Balochistan Organic Agriculture Policy







Agriculture and Coopratives Block No 2 Civil Secretariat,Quetta Balochistan +92 081-9201261

Preface



As the Chief Minister of Balochistan, it is with great pride and optimism that I present the approved Organic Agriculture Policy of Balochistan—a landmark initiative aimed at steering our province toward a sustainable and prosperous organic agricultural future. Balochistan's diverse climate, rich agricultural heritage, and resilient farming communities provide an unparalleled opportunity for our province to emerge as a leader in organic agriculture, not only within Pakistan but on a global scale. This policy reflects our unwavering commitment to fostering a thriving organic agriculture sector that enhances both productivity and environmental stewardship, while safeguarding the

health and wellbeing of our people and future generations. In light of the growing challenges posed by conventional agricultural practices—such as soil depletion, water scarcity, declining biodiversity, and over-reliance on synthetic inputs and global demand of organic products —the transition to organic farming has become an imperative. This policy outlines a comprehensive framework for supporting organic farming systems, which promote healthier soils, conserve natural resources, and reduce the environmental footprint of agricultural activities. Our vision is to transform Balochistan into a hub of organic production, where farmers are empowered with the necessary knowledge, technical expertise, and market access to capitalize on the increasing global demand for organic products.

Moreover, this policy emphasizes the establishment of robust organic value chains, and the development of certification systems aligned with internationally recognized organic standards. It seeks to ensure that the economic benefits of organic agriculture are distributed equitably among all stakeholders, particularly our smallholder farmers, while also promoting value-added processing and export potential.

The success of this policy is the result of a collaborative effort by a wide array of stakeholders. I wish to extend my sincere appreciation to the Department of Agriculture Extension Balochistan, CAB-International, Laudes Foundation, WWF-Pakistan, leading textile brands, as well as the farmers, researchers, and policymakers whose invaluable contributions have shaped this policy. The support of these partners has laid a strong foundation for a greener, more resilient, and inclusive agricultural future for Balochistan.

I call upon all citizens of Balochistan, especially our dynamic farming communities, to join hands in implementing this policy. Together, we can build a sustainable organic agricultural landscape that not only ensures food security but also enhances the environmental and economic well-being of our province.

Mir Sarfraz Bugti Chief Minister Government of Balochistan

Foreword



Given the situation of reaching and sustaining a approved Provincial Organic Agriculture Policy for better execution, an initiative was taken by the Balochistan Government. From the starting day, the requirement for an inclusive Provincial Organic Agriculture Policy has been powerfully sensed by the Balochistan Government.

We are delighted that our dedication to sustainable agricultural methods that put the health of the environment, communities, and customers first is outlined in our organic agriculture policy. The development of this policy is a result of a collaborative effort by provincial government representatives, Agriculture Extensions Balochistan and MNFS&R, Industrial Stakeholders, Education, Certification Bodies, and Associations, farmers,

experts, and policymakers who share the common goal of promoting a more environmentally friendly and socially responsible agriculture industry.

This policy reflects the growing global interest in organic agriculture as a viable substitute to traditional agriculture, which has been shown to have detrimental effects on soil health, water quality, and biodiversity. Organic agriculture promotes soil health, conserves water resources, reduces greenhouse gas emissions, and supports diverse ecosystems. Additionally, it helps in creating a healthier and safer food system by promoting organic means and prohibiting genetically modified organisms.

Implementing this policy will require the collective efforts of farmers, consumers, policymakers, and researchers to ensure that we create a sustainable future for future generations. Our commitment to organic farming aligns with our values of promoting economic growth and supporting local communities while prioritizing protecting our natural resources and biodiversity.

This policy serves as a roadmap for farmers, policymakers, and other stakeholders to ensure that organic agriculture practices are embraced, supported, and promoted. I hope that this policy will serve as an inspiration and catalyst for other countries and organizations to adopt similar policies and practices that promote the health of this glob and the well-being of our communities.

I thank all those involved in the development of this policy and look forward to the successful implementation of its provisions.

