



PROVINCIAL AGRICULTUE SECTOR POLICY GILGIT-BALTISTAN

**Department of Agriculture Livestock and Fisheries
Government of Gilgit-Baltistan**



ABBREVIATIONS AND ACRONYMS

AKF	Aga Khan Foundation
AKRSP	Aga Khan Rural Support Programme
ARB	Agriculture Research Board
APU	Agriculture Policy Unit
BIPP	Burki Institute of Public Policy
CPEC	China Pakistan Economic Corridor
FMFB	First Micro-Finance Bank
FMR	Farm-to-market road
FMC	Farm Service Centers
FSC&RD	Federal Seed Certification and Registration Department
GB	Gilgit Baltistan
GIS	Geographic Information System
GPU	Germplasm Unit
IFAD	International Fund for Agriculture Development
IMS	Information Management System
KIU	Karakoram International University
KKH	Karakoram Highway
KP	Khyber Pakhtunkhwa (province)
MARC	Mountain Agriculture Research Center
MDS	Market Development Solutions
MFI	Micro-finance Institution
MNF&R	Ministry of National Food Security and Research
O&M	Operation and Maintenance
PCSIR	Pakistan Council for Scientific and Industrial Research
PPP	Public-Private Partnership
R&D	Research and Development
SDP	Sadpara Development Project
SPS	Sanitary and Phytosanitary Standards
TELCOs	Telecommunication Companies
UK	United Kingdom
USAID	United States Agency for International Development
ZTBL	Zari Taraqiati Bank Limited

FOREWORD

The economy of the Gilgit Baltistan has mainly been driven by subsistence agriculture. Over 90% percent of population in GB is engaged directly or indirectly in farming or livestock rearing. With Improved road connection (Karakoram Highway), and work force development, has led to diversification of local economic coupled with slow but increasing commercialization of agriculture. The process of agricultural transformation has laid down the foundation for a more commercialized farming than traditional cereal crop based farming system giving way to high value cash crops (fruit and vegetables). The area of GB is having a range of micro-climatic zones characterized with comparatively low incidence of insect, pest and disease is providing ideal conditions for the production of high value crops. However a number of challenges hamper the development of agriculture as a leading sector. These include poor quality planting material; weak of lay out of orchards; and limited skills regarding proper management of crops, fruit and vegetables. Post-harvest handling is traditional and faulty while overall quality control is almost non-existent resulting in considerable wastages. Moreover the absence of pre-cooling, packing, holding/marketing and cold storage facilities are also major impediments holding back exploitation of the due potential of comparative advantage.

Agriculture has not previously been given much attention and this explains the general low level of investment by farmers in terms of allocating land and other resources to commercial farming such as horticultural crops resulting in small marketable surpluses. Nevertheless, horticulture sub-sector has been experiencing a growing trend owing to its potential for income generation. The existing “horticulture policy” outlined the much needed vision of “a transformed horticulture sector into a viable, sustainable, profitable, market driven and export-based horticulture industry”. The proposed policy actions include: establishment of demand driven research system and strengthening of Agriculture Extension Department; developing a reliable crop forecasting and market information system; extending and improving the quality of infrastructure particularly in production areas; establishing certified fruit nurseries, seed production, and processing centres; establishing modern pack-house and cold chain infrastructure; developing supply chains that ensure availability of required quantity and quality inputs; increase productivity through the sustainable use of soil, climate, and human resources and minimize the pre & post-harvest losses; promote public-private sector partnership throughout the value chain; establishment of Horticulture Development Board and Establish a Horticulture Germ Plasm Units (GPU). These policy actions have yet to come to fruition.

Overall a broader agriculture sector policy as a guiding road-map has been missing in Gilgit-Baltistan. Sensing the importance of Agriculture policy for GB, the Aga Khan Foundation extended its support to prepare the policy document for GB. A team of consultants was engaged by AKF through the consulting firm named Market Development Solutions (MDS) and a policy think tank named Burki Institute of Public Policy (BIPP)¹. A consultative policy development process was followed which included the nomination of a policy task force guiding and supervising the organisation of focus group discussions and the wider consultations held at the district and provincial levels. It is pertinent to mention that the agriculture sector of Gilgit-Baltistan has been in dire need of disruptive policy actions and paradigm shift transforming the sector into efficient, profitable, competitive and sustainable through the adoption of improved production and marketing practices, diversification into high value crops, integrated cropping in different zones for extended supplies and promoting processing and value addition. The proposed policy directions are based on the policy issues identified and consists of regulatory and institutional frameworks, institutional services and capacities, infrastructure and accelerated private sector development. The proposed policy seeks to bring together public, private and civil society institutions for a progressive development of agriculture value chains.

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1. RATIONALE

The agriculture sector in Gilgit-Baltistan (GB) is undergoing a structural transformation from subsistence to market oriented agriculture that requires a redefinition of the roles and functions of the Government and the private sector. Under the emerging environment, most of the production, processing and marketing functions are carried out by the private sector while the Government still retains the regulatory and public support functions, albeit both private and public sector performance being quite poor. The policies that have been adopted in the agriculture sub-sectors have not been totally successful, as they lack adoption of a proper policy cycle in formulating processes that essentially make the agriculture sector competitive and thus, profitable. The small and fragmented farmers are caught up in a vicious cycle of low risk, investment, productivity, value addition and market orientation leading to low income and subsistent living. Formulating a comprehensive policy would therefore enable farmers, entrepreneurs and other value chain actors to also benefit from existing tourist flow in the region, supportive policies of Government of Pakistan, provincial government and the China-Pak Economic Corridor (CPEC).

GB offers varied microclimatic zones that have the potential to produce world-class fruits and vegetables. A recent report by IFAD highlighted the potential of Apricot and Potato grown in GB which can capture a larger market share in the national as well as international markets. GB is the water bank of Pakistan that can generate cheap energy and continue to support competitive agriculture through provision of two key inputs; energy and irrigation. There are limited but substantial opportunities to develop agriculture land and further integrate crop sub-sector to harness values per unit of land and water.

The existing capacity of the departments involved with agriculture seriously need capacity upgrading in policy formulation, analysis, implementation and monitoring. The department of agriculture is operating with a limited budget. On the other hand, the capacity of the agriculture sector is constrained by entrepreneurial skills, inadequate capital/finance, poor infrastructure and lack of conducive legal and institutional frameworks.

