on regulation and administrative audit, the staff are not given a single course in agricultural marketing so cannot support embryonic cooperatives in growing the business. Further the Government, in collaboration with the Federal Institutions, needs to look into distortions in the trade tariffs, e.g. importation of necessary inputs to agriculture should be facilitated to allow adoption of new practices, e.g. hand pieces for mechanical shearing attract high tariffs; the polythene pellets needed for extrusion of piping for high efficiency irrigation are also penalised, thus reducing employment potential in manufacturing of these essential inputs to promote more efficient water utilisation.

Livelihoods and Enhancing Food Security

The food security situation in Balochistan is critical. Undernourishment and malnutrition is one of the main causes of death among infants and young children, and a large proportion of the child population stunted with undernourishment impacting the development of their brains and affecting their productivity all their lives. In terms of livelihoods, the well endowed areas are capable, after suitable development efforts, of providing a good standard of living and of meeting the food needs of the population. However, there are other parts of the province where out-migration, by at least a part of the population, is the only viable option. Given the social norms, such out-m gration is mainly by the young males;with the result thatwomen, children and old people remain on the farm. While a number of essential food and non-food commodities can be purchased with cash remittances, many perishable but nutritionally critical food items, particularly fruits, meat, milk and vegetables, cannot easily be transported to these areas and need to be produced on-farm. In many cases cultural norms militate against purchase of nutritious items, with cash used to purchase non-food items preferentially, or items

such as tea and sugar that cannot be home produced: the axiom being 'food is grown not purchased' and scarce cash is reserved for other purposes. The provincial Government, in close collaboration with NGOs/CSOs, needs to have targeted programmes in these areas. The transhumant population is another group that needsto receive much more targeted attention from the provincial Government and NGOs/CSOs than they have done so in the past.

Gender Integration/Prioritisation

Support services are geared towards reaching male farmers, but experience of various projects has demonstrated the dynamism and entrepreneurship of women in Balochistan. The use of known and proven techniques to enhance women's participation such as Women Open Schools, Junior Open Schools, and formation of a women's wing in farmers' organizations, need to be expanded. Concerned provincial Government departments as part of a reorientation of their mandates and approaches need to substantially enhance their female technical force to reach women and young farmers in a more effective manner and include them in the district level farmers groups to ensure their voice and role in the farming systems. For example at household level many of the care functions for livestock are carried out by women, but the Department of Livestock and Dairy Development has insignificant numbers of women veterinarians and field staff.Local cultural norms preclude women at the village level receiving training and instruction from men from outside the family.

Regulatory and Legal Changes

Land Use Zoning

Given the wide range of agro-climatic conditions, areas highly suitable for specific high value crops should be identified. Public sector support services, for example for research and extension, should focus in promoting the crops most suitable for these areas based on market studies and acceptance, with the aim of creating production/processing clusters in close collaboration with private enterprise so that Government investment is leveraged with Private investment, this implies that the government will need to invest in and retain individuals who have built up their skill levels in these crops/products, and support specialisation and attaining high levels of competence in their workforce.

Quality Control, Certification and Traceability

Farmers buying inputs such as fertilizers, chemicals, planting materials, vaccines, medicines and supplementary feed, poultry feed etc. need to be assured that products are of good quality and labelled correctly. The Department of Agriculture/Livestock needs to work with the private sector to establish agreed systems for quality control, inspection, certification and, when necessary, sanctions. Similarly, quality control and certification for products, particularly for pesticide residue, are essential. The departments will need to build their capacity to undertake qualitative analysis of constituents, verify truth in labelling and provide 'Fee for Service' assays and assessments as a neutral arbiter (that stands up in court in commercial disputes)to define quality/adulteration/counterfeiting. Many of the fruit and vegetables, as well as free-range livestock and cold water fish, are produced with low or no chemical inputs and creating brands of “denominations of origin” would enable the charging of premium prices under a well-coordinated marketing effort.