Mir Ali Madad Jattak

Provincial Minister Agriculture and Cooperatives Government of Balochistan

Acknowledgments



This approved organic Agriculture policy is an outcome of more than 2 years of continuous efforts by CAB-International Pakistan. This could not have been achieved this shape without the support received from the Provincial Minister for Agriculture. The support and contribution of national and international collaborators, especially Mr. Babur Suhail (Law-Rex), Dr. Ghulam Muhammad Ali Chairman PARC; Mr. Masood Ahmed Baloch Director General Agriculture Extension Balochistan, Dr. Akmal Siddique Advisor to Ministry for National Food Security and Research, Dr. Syed Habib Ulla Shah Focal Person Organic Agriculture/Deputy Director Agriculture Extension Balochistan; Dr. Imtiaz Hussain Member In charge (Plant Sciences Division),

Mr. Makhdoom Mashood Ahmad Siddiqui Country Head Laudes Foundation. Mr Nadeem Irshad Director General Agriculture Extension Balochistan will be remembered for persistently following the policy formulation process.

The valuable contributions of Dr. Babar E Bajwa Senior Regional Director Asia (CABI); Dr. Yusuf Zafar Ex. Chairman PARC/Senior Advisor to CABI: Mr. Abdul Rehman Deputy Director Programmes (CABI); Mr. Muhammad Waseem Ishaq Project Manager (CABI), Dr. Saif Ali Project Officer Organic Policy (CABI), Mr. Ayaz Keerio Program Manager (CABI); Dr. Azhar Uddin Keerio (CABI) and Dr. Zahid Mehmood (Cotton Commissioner) are highly appreciated. I appreciate DG Research Inam-UI-Haq, Habib Ulla Shah Deputy DDAED, Mr. Shoukat Ali Baloch Deputy Director (E&M) Department of Agriculture Extension; Asif Mehmood Senior Programme Manager Organic Cotton Accelerator (OCA); Muhammad Ibrahim Baloch DG-Environment Balochistan; Mr. Muhammad Nadeem Sadig Director General BARDC. Balochistan; Dr. Nazeer Ahmed Dean (Bio-Technology) BUITEMS; Mr. Muhammad Aslam Niazi Principal Agriculture College Quetta, Dr. Arif Shah Kakar Director (Plant Protection) Department of Agriculture Extension; Dr. Syed A. Sadig Agha Horticulture Specialist FAO-Quetta; Mohammad Aslam Buzdar Conservator Forest Department Balochistan; Syed Ghulam Muhammad Chief Conservator Forest Department Balochistan; Ibrar shah Deputy Director Law Department of Agriculture Extension; Dr. Azum Kakar Principal Vet institute Department of Livestock; Mr. Hafiz Muhammad Bakhsh Manager OCP LFWWF-P, Mr. Naseeb Ullah Khan Provincial Coordinator Inter-Union for Conservation of Nature: Dr. Khalid Mehmood UOB, Quetta: Dr. Javed Tareen member CMIT, Quetta Balochistan, Mr Tahir Rashid Chief Executive BRSP Quetta; Dr. Shrif Buzdar Agriculture College Quetta; Dr. Gohram Chairman Environmental Sciences-UOB Quetta; Mr. Muhammad Noor Organic Policy Consultant Quetta, and Mr. Abubakar Korai Cotton Connect are acknowledged for their valuable comments and support.

It is expected that the policy implementation will help in the promotion of organic production while creating a new class of agricultural entrepreneurs. As a result, the availability of organic products will improve the economy and health of socially deprived communities living in marginal and remote areas.

Finally, I am confident that the food security situation will improve with the implementation of this policy. The policy document will be used to provide guidelines for formulating future strategies regarding the research and development activities for improving food security through organic agriculture and safety standards in Balochistan-Pakistan.

Ali Akbar Baloch Secretary Agriculture Government of Balochistan

Message from the Senior Regional Director CABI



The Organic Agriculture policy has been a collaborative and rigorous endeavour. It involved extensive consultations with stakeholders, including government bodies, agricultural experts, farmers, and organizations committed to sustainability. Numerous workshops, individual meetings, and brainstorming sessions were held to ensure the policy reflects the needs and aspirations of the Organic agricultural community. Special thanks to the visionary leadership of the Department of Agriculture Extension Balochistan, who played a pivotal role in steering this initiative. I appreciate the efforts of CABI team for development of Organic Agriculture Policy draft and acknowledge offered invaluable guidance and support, making this policy a reality.

This milestone would not have been possible without the collective efforts of dedicated professionals, experts, progressive farmers, and supporting organizations. I extend my deepest gratitude to the Provincial Government of Balochistan, CABI, and all stakeholders who contributed their time and resources to this noble cause. Their commitment to promoting sustainable agriculture and safeguarding our environment will leave a legacy for generations to come. Let us now move forward with renewed vigour to implement this policy and transform Balochistan into a beacon of organic and sustainable agriculture in Pakistan and beyond. Together, we can ensure a greener, healthier, and more prosperous future for all.