1.1. OPPORTUNITIES AND CHALLENGES

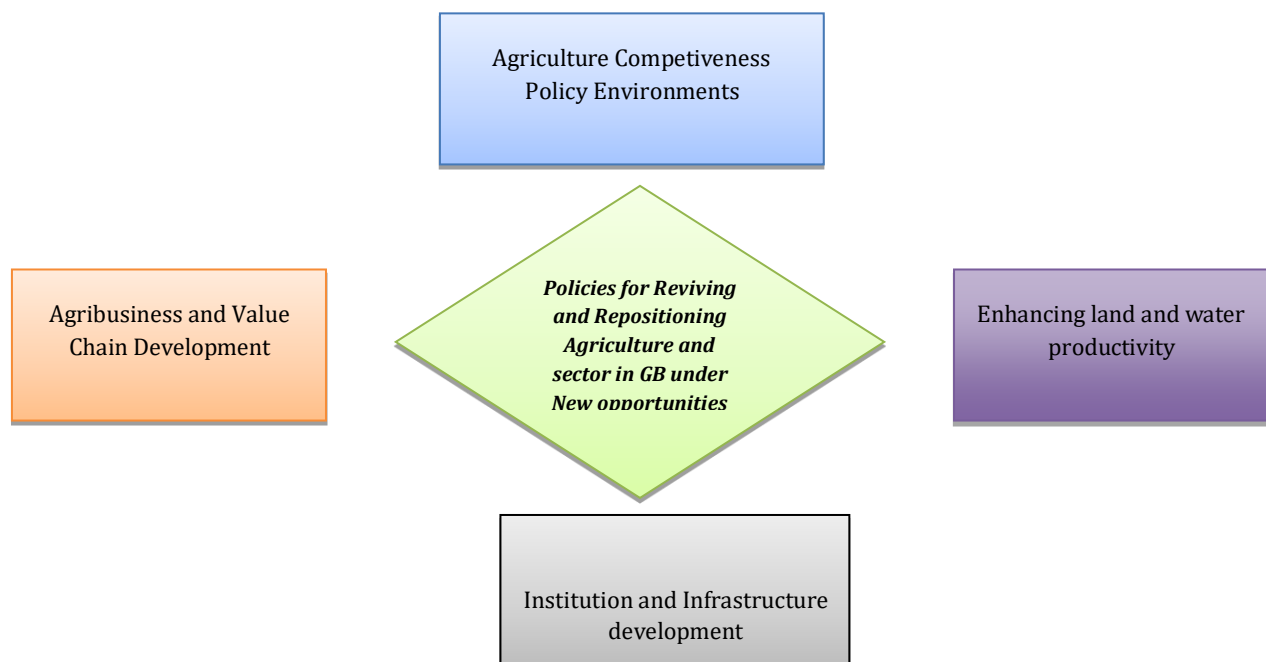
The agricultural transformation is taking place in GB, wherein the traditional cereal crop based subsistence farming system is giving way to high value cash crops (fruit and vegetables). As CPEC investment and tourist flow takes further momentum, this process is expected to further intensify and commercialization of agriculture will spread to those areas where presently infrastructure facilities, such as rural roads, marketing and credits are already available. The main problems which GB agriculture is facing are small size of land holdings, lack of irrigation facilities, low consumption of chemical fertilizers, lack of road infrastructure, effects of climate change and blockade of roads during adverse weather conditions.

Constraints in horticultural sector are numerous including: poor quality planting material including seed and rootstocks; poor layout of orchards; lack of appropriate pollinizer in the orchard; lack of proper training and pruning of the fruit trees; inadequate plant nutrition and organic matters; lack of adequate use of plant protection materials, and poor overall management of orchards. Post-harvest quality controls are almost non-existent resulting in considerable wastage and damage and absence of pre cooling and cold storage are the major problems for horticultural produce.

1.2. THE PROPOSED POLICY FRAMEWORK

Formulating an agriculture policy may be considered an ongoing process where updates are required when: (1) a change in direction for the economy/sector is needed; (2) a review of existing policy is required; (3) a new issue emerges; and, (4) meeting unmet demands like food

security or water. It is high time in the context of GB to create policy environment as the region is going through constitutional transition, is experiencing climate change and will be impacted by CPEC. This agriculture policy in GB was formulated in line with the framework highlighted in the figure below:



The above framework is based on international best practices and would steer the agriculture sector towards sustainable and competitive growth. Nevertheless, the policy environment would at minimum require sound management information systems, flexible rural factor markets, a competitive agribusiness sector, adequate infrastructure, robust technology, and most importantly, trained and developed human capital. Holistically the proposed policy actions and underlying strategies would foster agricultural growth, largely through adjustments in the output mix toward higher-value products, which should result in higher total factor productivity. Tremendous opportunities are offered by CPEC and current inflow of large number of tourist that will allow tapping onto a larger size of the domestic market and several emerging international export destinations. This would subsequently also contribute to the government and donors objectives to increase lending greater support to rural livelihoods and accelerating rural economic growth.

1.3. THE AGRICULTURE SECTOR POLICY REGIME

Agriculture in GB is entering a new phase of development. The objectives of efficient and diversified growth and sustainable use of natural resources in the context of households’ food, nutrition and environmental security are now well recognized. The policy direction needs has to shift from resource-based production to knowledge-based agricultural industry and value-addition. In the process, traditional interventions by the governments especially subsidies and other interventions are expected to decline and would be replaced with more targeted/specific subsidies and direct interventions would be limited to create the demonstration effects. This paradigm shift places tremendous importance to efficacy of agricultural institutions and research systems. It is the nexus between technology, marketing/trade and institutions which would determine the pace and pattern of agricultural development and poverty alleviation in GB.

2. Macro And Sectoral Policies

2.1. Policy Issue - 1: Right Policy Environments

The challenge in the case of GB is to identify the comparative advantage of each ecological zone and then to assess and propose how to translate this into a competitive advantage, both within the domestic and external markets. The goal of a policy options is not necessarily to maximize growth of production in any particular sub-sector/commodity but to create the necessary and sufficient conditions for the agricultural sector/farmers to adjust to a more competitive environment. The production structure as well as the agro processing industry and inputs delivery systems should be allowed to adjust rapidly to changes in domestic/foreign market conditions (output and input) and technologies, through changes in cropping patterns and farm structure as opposed to sticking with few crops, as has been the case.