Legal Review

With the post-18th Amendment expansion of its legislative authority, Balochistan has the opportunity to fully assess its agriculture sector legislation and to amend or reshape the statutes in need of partial change or complete reform, as well as to develop any required new laws and regulations. Efforts have already been initiated in this direction, with the recent passing of the Environmental Protection Act and the drafting of two bills, one on fertilizers and the other on agricultural produce marketing (to replace the Agriculture Produce Markets Act 1991), in addition to proposed amendments to the Forest Regulation 1890. Other matters reportedly calling for law reform and/or design include: animal health; biosafety; coastal zone management; co-operatives; food safety and security; genetic resources; rangeland; tenancy laws; water and irrigation. In-depth reviews of existing legislation in these fields would be required to precisely identify areas or gaps in need of improvement, and to come up with specific recommendations for the amendment of current laws or the drafting of new laws, setting priorities for such lengthy law-making

processes that require inclusive engagement of all stakeholders concerned. In so doing, due account should be taken of any pertinent customary rules that are socially acceptable, economically viable and environmentally sustainable. Overall, the agriculture sector regulatory instruments should be framed through the lens of a rights-based approach to rural development, stemming from the Fundamental Rights Chapter of the Pakistani Constitution, which strives to promote social and economic well being of the people, including via the State duty "to provide basic necessities of life, such as food" (Article 38(d)).The end objective should be to consolidate the current maze of legislation and legislative instruments and customary practice into a coherent body of law that supports the overall policy goals of the agricultural sector. A high priority action would be to make the legal and regulatory amendments to allow export of live animals for which there is a high demand in regional markets.

Disaster Risk Reduction

Given the increased variability in extreme weather conditions such as floods and droughts, the Departments of Agriculture, Fisheries, Forestry, Livestock and Irrigation, in consultation with other stakeholders such as the Provincial Disaster Management Authorityand NGOs/CSOs need to develop appropriate strategies for natural calamity related food crises by linking weather patterns, seismology, agriculture productivity, and household food security.

Restructuring of the Government Departments

Government Departments need to increasingly focus on providing oversight and a effective regulatory environment; support services in critical areas where private sector, NGOs and community organizations cannot operate; and support to poor communities and marginal areas where special portfolio of activities, specifically tailored to their needs has to be undertaken. As stated above the current set up and staffing of the Departments is not well suited to do this, and a major review is needed of their mandate, structure and skills sets. Of particular importance are changes in the Department of Livestock and Dairy Development which needs to needs to move from being predominantly a Department of Animal Health to more fully reflect a Department of Animal Husbandry and to help producers to concentrate not only on numbers of livestock but on productivity and incomes.

Government Departments are overstaffed with individuals of inappropriate qualifications. As a result the proportion of departmental budgets consumed by salaries is disproportionately high, leaving insufficient resources to support operational activities. Moreover, the few technically qualified staff who are in these departments are overburdened with administrative management particularly in dealing with constant requests for promotions and transfers. The predominant culture and practice, where Government Departments are seen as the providers of employment, must change to a more pragmatic approach suited to a modern economy where Government's role is to support the private sector to be the creator of employment, and to provide regulatory and legal guidance.

The Departments should compare their allocation of resources against international benchmarks for the proportion of their budget allocated to salaries, operations, administration, travel, training etc. This will require the removal of large numbers of poorly qualified individuals who are unlikely to find employment in the private sector; the Government may have to consider innovative arrangements for them to exit on some pension arrangement so they do not suffer undue hardship, while taking their salary off budget from their parent Department. This of course will need to be accompanied by strict adherence to staffing ceilings and adherence to quality assessment so that the problem does not recur.

A further issue is the frequent changes of senior policy level staff in the Government Departments, with the average tenure of departmental secretary being less than 12 months. This prevents the establishment of a deep policy knowledge by the senior cadre of the Government and reduces the chances of continuit y in policy enactment. These practices may have been appropriate in past times when the administration of the Civil Service Rules and Regulations was relatively straight forward. However with the increasing complexity of the policy environment especially in highly technical Departments such as Agriculture, Fisheries, Livestock and Forestry where it takes more time to understand the complexities and nuances of the brief, frequent changes of senior policy makers renders the Government as a whole poorly served and places these individuals in the

unenviable position of having to make policy decisions on the fly without having the time and resources to master their brief. As a corollary to this it encourages short termism and the quick fix for those so inclined, as by the time the deficiencies are exposed the individual has moved onto another Department and it becomes someone else's problem. This is not conducive to efficient operation of the Government machinery.