Dr. Babar E. Bajwa Senior Regional Director CABI ASIA

Message from the Director General Agriculture Balochistan



I Director General Agriculture Extension Balochistan extend my heartfelt appreciation to CABI for their unwavering commitment and dedication in developing this comprehensive Organic Agriculture Policy for Balochistan. This policy marks a significant milestone in our journey toward sustainable agricultural practices, conservation, ensurina environmental enhanced farmer livelihoods, and the production of healthy, organic food for our communities. The collaborative effort invested in this policy's formulation is a testament to the power of partnership and collective vision. I would like to acknowledge and sincerely thank all stakeholders, including government institutions, farmers, private sector representatives, academia, non-governmental organizations, and international partners, for their valuable

contributions. Your insights, expertise, and practical experiences have been instrumental in shaping a policy that reflects the diverse needs and aspirations of Baluchistan's agricultural sector. The Organic Agriculture Policy of Balochistan paves the way for a transformative shift in agricultural practices. Its implementation will not only strengthen the organic farming framework but also establish Balochistan as a leading region in organic agriculture within Pakistan and beyond. The policy emphasizes capacity building, certification processes, organic input supply chains, market linkages, and the adoption of innovative farming techniques to support the growth of the organic sector. As we move forward, I urge all stakeholders to actively participate in the successful execution of this policy. Together, we can create a sustainable agricultural ecosystem that benefits our farmers, protects our natural resources, and meets the growing demand for organic produce. Let us embrace this opportunity to position Balochistan at the forefront of organic agriculture, ensuring a brighter, greener future for generations to come.

Mr. Masoud Ahmed Baloch

Director General Agriculture Extension Government of Balochistan

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Executive Summary

Organic agriculture is a sustainable approach to farming that relies on the use of natural inputs and methods to produce healthy and nutritious food while preserving the environment. In Pakistan, there is an increasing demand for organic food items, both nationally and globally. To meet this demand and promote sustainable agriculture practices, the government of Balochistan must establish a comprehensive Organic Agriculture Policy. The Organic Agriculture Policy for Balochistan should prioritize the following:

- 1. The government should establish a regulatory framework to support the organic agriculture sector. This includes setting standards for organic farming practices, certification of organic products, and monitoring compliance with organic standards.
- 2. The government should provide training and technical assistance to farmers, extension workers, and other stakeholders to increase their knowledge and skills in organic farming practices.
- 3. The government should invest in research and development to promote the development of new technologies, innovations, and practices that support organic farming.
- 4. The government should support the promotion and advertising of organic products both domestically and internationally. This includes support in developing a domestic marketing system for organic products and promoting Pakistan's organic products in international markets.
- 5. The government should establish an institutional framework to manage the implementation of the Organic Agriculture Policy. This includes setting up a dedicated Organic Agriculture Authority to oversee the implementation of the policy.

Overall, the Organic Agriculture Policy for Balochistan is designed to boost sustainable agriculture methods, fund small-land holders, and encourage a smooth supply of balanced and healthy food for all. By prioritizing these key areas, the government of Balochistan can help to enhance the growth of the organic agriculture sector, improve the farmer's livelihoods, and support sustainable development in this sector.

Preamble

Although the term "organic agriculture" has many different connotations, they all refer to a system that relies more on ecosystem management than on outside agricultural inputs. The method starts to address the possible negative effects on the environment and society by getting rid of artificial inputs including artificial fertilisers, pesticides, veterinary medications, genetically engineered seeds and breeds, additives, preservatives, and radiation. Rather, site-specific management techniques are used to maintain and enhance long-term soil fertility while simultaneously managing pests and pathogens. By avoiding the use of resources that contribute to pollution, recycling whenever feasible, utilising a minimum amount of pesticides, crop rotation, crop residue recycling, livestock manure, legumes, and green manure, biological pest control, and using a minimum tilth to reduce adverse environmental effects while maintaining soil productivity and lowering production energy costs, people can minimise their impact on the environment.

Organic techniques increase the number of healthy worms, fungi, and other soil organisms while improving soil health. Enhancing soil fertility, increasing soil retention, and shielding the land from erosion and soil degradation losses are all benefits of organic farming. Organic farming depends on stronger market demand and less inputs because it emphasises social and environmental considerations. Additionally, it is founded on regional assets and innovations that provide farmers (including men, women, and youth) greater autonomy and control over their means of production.