The Government will support to create a favorable economic environment for increasing profitability of farm sector. Its support will come with easy availability of credit and other inputs, and infrastructure facilities for development of agri-business industries, Research and Development and development of effective delivery systems and reduced cost of transportation. Through concerted efforts, policy actions will have to increase the bargaining power of farmers vis-a-vis traders and input suppliers. Rationalization of the wheat procurement prices is an area where action is needed to provide better incentive to producer and reduce the fiscal burden. Adjustments are essential to support improved system for markets, including removal of price controls. Massive improvement in the overall marketing mechanism is needed to safeguard the large majority of small farmers from exploitative marketing practices and market imperfections. It will continue to review the macro policies that often have profound effects on sectoral policies such as, trade, finance, private sector investment, business partnerships, export promotion, pricing and inputs taxation, quality assurance and consumer safety standards, and regulatory frameworks, etc.

2.1.1. Policy Objective

Harmonize GB agriculture sector policy with macro and related sectoral policies to derive economy wide benefits.

2.1.2. Policy Statements

1. Government to establish consultative process with federal government and other stakeholders to harmonize agriculture development programme.
2. Government to establish consultative process with relevant sectors within GB to harmonize policies formulated by water, food, livestock, wildlife, health, forestry and fisheries departments.

2.1.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1 Support to conduct series of studies on establishing comparative and competitive advantage of various ecological zones.	GB Administration & Department of Agriculture Gilgit Baltistan, Federal Seed Certification and Registration Department (FSC&RD) and Federal Ministry of Food Security and Research (MNF&R)
2 Value chain studies and identification of business models suitable to GB	
3 Establish an inter-departmental forum to harmonization of sectoral policies at provincial level and its integration with federal policies.	AKF-GB

Policy Actions	Implementation Responsibility
4 Institutionalization of the periodic review of agriculture policy by the task force.	
5 Rationalization of food production and consumption policies in GB with special reference to subsidies on cereals.	GB Administration & Department of Agriculture Gilgit-Baltistan

2.2. Policy Issue 2: Improving Regulatory Framework

Despite the opportunities emerging from better connectivity, there are limited legislative and regulatory guidance to enhance agricultural production and marketing at the local, regional and national levels. The changing roles and functions of the public and private sector calls for the Government to further rationalize and harmonize legislation in different sectors dealing with agricultural sector with a focus on ensuring fair play among stakeholders, safeguarding consumer's interests, protecting farmers/consumers against health risks and maintaining food and food-related safety. Support creation of regulatory framework conducive for developing a commercial and competitive agriculture that promotes public and private partnership especially in the area of seed, organic farming, land zoning, research and extension, phyto-sanitary regulations, curbing free grazing and improved border quarantine.

2.2.1. Policy Objective

Legal and regulatory framework for efficient, effective and transparent performance of the agricultural production and marketing systems.

2.2.2. Policy Statements

1. The Government of GB in collaboration with key stakeholders will put in place legal and regulatory framework for efficient, effective and transparent system governing agricultural production and marketing system.
2. The Government will facilitate and encourage private sector participation in the development and management through legal and regulatory reforms rationalizing incentive structure all along the value chains.
3. Monitoring of pesticides, agrochemicals and inputs as well as improve quality monitoring /testing (of fertilizers, pesticides and other inputs) in Gilgit Baltistan.
4. Establishing a plant quarantine/phyto-sanitary system at all major entry points to the Gilgit Baltistan.
5. Improve management of border trade of agricultural products with China curbing all types of discriminations.
6. Review and update trespass act to discourage free grazing.

2.2.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Preparation of rules and regulations to promote private sector investment in agriculture.	GB Legislative Assembly, Administration & Department of Agriculture Gilgit Baltistan
2. Development of a legal framework to encourage community-based investment and promotion of leasing of land for agriculture development.	
3. Extension of plant quarantine act 1967 to GB	

Policy Actions	Implementation Responsibility
<ol style="list-style-type: none"> Coordinate with federal government to review Border Trade Agreement 1984 signed with China. Introduce and promote participatory approach in implementation of the trespass act (control of free grazing). 	

2.3. Policy Issue 3: Restructuring Department Of Agriculture

Towards a competitive agriculture, innovation and technology will have to play a key role. In this context, improved governance and institutional reforms are a prerequisite that will ensure proper and sustainable management of the physical, human and social capital. It is of utmost importance that Department of Agriculture be restructured and strengthened. At present the capacity of the department is limited to deliver knowledge-based services, and meeting new challenges such as quarantine facilities, and provision of the requisite technical support. Availability of resources is another factor to improve.

2.3.1. Policy Objective

Enhance institutional capacities to conduct and co-ordinate applied and problem solving research for GB.

2.3.2. Policy Statements

Government will support restructuring of Agriculture department (Extension and Research) to meet the new challenges and changing role of agriculture in socioeconomic development of GB.

2.3.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
<ol style="list-style-type: none"> Agriculture Extension and Research are made independent and autonomous of each other and restructuring these in line with relevant national institutions. Both agriculture Extension and Research develop and adopt well defined mandates and underlying master plans. 	Department of Agriculture Research, Department of Agriculture Extension

2.4. Policy Issue 4: Creating Agriculture Information Management System (Aims)

For agriculture planning and policy formulation, creating a modern Agriculture Information Management System is needed. There is no crop reporting service that reflects the state of agriculture. Data on agricultural area, yield and production used to be issued needs to be restarted. Further data on input use, prices and trade is equally important. The published data provided by institutional actors are highly deficient or outdated and did not provide critical

recent data needed for decisions and planning purposes. It is important to have time series data on macro, micro and meso levels to undertake policy analysis and its monitoring on a credible basis. Creation of this data base would be useful for E-Governance program being developed in GB. As a start, publication of GB Agricultural Statistics and other leaflets would produce providing data on technical, economic and environmental aspects of agricultural sector progress.

2.4.1. Policy Objective

Developing an Information Management System that monitor development progress.