This will be combined with greater use of modern information and communication technology, which in turn will require investment in hardware, software and in building the capacity of all staff to utilised these tools effectively.

Strengthening Private Sector, Community Organisations and NGOs

A strong effort will be required to help strengthen these institutions to improve both the depth and quality of their operations. In particular, they will need to upgrade their ways of working and the extent of their operations in some of the more remote areas of the province. Most important there needs to be a mind change - for NGOs and community organizations to rely much less on handouts from the Government and to work on self sustaining initiatives; and for the private sector to take a longer-term view of the developme nt of Baloc hist an and to invest not only for short-term and quick returns.

E.Implementation Arrangements

The success of any policy, strategy, programme or project depends to a large extent on the implementation arrangements. Some essential elements for implementing a new policy and strategy in Balochistan are set out below:

A Project Approach

In order to maximize the chances of success each of the above priority actions will be treated as a separate project with assured funding for at least a five year period (with provision for a further and subsequent 5 year periods depending on the attainment of set benchmarks, such as was done for the Pak-Swiss Malakand Fruit and Vegetable Development Project 'Tutti Frutti' which is held upas one of the foremost projects to emulate in Pakistan), and with a well-defined project team that is accountable for progress.

Getting Departments to Work Together

Poor coordination between different Government departments dealing with agriculture is a major constraint to effective implementation of policies and programmes in Balochistan. Given the present institutional set up, which is dominated by large numbers of under qualified and poorly motivated staff, improved coordination across the board is likely to prove very difficult. The focus of coordination efforts will therefore be on the priority actions set out in the matrix above, most of which require involvement of more than one Government Department – for each priority programme an inter-departmental team will be set up to act as project owners and implementers.

Involving Other Stakeholders

Other stakeholders such as local communities, private sector and NGOs will be involved both as implementing partners as well as part of the project management structure. Appropriate complimentary steps will be taken to strengthen these institutions.

E-Governance

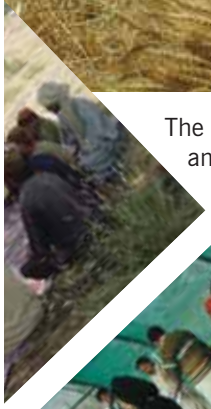
Given the difficulties in management of any initiative over the highly scattered population of the province, the use of Information Communication Technology (ICT) provides high potential. Cell phones are widespread in Balochistan, even in remote areas and use of these by local communities and even by nomads and transhumants could make a major impact on effectiveness and accountability of Government.

F. Working with the Federal Government

Although agriculture is, after the 18th Amendment, under the purview of the provincial Government, implementation of a development oriented policy and strategy will require strong linkages with relevant Federal Ministries such as that for National Food Security & Research (MNFSR) and Ports & Shipping (MPS).

Coordination and Cooperation with the Federal Level

The concerned Federal Ministries have to help Balochistan to develop linkages with partners inside and outside the countries, especially to promote learning and knowledge sharing, including on best practices.



The Federal level institutions also have to facilitate and promote collaboration within and outside the country on topics such as pest and disease control (particularly as it relates to trans-boundary issues and zoonotic diseases), new technologies; management of the plant and animal gene pool; use of certified seeds, planting materials and pesticides; truth-in-labeling; traceability; promotion of organic and indigenous foods; and consumer protection. MNFSR, along with the Pakistan Agriculture Research Council (PARC), has a critical role to coordinate research and share research activities between international, national and provincial systems; as well as promote the use of improved technology dissemination systems, such as Farmer Field Schools, based on learning rather teaching.