Absentee landowners manage the majority of large farms in Balochistan; in such cases, the land is cared for by the workers, who lack any sense of ownership over the production level or profit margin. On the other hand, small landowners who work on farms are constrained from investing in a large number of risky inputs and must diversify their investments. They typically cut back on agricultural inputs to mitigate risk, but they are unable to cut back on environmental deterioration, such as soil erosion, pollution, excessive water use, water logging, perennial weed control, etc.

A farmer who practices organic farming not only controls his farm's environmental costs but also pays his workers more. By using family labor instead of synthetic fertilizers, pesticides, and herbicides, they lower production costs and decrease soil erosion. CMR and GHS may be present in conventional diets. Processing additively could further activate CMRs. This meal may include nitrosamine, a strong carcinogen, as well as nitrates and other preservatives.

This kind of farming incorporates additional chemicals into the industrial production, processing, and distribution systems. Organic farming can create niche markets for locally produced high-value, unconventional, indigenous, and local agricultural products such as medicinal herbs, traditional agriculture, and non-timber tree products. The size of conversion funds is significantly connected with farmer trends toward switching to organic farming. The subsidies for conventionally produced food only allow for the three expansions of organic agriculture in markets where customers are eager to pay a higher cost. Although the market for organic products and their outlets is small, premium prices could expand.

Organic Agriculture Policy

Government of Balochistan Agriculture and Cooperative Department

At the nationwide, an Agriculture policy exists, providing policy guidelines to the federating units.

In devising the Provincial Organic Agriculture Policy, the spirit of the National Organic Agriculture Policies has been kept in view to ensure compatibility with the rapidly evolving changes in the agriculture sector in the province of Balochistan.

The Provincial Organic Agriculture Policy is designed to translate the vision of organic agriculture into reality, aiming to address issues in the light of new challenges. The policy focuses on promoting organic agriculture at the grassroots level in the Province of Balochistan.

The declining standards of agriculture in the province have deeply concerned the government, prompting remedial measures to bring about changes and streamline agricultural activities in the province.

Vision

Elevating the Organic Agriculture Initiative in Balochistan to new heights, fostering sustainable farming practices, and creating a thriving ecosystem that harmonizes environmental stewardship, community well-being, and agricultural excellence.

Mission

The policy aims to promote sustainable agricultural practices that are environmentally safe, publicly acceptable, and economically feasible. The implementation of this policy will be carried out by the Agriculture Extension, in collaboration with Agriculture Research, Water Management, Agricultural Marketing, Agriculture Engineering, and Agricultural Universities. The overarching goal is to foster a holistic approach to agriculture that prioritizes the well-being of the environment, society, and economy in Balochistan.

In addition, the policy seeks to promote organic certification and labeling standards to ensure the authenticity and integrity of organic produce in the market. This will help in building consumer trust in organic products and promote fair trade practices in agriculture.

Overall, the mission of organic agriculture policy is to create a sustainable and rightful food system that supports the health and prosperity of the people, the planet, and the profit (3Ps)Goals

The proposed policy intends to:

- Contribute to achieving SDGs 1-17 by improving environmental protection and sustainability in agriculture on national territory, including boosting organic land management.

- Increase organic exports and domestic sales to benefit farmers and companies nationwide.

- Increase national consumption of organic foods to improve nutrition and health.

Objectives

To attain those goals, the proposed policy aims at the following Objectives:

- 1. The policy aims to initiate the elevation of sustainable agricultural methods that are ecologically safe, socially acceptable, and economically viable in Balochistan. It will emphasize supporting farmer livelihoods, preserving soil health, conserving water resources, ensuring food safety, enhancing biodiversity, and educating and training farmers. All farmers, regardless of gender, will receive guidance on organic agriculture systems and practices.
- 2. The province will provide equitable research assistance for organic agriculture, including agronomic solutions for farmers of all genders and ages. Producers will be encouraged to convert to organic agriculture through incentives such as taxes and subsidies. Organic enterprises will be assisted in their export marketing efforts. To assist industry expansion, the government will collaborate with a national organization for the organic sector.
- 3. National producers would have access to credible organic assurance programs, ensuring the quality of organic products. Consumer awareness of organic food and agriculture will be extensively promoted. Stakeholders would have easy access to detailed information about organic agriculture and marketplaces. Section I. Key Challenges in Promoting Organic Agriculture

The agriculture sector in Balochistan confronts various challenges, with the most notable issues outlined below:

Low Productivity:

- a) Crop yield growth has not kept pace with provincial population growth (2.4%).
- b) Low yield growth for major crops, including wheat, rice, maize, and vegetables.
- c) Negative yield growth for fruits.
- d) Despite low crop yields, agriculture remains vital for employment and livelihood in rural areas.
- e) Population pressure on resources has led to a decline in factor productivity.
- f) Potential for increased productivity by addressing yield gaps and expanding cultivated areas.