2.4.2. Policy Statements

1. Development of crop reporting and agriculture statistics integrating information of GB into the national statistics.
2. Mainstreaming of e-governance for extension services, crop reporting and market information.
3. Farming system mapping and crop/fruit plant zoning.

2.4.3. Key Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Strengthening of existing crop reporting unit at DoA to generate agriculture statistics.	Department of Agriculture Extension, MNF&R and Federal Bureau of Statistics
2. Yield Estimation Surveys covering all major and important crops.	
3. Collection and publication of agriculture products and update prices periodically.	
4. Promote e-solutions and technology dissemination.	

2.5. Policy Issue 5: Improving Capacity In Policy Implementation

Under 18th Constitutional amendment agriculture has been declared as a provincial responsibility. With this new paradigm shift the provincial Governments now prepare their agricultural budgets – allocating their funds and rearranging their priorities, formulating policies and implementing strategies. At present their ability to plan and formulate and implement policies is very limited. One of the institutional improvement needs of Agriculture Department is to improve policy and planning capabilities of its staff, by establishing Agricultural Policy Unit (APU). Such competencies are critically needed for formulating holistic and coherent agricultural policies and in designing appropriate programs with manageable operational procedures. More importantly, assistance is also needed for developing innovative and conceptually sound and operationally manageable project ideas and complete project proposals for financing by international development agencies, joint ventures with NGOs or private sector, and/or public sector development funding.

2.5.1. Policy Objectives

Build capacities of institutions to plan, analyze and monitor policies in developing sustainable and competitive agriculture sector.

2.5.2. Policy Statement

1. To facilitate planning and monitoring through creation of a planning and development unit(s) at the directorates level.
2. Develop mechanisms for the on-going capacity building of staff of agriculture department in policy formulation, analysis and monitoring.

2.5.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. On the job training in agriculture planning, policy analysis, agriculture business development and value addition.	Department of Agriculture Extension and Research, Gilgit - Baltistan
2. Undertaking studies to establish comparative and competitive advantage of different ecological zones in GB	
3. Identify and initiate thematic studies on key policy issues facing the agriculture sector.	

3. Infrastructure And Institutional Policies

3.1. Policy Issue 6: Land And Land Development

Three issues on land development are quite important. First relates to its ownership, second the possibility of developing new lands and third is related to land consolidation and profiling. Land ownership/tenure varies from one area to another. In settled three districts, the Land Revenue Act prevails with formal land records and titles. In rest of the areas, the local customary practices are applied. Farm investment is very much tied up with land ownership and a uniform policy is the right direction. Slightly over 1% of the total area of GB is cultivated while around 2% of the area is cultivable waste that can be brought under plough if required investments in irrigation are managed. The area has a natural seasonal advantage due to elevation and most of the down country vegetable crops are grown in GB during summers and fetch premium prices when marketed in the down country markets. Finally, the lands in GB are fragmented and are being divided further due to inheritance law. Investment in irrigation and other inputs become large due to spatial and access issues. Fragmentation of land is reportedly resulting in productivity losses and impoverishment in the region. A programme of land consolidation is needed especially in the new lands. Further, land-mapping taking into consideration its suitability for the kind of agriculture it can best supports.

Land conservation is also very crucial for long-run agricultural production and its sustainability. At present, land degradation is taking place on a larger and increasing scale. In this regard, development and implementation of land use policies and its integration to the policies on forest and water would be beneficial for developing sustainable agriculture. Further laws be enacted on land use planning that would reduce incidence of degradation of agricultural land and the shifting of agricultural land to non-agricultural uses.

3.1.1. Policy Objective

Provide legal framework to prevailing land ownership and to ensure that the developed lands are allocated in equitable and fair manner among community and all the landless, women-headed households and businesses in a secure and legally enforceable manner.

3.1.2. Policy Statements

1. Government to support through micro and macro policies to encourage private sector to invest in key areas, such as land which can be used for potential value chains development.
2. To bring non-settled areas to settled areas through uniform law and computerized land title management.
3. Development of lease markets for increasing the size of holdings by making legal provisions for giving private lands on lease for cultivation and agribusinesses.
4. Government facilitate communities in developing land use policies and regulation, including zoning and land use planning.
5. Consolidation of holdings where feasible.

3.1.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Land developed and implemented through community-based organizations partnership in leveraging the potentials of Agro-Ecological Zones.	GB Administration & Department of Agriculture Gilgit –Baltistan
2. Land use regulations banning productive agricultural lands for developing housing.	GB Administration & Department of Agriculture Gilgit –Baltistan
3. Promoting land consolidation in selected ecological zones	GB Administration & Department of Agriculture Gilgit –Baltistan
4. Development of lease markets for increasing the size of holdings by making legal provisions for giving private lands on lease for cultivation and agri-businesses.	
5. Under new legislation, create Board of Revenue and a functional revenue courts, thus providing umbrella to develop a land consolidation program.	

3.2. Policy Issue 7: Rationalizing Water Use In Agriculture

GB is the water bank for Pakistan due to large area under glaciers and snow deposits in its mountains and watersheds that provide water to the largest contiguous irrigation system. If these watersheds are not managed well, it will reduce the economic life of dams, rivers, canals and distributaries due to heavy sedimentation load. As a matter of national integration the downstream users (the provinces of Punjab, Khyber Pakhtunkhwa and Sindh) should pay for proper water shed management as it will bring enormous benefits to downstream user to reduce siltation and improved water quality for irrigation. It is equally important that GB be one of the main beneficiaries of this huge water resource. In GB water drawn largely from small streams flow is getting scarce in certain areas leading to competition for water use in agriculture and domestic use. However, there is considerable scope of water saving through improving water management (drip irrigation, canal lining, water storages, and conservation agriculture etc.). Experience shows that water availability can be enhanced through demand management options at a lower cost than supply side options often adopted. Improving water allocation (more value per drop) is other option for rationalizing water use. GB has been using

historical water rights to allocate water among competing uses, however there are a number of unresolved issues, for example in newly built Satpara Dam, allocating water to those on RBC (not having rights) and LBC (with right) are facing problems while the excess water supply is not being used. The proposal to establish warabandi system as practiced in Punjab and Sindh is an easy and feasible option but water policy experts are of the opinion that it is an outdated policy option, more suited for a large irrigation system. A demand driven water supply to farms needs to be explored.