MNFSR, working with the Ministry of Commerce, needs to review trade policy constraints affecting the agriculture sector; facilitate management of essential supplies of food and agricultural inputs; monitor supplies of essential items and manage imports and exports. Similarly MPS, working with the provinces, has to help resolve interprovincial issues – such as those related to fishing rights. Finally, MNSFR and MPS have to facilitate discussions with other Federal Ministries and Departments, such as planning and EAD, regarding international funding.

National Flagship Projects[1]

The MNFSR is currently working with a team from FAO and PARC on the formulation of a national agriculture and food security policy. The national policy envisages that the Ministry will complement provincial agricultural development efforts. These projects would cover activities which have a high technological component, are in the more remote and agro-ecologically challenging areas, are high risk but high return, or address high priority national issues.

The current draft of the national policy, that has been circulated to various federal ministries and institutions as well as to the provincial Governments, envisages federal activities, to be undertaken in collaboration with the provinces in the areas set out below:

1. See Annex 2

Promotion of High Value Activities

While provinces will take the primary responsibility for promoting and increasing production of traditional crops and livestock products such as major cereals (wheat, rice, maize); cash crops (sugarcane, cotton, oilseeds); and meat and dairy products, the Federal Government will provide complementary support for selected activities that have high value as well as a strong potential for expansion but need greater technological and research linkages with national and international areas; special support for developing supply chains; and innovative institutional arrangements.

Activities are proposed with regard to dairy development, horticulture and fisheries and aquaculture.

Development of Marginal and Environmentally Fragile Area

The areas outside the main canal irrigated systems are home to large number of poor people. High population pressure and the use of poor and inappropriate technologies are, in many cases, resulting in rapid environmental and systems degradation.

A more efficient and sustainable development effort, based on a mix of improved technologies and community efforts can play a major role in raising incomes and reducing degradation. It is proposed that the MNFSR will work with the provinces on improved management of rainfed areas, rangeland improvement, and on non canal irrigated production systems.

Improving Food and Nutrition

Given high levels of malnutrition and in particular child stunting, a major national level effort is needed to address some of the underlying factors.

MNFSR action should focus on targeted food distribution scheme for the poorest and at-risk sections of the population; a livelihood enhancement programmes of the vulnerable populations in selected food insecurity and malnutrition hotspots, including areas where livelihoods were affected by recent emergencies or disasters; community management of acute malnutrition (CMAM) programme in selected areas to address severe and

moderate acute malnutrition; education and awareness building on methods of food preparation, storage and consumption that play a major role in the nutrition, health and well being of the population.

Promoting a Network of Service Providers

MNFSR has to play an enabling and supportive role for the enhanced involvement of the private sector and CSOs in the rural areas, helping create an appropriate legislative setup, an efficient and low-cost dispute resolution mechanism, and protocols to avoid restrictive practices by private traders and suppliers. Finally, it will be essential that there is congruity between any Federal and Provincial legislation.

G. Next Steps

The Government of Balochistan will review the current draft and indicate its agreement with the broad policy thrusts, as well as the actions proposed. Subject to their endorsement, the next steps would be to:

- Prepare costs, detailed implementation plans, and monitoring indicators for each of the proposed activities;
- Establish an high level oversight and evaluation mechanism to assess impact of the policy and make changes as needed;
- Calculate funding gaps and evaluate possible funding sources; and
- Set out the areas where support from Federal Government and international technical agencies is needed.