3.2.1. Policy Objective

Supporting an efficient use of the irrigation water through involvement of stakeholders in order to boost agriculture.

3.2.2. Policy Statements

1. Government would promote good watershed management practices and seek financial support from other provinces to mitigate circumstances that largely affects downstream water user and water assets.
2. Improving productive efficiency (more crop per drop) through adopting water conservation technologies and good water management practices with the close involvement of all stakeholders.
3. Improving allocative efficiency (more value per drop) through improving the water right regime for competing claims of water by individual and economic activities.

3.2.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Formation of inter-provincial task force for water shed and water resource management.	Provincial Secretaries of Irrigation and Agriculture
2. Improving water governance, learning from experience including creation of area water boards that are financially sound and efficient in service delivery.	Water Management Department
3. Promoting proper on-farm management of water resources for the optimum use of irrigation potential.	
4. Developing institutional mechanisms for information and knowledge sharing among water, agriculture and forestry departments.	Departments of Agriculture Extension, Water Management and Forest; Water Management Department and Relevant Private
5. Formulating a provincial water policy with focus on water efficiency and improved governance	and Civil Society Stakeholders

3.3. Policy Issue 8: Rural Roads And Other Market Infrastructure

In the absence of suitable and viable infrastructural facilities farmers of GB are disadvantaged in the marketing of their produce. The marketing chain for farm products in GB is highly fragmented, primarily due to lack of good farm to market roads network that connects economic activities in far-flung areas. Than the market infrastructure, both physical and institutional need to be upgraded to realize full benefits of the investment and in developing a competitive rural economy. The emphasis on creating Farm to Market Roads (FMR) is well spelled out in the IFAD project document, but FMR linkages to local production systems and contribution to socioeconomic development in terms of increases in employment and income

needs to be further highlighted. Developing a shorter value chain to reduce wastage, reduce costs of marketing; strengthening linkages/relationships between value chain actors at all levels and removal of artificial restrictions to trade.

3.3.1. Policy Objective

Agricultural transportation and marketing infrastructure improved and developed.

3.3.2. Policy Statements

1. Government to support key and strategic agricultural production and marketing infrastructure developed such as market storage and cold chain development.
2. The Government will put in place enabling and conducive environment for private sector to invest in farm to market roads and marketing infrastructures.
3. Promote communities' involvement in the developing, operating and maintaining of agricultural infrastructure such as feeder roads, wholesale markets, storages and collection/bulking centers will be promoted.

3.3.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Improve farm to market roads in key production clusters	GB Administration
2. Support to private sector in establishing storage and cold chain system through public-private partnerships	GB Administration, Agriculture Extension Department
3. Explore the potential of farmer markets, aggregation and consolidation points.	

3.4. Policy Issue 9: Rural Credit/Capital

Modernization and expansion of the value chain is constrained by many factors including the lack of informal and formal finance. The problems include farmers' inability to acquire larger stocks of good quality seed, cover production risks, poor post-harvest handling, and low technology and quality control for processing. Local banks are hesitant to finance the agriculture supply chains except for low risk short-term loans and to finance more established processors/exporters. Poor farmers need financial help from banks and other financial institution, but because of complicated procedures and rules, they leave the idea of loans, which adversely affects production and marketing. In summery the credit uptake is very limited.

Recently, a number of financial service² providers have begun offering services to meet the needs of resource of the poor smallholder farmers. However, uptake has been limited to date due to limited awareness among smallholders and in part due to large dependence on middleman/collectors. Without affordable financial services, reliable information on market demand and direct market linkages, many small farmers remain in the trap of low-investment and low-return production cycles. They also need improved inputs to break into more profitable commercial production. But many of them do not have the capital to invest at the outset. Access of small farmers to institutional sources of credit is challenging and more so for farmers interested in processing and value addition. There is enormous potential for expanding the coverage of these services and in bringing benefit to smallholders.

² Apart from the national banks, there are two region specific financial institutions extending credit to farmers and entrepreneurs i.e. First Micro-Finance Bank and Karakoram Cooperative Bank. First MF Bank is a AKF affiliate but still has limited coverage in terms of branches and portfolio. Karakoram Cooperative Bank is sponsored by GoGB with Chief Secretary as head of its Board and has 40 branches spread over all the seven districts.

3.4.1. Policy Objectives

Provide financial incentive with affordable lending and better access for all value chain actors with special provision for the resource poor farmers.

3.4.2. Policy Statements

1. Government in order to promote investment in input supply will ensure that a separate credit lines at concessional rates for various entrepreneurs are established and maintained by Public, Micro Finance and Commercial Banks.
2. Government incentive programme for financing inputs, post-harvest technologies, vertical/structured farming, storage and other physical infrastructure to improve capacities for phytosanitary compliances.

3.4.3. Policy Actions (2018 – 2023)

Policy Action	Implementation Responsibility
1. Engage with commercial banks to develop appropriate credit products.	Agriculture Extension Department, Zarai Taraqiyati Bank (ZTBL), Microfinance Institutions (MFIs) and Commercial Banks
2. Create linkages between community based organizations, farmer association and commercial banks to increase the outreach of financial services and put in place credit delivery mechanism.	
3. Financial support to cover setting up markets, collection and bulking points and transportation/logistic services.	GB Administration, Agriculture Extension Department, MFIs, Branchless Banking Service Providers, Zarai Taraqiyati Bank (ZTBL), FMFB
4. Promoting mobile banking to provide better access to finance in far-flung areas and use of mobile money for transactions with markets (input and output).	Telecommunication Companies (TELCOs), Financial Institutions, Private Sector and Civil Society Organizations.

3.5. Policy Issue 10: Agriculture Research

The GB is constrained by naturally isolated and high elevated valleys where producing large volumes for market are difficult due small land holdings and poor connectivity. For this reason the region agriculture continue to be subsistence. On the other hand, potential to develop agriculture sector is good as it offers long days and cool nights and carries low humidity prone low diseases and infestation. The region also has various ecological region that hold promise for a diversified agriculture as water shortage is not a binding constraint. Finally, mixed farming represent a case of truly integrated farming that can also be developed as very profitable if organic farming is promoted. Based on this, Government will establish a well-organized, efficient and result-oriented agriculture research and education system to introduce technological change in GB agriculture. Up gradation of agricultural research oriented towards wider reach, women empowerment, user-orientation, vocationalization and promotion of excellence will be the main selling points of the new policy.