Annex 1:
Agro-Climatic Zones of Balochistan

Zone	Districts	Elevation (m)	Ave. Rain (mm)	Ave. Max Temp (oC)	Ave. Min Temp (oC)	Ave. ETo (mm/day)	Major crops
I.	Gwadar, Turbat, Panjgur	5-900	36-110	27.0-36.5	15.5-21	6.75-10.5	Dates, wheat, onion, fodder
II.	Chagai, Kharan	700-1600	30-160	26.0-32.5	9.0-17	5.10-8.5	Dates, wheat, onion
III.	Lasbela, Awaran	5-900	110-250	31.0-36.0	15-20	5.5-6.25	Wheat, cotton, onion, fodder
IV.	Kalat, Khuzdar (30% West)	400-1900	90-200	22.5-33.50	7-17	4.5-5.75	Wheat, potato, onion, cherry, apple
V.	Quetta, Pishin, Mastung, Qila Abdullah, Qila Saifullah (60% West), Ziarat	700-1600	200-280	24.0-31.5	8-15	5.5-6.5	Grapes, apple, apricot, cherry, pomegranate, potato, onion, sunflower
VI.	Musakhel, Loralai, Kholu, Barkhan, Zhob, Qila Saifullah (40% East)	750-1500	200-400	26.0-31.5	11-15.5	4.75-5.50	Wheat, cotton, pulses, almond, apricot, cherr, pomegranate
VII.	Khuzdar (70% east), Jhal Magsi, Nasirabad, Jaffarabad, Bolan, Sibi, Dera Bugti	300-1200	180-400	26.5-35.5	14-19	4.75-6.08	Wheat, cotton, onion, sunflower, rice, pulses, fodder, dates

Zone I

Zone I starts from the Gwadar port and its altitude varies from 5-900 m. Annual rainfall is very low and varies from 36-110 mm and increases with increase in altitude. Maximum rainfall occurs in the months from January to March (45 to 73%) and minimum in the period July to September. Therefore, this zone is out of the monsoonal belt. The average minimum temperature varies from 15.5-21 C and the maximum temperature varies from 27-36.5 C. The average ETo is very high along the seashore (>10 mm/day) due to high wind speed and arid climate. The ETo decreases with increase in altitude. Gwadar, Turbat and Panjgur districts are included in this zone. There are maximum number of meteorological stations in this zone i.e. Jiwani, Gwadar, Pasni, Ormara, Turbat, and Panjgur. The main crops grown are dates, wheat, onion, and fodder.

Zone II

Zone II consists of Chagi and Kharan districts. Its altitude varies from 700-1,600 m and annual rainfall varies from 30-160 mm. Maximum rainfall occurs in the months from January to March(30 to 50%). This zone is also outside the monsoonal belt. Average minimum temperature varies from 9-17 C and the maximum temperature from 26-32.5 C. The average ETo varies from 5.1 to8.5 mm/day. The main crops grown are dates, wheat, and onion.

Zone III

Zone III includes districts of Lasbela and Awaran. The average elevation varies from 5-900 m andthe annual rainfall varies from 110-250 mm. About 20-30% rainfall occurs during the monthsfrom January to April and 40-60% during monsoon (July to August). Therefore, part of this zone, particularly near the boundary with Sindh, is included in the monsoonal belt. The average Eto varies from 5.5 to 6.25 mm/day. The minimum temperature varies from 15-20 C and the maximum temperature from 31 to 36 C. In this zone, only district Lasbela is canal irrigated. The main crops are wheat, cotton, onion, and fodder.

Zone IV

Zone IV consists of Kalat and about 30% of Khuzdar district. Average elevation varies from 400-1900 m. Average annual rainfall is between 90 to 200 mm and average ETo varies from 4.5 to5.75 mm/day. Minimum temperature varies from 7-17 C and the maximum temperature from 22.5-33.5 C. The major crops grown are wheat, potato, onion, apple and cherry.