3.5.1. Policy Objectives

Enhance productivity of agriculture sub-sector through knowledge and research-based solutions.

3.5.2. Policy Statements

1. Conduct and coordinate applied and problem solving research and develop and test packages of production technology and their transfer to end-user through extension services.
2. Integrate research program in national and international forums.

3.5.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Transform Mountain Agriculture Research center into a provincial institution with a robust coordination mechanism agreed with the national agriculture research center.	Agriculture Research Department
2. Development of a demand driven and innovative research programs in coordination with extension department and private sector.	Agriculture Research Department and Pakistan Agriculture Research Council.
3. Capacity enhancement of technical staff in latest research methodologies.	
4. Conservation of indigenous gene bank for R&D and introduce robust mechanism for introduction of improved germ plasm.	
5. Liaison and collaboration with national and international R&D organizations for updated technologies and capacity building.	

3.6. Policy Issue 11: Extension And Business Advisory Services

A part of restructuring and up gradation, government would support the development of human resources through capacity building and skill development of extension department. Would also promote technology transfer, farmer training, technical advice and supply of crop inputs, and to adopt a modern service delivery methods. Suffering from many of the same kind of outreach, resource, orientation and capacity challenges. Further new role of the department would move towards creating institutional structure encompassing financial sustainability of extension services through a gradual phase, a more realistic cost recovery of extension services and inputs, while simultaneously protecting the interests of the poor farmers

3.6.1. Policy Objectives

To conduct and co-ordinate applied and problem solving research that develop and test packages of production technology for crops, fruits, vegetables, land and water, etc. and their transfer to the end-users

3.6.2. Policy Statements

1. Extension department be geared for technology transfer, farmer training, technical advice and agriculture inputs, and to adopt modern service delivery methods.
2. Undertake Institutional strengthening with respect to food/nutritional security and climate change related challenges.
3. Integrate participatory extension methodologies and marketing advice in extension programmes.
4. Integrate natural resource management in extension programmes (Climate change and others)

3.6.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Strengthening coordination for technology generation, assessment and dissemination among research and extension departments.	Agriculture Research and Extension Departments
2. Need based capacity building of extension department	
3. Strengthening outreach through PPP (farm services centers), community engagement and leveraging private sector expertise etc.	

3.7. Policy Issue 12: Promoting Private-Public Partnerships

Agriculture-PPPs are broadly promoted as having the potential to help modernize the agriculture sector and deliver multiple benefits that can contribute towards sustainable agricultural development that is inclusive of smallholder farmers.

The private sector has an important role to play in the agriculture sector. Private sector firms are now offering a range of products and services related to high value added agriculture technologies such as improved seeds, drip irrigation, tunnel farming, green house technologies, processing and storage facilities etc. A number of private sector organizations like Lays (PepsiCo), Zamindara Seeds, Engro Fertilizers and Ali Akbar Group have tried to establish contract-based partnerships in GB region with farmers, particularly in seed and table potato. Their attempts in many cases ended in disappointment due to organizational issues at the farmer level but their keenness is still there for future win-win partnerships based on legally enforceable contracts. The main demand is strong organizational base for the smallholder producers, backed and supervised by strong local technical presence, and an assurance of quality and volumes. Once that is there, all of them are willing to invest in input supplies, storage and sorting facilities, farmers training etc.

3.7.1. Policy Objective

Promote private sector investment in the agriculture business.

3.7.2. Policy Statements

1. Greater private sector participation through contract farming.
2. Provide incentives and reduce regulatory barriers for the private sector to ensure improvement throughout the value chain through legislations.
3. Introduce schemes for the promotion of foreign/private investment.

3.7.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Establish a public-private partnership unit in agriculture extension department to promote private–public partnership projects	Agriculture Extension Department
2. Provision of matching grants to PPP project related to storage, development of the cool chain, and provision of refrigerated vans throughout the market chain.	
3. Create awareness about investment opportunities for private sector engagement.	

4. Value Chain Development Policies

4.1. Policy Issue 13: Strengthening Input Supply And Service

Farm Service Center Model (FSC) is a market-based, private sector model that is often designed to establish small and medium-sized enterprises (SMEs) that deliver farm supplies and services. FSCs are often located in small to medium size townships and serve as rural development centers (some countries called growth centers) that meets the needs of farmers in their communities. These centers provide a range of agricultural inputs (crop protection materials, fertilizers, feed and seeds), machinery services, veterinary services and products, marketing assistance for agricultural outputs, training and information, and access to credit. KP has successfully using FSC by helping farmers not only in delivering farm services but also supporting private sector as an information vehicle to opportunities in both national and international markets through study tours and participation in trade fairs. In our view this model can be replicated in GB.

4.1.1. Policy Objective

Establishment one window operation for the provision of inputs and technical advice and market linkages.

4.1.2. Policy Statements

Increased access to services and inputs to small farmers facilitated all over the province through public-private partnership development.

4.1.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Feasibility study for the establishing pilot Farm Support Centers – one per Tehsil as a public-private partnership model.	Agriculture Extension Department and Farming Communities
2. Establishing model farmer support centers (FSC) as a public-private partnership providing assistance in access to input and services, access to finance, access to markets (for outputs) and holding/packing facilities.	Agriculture Extension Department, Farming Communities and private sector enterprises

4.2. Policy Issue 14: Strengthened Input Supply Function

The input supply function is invariably unorganized and underdeveloped hampering the ability of farmers to access improved seed and fruit plants, quality agrochemicals and appropriate technologies. This can be attributed to the weak private sector and distortionary approaches of the public sector investment programmes. The public sector institutions have been supporting the agriculture sector through interventions which could otherwise be the domain of a private sector or could the underlying investment could have been used to strengthen market development. Gilgit-Baltistan, currently, lack a comprehensive certified seed and fruit plant production scheme with defined roles for public and private sectors which is fundamental need for the development of the agriculture sector. Similarly there is a vacuum with regards to quality inspections, testing and certification of inputs resultantly non-descript seed and fruit plants are being brought and used by farmers with adverse consequences for a sustainable agriculture. This warrant the development of a competitive input supply function with a strong research and development role by the public institutions and strengthening the private sector in market development.