Zone V

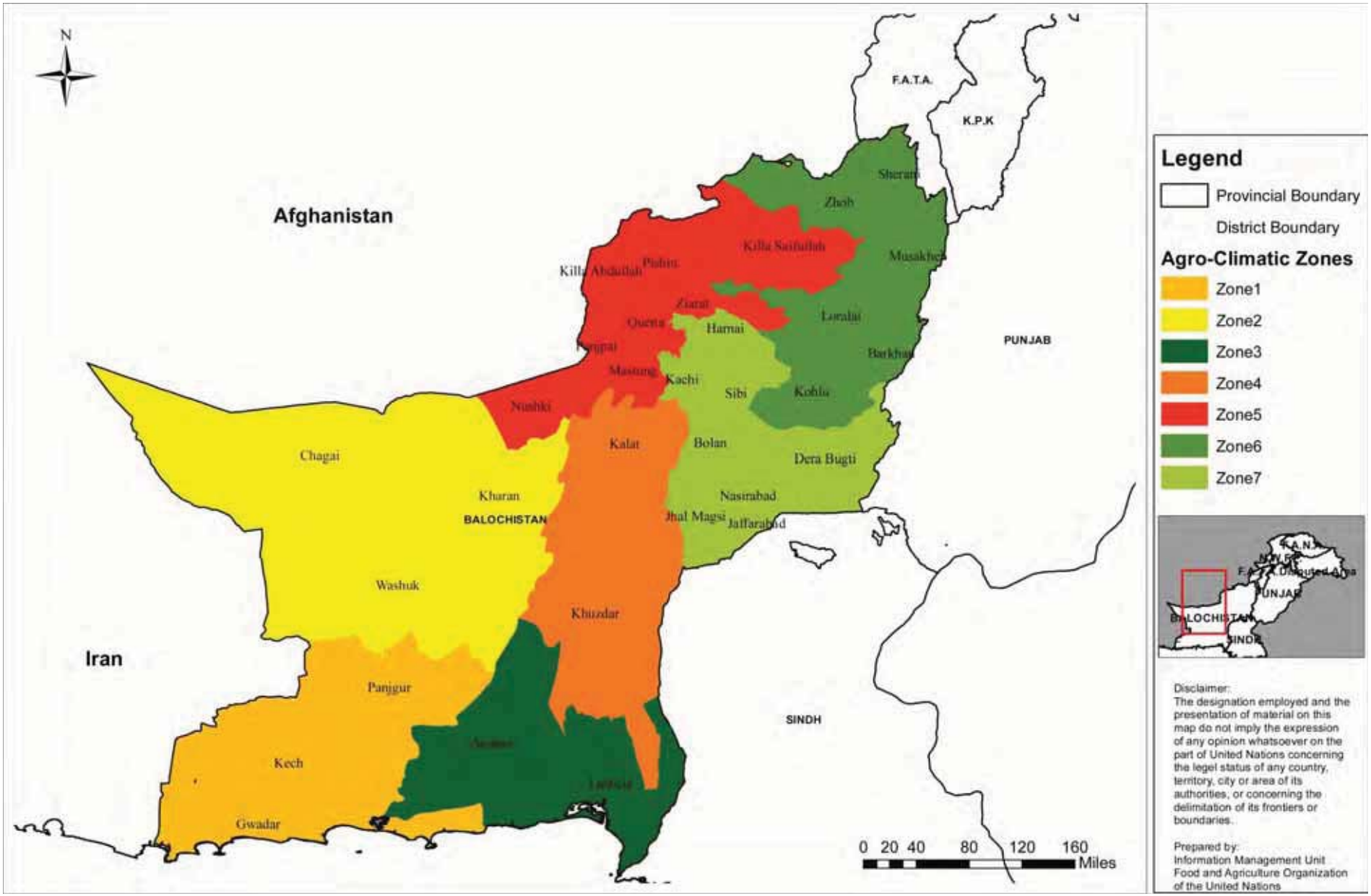
Quetta, Pishin, Mastung, Qila Abdullah, Qila Saifullah (60%), and Ziarat are included in Zone V. The elevation varies from 700-1600 m from the mean sea level (msl) and the rainfall varies from200-280 mm/year. The maximum rainfall occurs in the months from January to April (70%) and is out of the monsoonal belt. The average ETo varies from 5.50 to 6.50 mm/day. There is only one climatic station i.e. Quetta in this zone. The average minimum temperature varies from 8-15 Cand the maximum temperature varies from 24-31.5 C. The main crops are grapes, apple, apricot, cherry, pomegranate, wheat, potato, onion, and sunflower.