4.2.1. Policy Objective

A strong private sector-led input supply function supplying inputs, technology and advisory services to farmers.

4.2.2. Policy Statements

1. A certified seed and fruit plants certification programme that integrate public and private sector in a synergistic relationship involving agriculture research, private sector seed companies/fruit plant nurseries and Federal Seed Certification and Registration Department (FSC&RD).
2. A defined inspection, testing and certification programme for quality checking of seed/fruit plants, agrochemicals and tools/equipment.

4.2.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Development of a variety listing and registration programme launched through collaboration among provincial agricultural research and federal seed certification and registration department.	Agriculture Research System, Agriculture Extension and FSC&RD
2. Launching of a crop seed and fruit plants inspection and tagging programme in collaboration with federal institutions.	Agriculture Research and Extension Department, and FSC&RD

4.3. Policy Issue 15: Efficient And Sustainable Production System

Productivity gaps are significantly higher (land, labor and water productivity) in Gilgit-Baltistan which in parts can be attributed to the weak input supply situation but also due mainly to the poor management practices. As a result profitability in agriculture is relatively low thus not providing the incentive for promotion of investment in the sector. The production function is further constrained by low level of mechanization, skills gaps and market orientation (in terms of production planning and product quality). Most farmers practice traditional methods and are arbitrarily making cropping choices and establishing orchards without due consideration of the agro-ecological characteristics of the different regions. Given the geographical diversity, physical constraints and resource constraints, it is essential to define geographical pockets and develop a potential seasonal calendars tapping on the market opportunities. There is a need promote “grow for market” including opportunities in the Chinese market. The new paradigm of production will require compliance to sanitary and phytosanitary (SPS) and certifications including traceability, quality, social and environmental certification etc. and at the same time promoting vertical expansion of agriculture achieving higher level of productivity and value.

4.3.1. Policy Objective

An efficient production of crops, fruit and vegetables ensuring profitability for producers, is response to the market and customer requirements.

4.3.2. Policy Statements

1. Production systems based on the natural comparative advantage promoted as specialized clusters of crops, fruit and vegetable supply markets in integrated manner.

- Promotion of high value agriculture applying improved practices, technologies and adopting to compliance requirements.

4.3.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Mapping of cropping zones and provision of incentives for promotion of clusters of production.	Agriculture Extension Department
2. Introduction of vertical farming technology and development of capacities among private sector farms and enterprises.	Agriculture Extension Department

4.4. Policy Issue 18: Processing And Value Addition

Agricultural produce is either marketed in fresh or dried form with little value addition, branding or labelling. Besides few exception at small scale level there is an absence of processing industry in Gilgit-Baltistan. Viability of commercial processing is constrained by the low volumes, diversity in terms of variety, variability in seasonality of production and relatively higher cost of raw material. There are also potential issues with regards to the market access for value added products. Product which were exported earlier to China has now been denied market access owing to compliance issues with regards to SPS standards.

4.4.1. Policy Objective

Creating an incentive structure for promotion of value addition and agribusiness industry development.

4.4.2. Policy Statements

- Government incentive framework promotes agriculture industry development including access to land, infrastructure and facilities.
- Promotion of common branding and geographical indication through marketing campaigns and trade development.

4.4.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. Incentivize private sector in getting product certification and market access.	Agriculture Extension Department
2. Product quality assurance by establishing quality and analytical capacities in relevant departments.	Agriculture Research Financial Institutions
3. Promote cottage industry in food processing	
4. Establishment of value chain development cell to promote potential value chains.	

5. Other Thematic Policies

5.1. Policy Issue 16: Climate Smart Agriculture

GB needs need to adapt to new and changing weather patterns due to climate changes. This will require a series of actions ranging from adjustments in infrastructure; improve water

harvesting infrastructure; better flood management protocols and procedures; and cropping and farming systems that can adapt to different weather conditions. At the same time there is a need for improved coordination and synergies between various departments including Ministry of agriculture, Water, Forestry and Provincial and District Disaster Management Authorities, in order to ensure that existing legislation and regulations, such as those relating to addressing changing weather pattern of too much or too little water.

5.1.1. Policy Objective

To induce policy interventions by government towards the environmental sustainability of the agriculture sector and its future growth in GB.

5.1.2. Policy Statements

1. Adherence to crops and cropping systems in line with soil fertility status in different agro climatic zones as per their suitability.
2. Identify crops which can adapt to climate change suitability.
3. Develop and promote varieties tolerant to climate change and use of GIS for detailed soil resource mapping and land use planning.

5.1.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
1. To strengthen R&D to develop varieties/techniques/technologies to mitigate the adverse impact of climate change.	Agriculture research Department
2. Adopt water conservation strategies, better control, and water harvesting and water efficiency packages.	Agriculture Extension, Research and Water Management Department
3. Promote organic agriculture and permaculture	

5.2. Policy Issue 17: Natural Disaster And Agriculture Risks Management

Despite technological and economic advancements, the condition of farmers continues to be unstable due to natural calamities and price fluctuations. Agriculture sector is a high-risk investment proposition and thus a lower choice for investors. The agriculture sector, which besides farming includes post-harvest handling and agro-processing, is characterized by unique features that distinguish it from other sectors. These features invariably have deterred private investors from investing in the sector and therefore adversely affect productivity and performance of agricultural markets. These features include among others low profitability and higher risks of on-farm investments such as weather and free grazing; uncertainty in input and output prices; and limited availability of conventional bank collateral that farm households can offer.

5.2.1. Policy Objective

Promotion of disaster and risks management strategies in agricultural production and marketing.

5.2.2. Policy Statements

1. Develop of disaster risk mitigation and adoption strategies.
2. The private sector capacities to apply various marketing risks management strategies will be developed; and,
3. Viable agricultural marketing and financial risks management tools will be promoted.