Zone VI

Zone VI consists of northern part of the province. The districts included in this zone are Musakhel, Loralai, Kohlu, Barkhan and Zhob. The average elevation varies from 750-1500 m andthe average rainfall varies from 200-400 mm/year. In Zhob about 42% rainfall occurs during the months from January to April and about 36% during July and August. In Barkhan, about 56%rainfall occurs during the months from June to August and only 15% during the months from January to April. Therefore, most part of this zone particularly towards the border with Punjab is included in the monsoonal belt. The average minimum temperature varies from 11-15.5 C andthe maximum temperature varies from 26-31.5 C. The average annual ETo varies from 4.75 to5.5 mm/day. Part of this zone i.e. Barkhan receives maximum yearly rainfall up to 398 mm and ETo is the minimum (4.73 mm/day). The main crops of the zone are wheat, cotton, pulses, almonds, apricot, cherry, and pomegranate.

Zone VII

Zone VII includes districts of Khuzdar (70%), Jhalagsi, Nasirabad, Jaffarabad, Bolan, Sibi and Dera Bugti. The altitude varies from 300-1200 m. Most part of this zone is canal irrigated and is in the monsoonal belt. Annual average rainfall varies from 180 mm in the south to 400 mm in the north. The average minimum temperature varies from 14-19 C and the maximum temperature varies from 26-35.5 C. The ETo varies from 4.75 to 6.08 mm/day. The major crops grown are wheat, cotton, onion, rice, sunflower, pulses, fodder, and dates.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Agro-Climatic Zones
Zone1
Zone2
Zone3
Zone4
Zone5
Zone6
Zone7
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Prepared by:
Information Management Unit
Food and Agriculture Organization of the United Nations

Annex 2: National Flagship Projects

In order to complement provincial agriculture and food security efforts, the MNFSR will launch a series of national flagship projects. These projects would cover activities which have a high technological component, are in the more remote and agro-ecologically challenging areas, are high risk but high return, or address high priority national issues. Four areas of action have been identified, subject to further discussion with the provinces and other stakeholders such as CSOs, private sector and men and women farmers.

Promotion of High Value Activities

While provinces will take the primary responsibility for promoting and increasing production of traditional crops and livestock products such as major cereals (wheat, rice, maize); cash crops (sugarcane, cotton, oilseeds); and meat and dairy products, the Federal Government will provide complementary support for selected activities that have high value as well as a strong potential for expansion but need greater technological and research linkages with national and international areas; special support for developing supply chains; and innovative institutional arrangements. Activities are proposed with regard to:

Dairy Development

Despite the rapid growth in the livestock sector, there is needfor further acceleration to meet rising demand. The development of village based, small to medium dairy herds, which complement the work of the large corporate dairy sector, offer the best potential to do this. The MNFSR will work with provinces on a targeted programme of support for such enterprises through provision of a technological package that would include good husbandry practices, environmental management and quality control; as well as help to develop cooperative/community based production and marketing systems.

Horticulture

Due to its very wide range of agro-climatic zones, Pakistan can grow most sub-tropical and temperate fruits and vegetables. These have large regional export potential, as well as rapidly expanding domestic demand. MNFSR will assist provincial agriculture departments to work with the private sector on promotion and upgrading of traditional horticulture crops through import of disease free planting material; research, testing, selection and release of varieties and rootstock; planting and pruning protocols; and establishment of a network of improved nurseries. MNFSR will also help in the introduction of new crop such as Kiwi, Avocado and Moringa - a highly nutritious food and fodder plant. The MNSFR also needs to continue its support to the olive oil industry providing guidance and planting material to the provinces, but also helping test and introduce the best oil extracting systems and establishing protocols for standards and labelling.

Fisheries and Aquaculture

With 1200 km of coastline, and vast areas of rivers, canals, lakes, ponds and other open water bodies, Pakistan has an immense potential for enhanced fish production. National demand, which had been traditionally low, is also increasing rapidly in both urban and rural areas. The MNFSR will work with the provinces to introduce coastal aquaculture of shrimp and fish, including large scale cage culture; and stocking with appropriate species of reservoirs, lakes and rivers. Federal level efforts will focus on creation of nurseries for breeding of fry and fingerlings, collaboration with the national animal feed industry for production of appropriate fish feed; import of technology; and promotion of large scale foreign investments.

Development of Marginal and Environmentally Fragile Areas

The areas outside the main canal irrigated systems are home to large number of poor people. High population pressure and the use of poor and inappropriate technologies are, in many cases, resulting in rapid degradation. A more efficient and sustainable development effort, based on a mix of improved technologies and community efforts can play a major role in raising incomes and reducing degradation. It is proposed that the MNFSR will work with the provinces on:

Improved Management of Rainfed Areas

Some 40% of rainfall in non-canal areas is lost to run-off. Improved water harvesting, along with water conservation and water spreading (rhod-kohi), can have a major impact on production and incomes. MNFSR's work would focus on the bringing in international best practices, including on the combination of water management techniques with appropriate on-farm practices such as conservation agriculture, as well as

reclamation of sodic and saline lands.

Rangeland Improvements

There is considerable scope to halt degradation and improve the productivity of the rangelands in Pakistan. The rangelands are a major source of meat production, particularly of sheep and goat, with much of the production being in the hands of nomads and transhumants. Rangeland improvement will require targeting and addressing the needs of these populations who are often not well catered to by provincial livestock services due to their lower social status, as well as the technical difficulties of providing services to a transient group and involving them in the decision making process. Support by the MNFSR to provincial livestock departments including men and women staff can play a major role in bringing in international experience on participatory range management. In addition there is a need to improve the genetic quality of the stock, which are showing a decline in productivity due to excessive inbreeding.

Improving Food and Nutrition

Given high levels of malnutrition and in particular child stunting, a major national level effort is needed to address some of the underlying factors. MNFSR action should focus on:

Targeted Food Distribution Scheme

A national targeted scheme to ensure that basic food needs of the poor and marginalized population are met, both in terms of overall calorie intake, as well provision of essential micro-nutrients with special focus on women and children. The scheme would need to build on international experience, such as that of the Zero-Hunger Programme in Brazil; as well as national experience, such as that of the National Income Support Programme. Involvement of the MNFSR would be essential in the design and implementation of the scheme, particularly with regard to targeting through the use of modern IT facilities. A robust system shall be established to provide food assistance to the most vulnerable in times of emergencies due to shocks such as natural disaster.

Livelihood enhancement programmes

Food security and livelihood are closely related. A flagship programme shall be implemented to improve the livelihood of the vulnerable populations in selected food insecurity and malnutrition hotspots, including areas where livelihoods were affected by recent emergencies or disasters. The livelihood programme will include cash-for-work or food-for-work based on the feasibility for the given areas, and will generate employment to the households for certain period of time through which the households will have enhanced household asset and livelihood opportunities so as to recover to a sustainable food security situation.

Community management of acute malnutrition

Community management of acute malnutrition (CMAM) programme will be implemented in selected areas, so as to address both severe and moderate acute malnutrition in close coordination with Ministry of Health and international development partners.

Education and Awareness Building

In addition to ensuring adequate quantities and qualities of food, methods of food preparation, storage and consumption play a major role in the nutrition, health and well being of the population. MNFSR needs to take a leading role to ensure that these issues are addressed through media, both print and electronic; and through other awareness raising methods such as inclusion in school and college curricula and involving local NGOs, civil society organizations and private sector.

Promoting a Network of Service Providers

Renewed agricultural development will require considerable increase in the density of men and women service providers in rural areas. While some of these, such as Farm Service Centres or Rural Business Hubs, could have a significant involvement of provincial Governments, the majority of service providers would be established and run by the private sector and, where appropriate, CSOs. These would cover provision of services such as animal health workers; mechanics and equipment repair persons;budders and pruners, as well as virtual services such as market information and prices, and access to knowledge and new technologies involving both men and women farmers. The MNFSR has to play an enabling role for the enhanced involvement of the private sector and CSOs in the rural areas, creating an appropriate legislative setup, an efficient and low-cost dispute resolution mechanism and protocol to avoid restrictive practices by private traders and suppliers.