5.2.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
<ol style="list-style-type: none"> 1. Market and non-market risk management strategies development 2. Piloting crop insurance for strategic crops 3. Accelerate flood proofing of flood prone agriculture for protecting farmers from vagaries of nature. Development of relocation and resettlement plans as part of the disaster risk management. 	<p>Agriculture Extension Department Insurance providing agencies/ companies District Administration</p>

5.3. Policy Issue 19: Promoting Organic Agriculture

The region of GB is by default organic. Large part of GB is under pastures, forests, wasteland and other kinds of wild land. These resources which are largely used by local farming communities as grazing land, source of fodder, and wild harvest. These naturally organic areas hold great potential for conversion and declaring as organic. Agriculture-Animal husbandry is complimentary and supplementary enterprises, which provide livelihood to the agrarian population on one hand, and reduces dependence on synthetic external inputs on the other. Thus better management of animals, grass lands, farmyard manure hold promise for promotion of organic farming in GB. The forest and pastures of the province, also determines the level of contribution it makes in capturing carbon which has a direct bearing on the contribution to mitigate ill impacts of climate change. Further organic produce has a growing market and fetches much higher prices (almost double), this offers a good opportunity for GB farmers to enhance income through mild adjustment in farm practices. GB needs to initiate process to map zones that can be contested for its certification.

5.3.1. Policy Objective

Creating enabling environment for organic farming in the province, through developing appropriate policies, plans, and support services for activities.

5.3.2. Policy Statements

1. Reforming Agriculture and related sector strategies to bring these in line with the overall vision.
2. Gilgit-Baltistan will formulate organic support program (strategies and policies), giving due consideration to their farming concerns/needs, potential niches. It will also aim at strengthening the institutional and human resources

5.3.3. Policy Actions (2018 – 2023)

Policy Actions	Implementation Responsibility
<ol style="list-style-type: none"> 1. Government support to organic resource base of the province through incentives on organic inputs including seeds, organic manure, bio-fertilizers, bio-pesticides and biological control of pest and diseases. 	<p>Agriculture Extension Department</p>

- | | |
|---|----------------------------------|
| 2. Encouraged farmers to adopt technologies like vermi-composting, preparation of organic inputs and development of its market. | Agriculture Extension Department |
|---|----------------------------------|

5.4. Policy Issue 21: Repositioning Agriculture For Opportunities Provided By CPEC

The GB has a comparative advantage in growing large varieties of high value fruit and vegetables. This comparative advantage needs to be transformed into competitive advantage firstly through the natural agro-climatic advantages of the area, which allows it to produce when rest of country's season is already over and supplies of the summer crops are short and sell these as "off-season" products at a premium offering great promise for further development. Secondly, the opening of KKH in 1980s, the improved connectivity to outside world has induced a rapid transition in agriculture from traditional staple crops to cash crops and higher value fruit and vegetables. Finally, with upgradation of the KKH, the transport cost has been reduced to make products competitive. However, this would require further investment in expansion of current limited irrigated area, improved productivity and better connectivity to markets.

With better connectivity and good climate for growing high value crops, the stage is set to promote/declare a larger part of GB as organic. Discussions with local experts reveals that a large part is already organic and with proper planning and policy directions the farmers can reap large economic benefits as value of organic produce is almost double in this growing market. Pakistan is the sixth largest apricot producer in the world but its share in the fruit's export market is negligible. The Dry Fruit Project (AKRSP) has recognized market potential for GB's dry apricot, apple and mulberry in the UK.

With better road infrastructure provided by CPEC, one can expect a large influx of visitors to organic farms that would give them the opportunity to reconnect with nature for a few hours a day or even a week or two. In the larger picture, GB can be prepared in the medium to long term to promote agro-tourism through a well-established tourist information center that can promote Deosai, world's highest plateau with hundreds of beautiful wild flowers and pasture lands where livestock population moves up to top during summer; cherry blossom in Baltistan, Gilgit Baltistan is, perhaps, the most spectacular, and is often termed as heaven on earth and this heaven becomes even more sublime during cherry and apricot blossom season; eco-farming through vermi-composting and bio-waste management in partnership with the local community. Visitors can help with milking and churning the milk to make ghee and buttermilk, or even making organic pesticides for use on the farm. Central to the philosophy of agro-tourism is giving visitors the opportunity to roll up their sleeves and get their hands dirty as they get involved in the daily running of the farm.

CPEC also opens up avenues for direct investment by Chinese companies as well as joint venture and partnerships between local and Chinese investors. GB shall take this opportunity to introduce and incentivize partnerships with Chinese companies to establish small industrial parks along the KKH. In such parks all business shall be established in partnership between Chinese and local residents of GB. This is an opportunity to promote small and medium scale entrepreneurship.

At the government level CPEC shall play an instrumental role in promoting technical cooperation between academia, research and agriculture extension departments of China and GB. Such cooperation would be more effective as the bordering regions have almost the same agro-ecological characteristics. GB can learn from the recent successes of China in mountain agriculture and commercial farming as well as marketing.

5.4.1. Policy Objectives

Ensure larger economic benefits to farmers, research institutions, academia and private sector taking advantage of improved physical infrastructure under CPEC.

5.4.2. Policy Statement

1. Development of strategic plans regarding zoning of agro tourism corridors and valleys.
2. Create an investment environment for promoting partnerships between Chinese and GB entrepreneurs, organic agribusiness and organic one villages one project models.
3. Development of fora for cooperation between Chinese and GB institutions and business communities.

5.4.3. Policy Actions (2018 – 2023)

Actions	Implementation Responsibility
1. Conduct feasibility study for establishing agro-tourism corridors linked to CPEC investments in GP.	GB Administration, Agriculture Dep't. Department of Extension, GB and Chinese Research Institutions.
2. Identify agribusiness parks (on the lines of industrial parks) linked to CPEC corridor in GB whereby entrepreneurs from Chinese and GB can jointly establish farm, non-farm and off-farm agribusinesses.	Karakoram University and Chinese Universities Private Sector Organizations/ Chambers of Commerce and Industry
3. Develop guidelines for promoting investment in agribusiness parks and other areas of GB.	
4. Develop the following for through the CPEC committee; a. China – GB Committee for Investments in GB Agribusiness Industry Development; and, b. China – GB Committee on Promoting Cooperation in Agricultural Education, Research and Extension.	
5. Organization of inward and outward exposure visits between Chinese and GB institutions for exchange of knowledge and expertise.	