Climate Change:

- a) Balochistan faces high exposure to climate change vulnerabilities, resulting in droughts and increased temperatures.
- b) High sensitivity and low adaptive capacity to climate change.
- c) Health repercussions include food insecurity, malnutrition, heatstroke, respiratory diseases, etc.
- d) District-level Climate Risk and Hazard Assessment Classification of Balochistan is needed.

Land Fragmentation:

- a) Nearly 70% of agricultural holdings are small, covering 16% of the farm area.
- b) Small farms limit the use of machinery, investment, and overall productivity.

c) Challenges in adopting technology and low incomes for small farmers.

Lack of Quality Inputs:

- a) Limited access to quality seeds and appropriate fertilizer.
- b) Inadequate presence of seed dealers in Balochistan.
- c) Inaccessibility to quality seeds contributes to low yields.

Weak Institutional Framework:

- a) The institutional framework for agriculture research and extension does not match field requirements.
- b) Inadequate structure for training in the crop sub-sector.
- c) Need for reorganization to make research and extension responsive to local needs.

Weak Market Access and Information:

- a) Weak agriculture marketing system with only two regulated markets.
- b) Farmers often sell produce to middlemen without market price knowledge.
- c) Limited access to broader provincial markets and marketing information.
- d) Inadequate storage, and weak infrastructure for transport, processing, and packaging facilities.

Low Public Funding:

- a) Agriculture, including livestock, contributes nearly one-third of the GDP of Balochistan.
- b) Provides a primary source of income for almost 75% of the population.
- c) Budget allocations under Annual Development Plans (ADP) are not proportional to sector size.
- d) Agriculture contributed less than 2% of provincial ADP from 2008/2009 to 2010/2011. Allocations for agriculture and water combined declined from 21.7% in 2012/13 to 12.2% in 2019/2020.
- e) Rising recurring expenditure has squeezed fiscal space for the development budget.

Certification and Labeling Standards Gap:

- a) The deficiency in robust certification and labeling standards poses a significant challenge in the organic agriculture sector.
- b) Consumers face difficulty discerning authentic organic products due to the absence of standardized certification and labeling.
- c) Farmers encounter hurdles in effectively marketing their products as organic, lacking a universally recognized set of standards.
- d) The need for a comprehensive certification framework is evident to establish credibility in the organic product market.

As the organic sector in the region is still in its early stages, it calls for robust policy support to effectively meet the rising market demand. This support is crucial to harness untapped public good opportunities, ensuring the availability of substantial volumes and high-quality products, alongside the development of a resilient supply chain infrastructure.

Section II. References to Related Policies:

National Environmental Policy (2005) states that in order to expand agriculture and livestock in a sustainable manner, the government may;

- Promote organic farming.
- Promote integrated pest management and discourage indiscriminate use of agrochemicals.

National Climate Change Policy (2012) and the Final Updated National Climate Change Policy (2021) mention that to restrict or at least slow down the growth rate of nitrous emissions, the government may

- Focus on integrating indigenous knowledge, cutting-edge technology, and scientific research to drive a sustainable green revolution.
- Encourage the adoption of better agricultural and livestock management practices, reducing the usage of artificial fertilizers.
- Identify techniques to reduce nitrous oxide emissions from agricultural soils.

National Food Security Policy (2018) explains how the use of agrochemicals (pesticides and fertilisers) indiscriminately, along with the incorrect disposal of municipal waste, sewerage, and industrial water, are contaminating the surroundings and systems used in food production. In order to stop this, the government could;

- Encourage the use of biofertilizers and biopesticides while reducing the usage of chemicals.
- Encourage and create the use of crop wastes, animal dung, and compost from biowaste from cities for organic fruit, vegetable, and nursery production.
- Encourage organic farming and provide certification or accreditation for certain areas.
- Establish institutional capability at the federal and provincial levels to monitor food safety from chemicals and contaminants.

Agriculture and Food Security Policy states that excessive chemical use, inadequate post-harvest handling, processing, and pesticide abuse have resulted in low-quality and often dangerous food reaching consumers.

- The agriculture and food security policy aims to provide stable access to nutritious and safe foods for all segments of the population.
- Organic farming practices can enhance the nutritional value of food and improve consumer well-being.

The goals of **Pakistan's second National Biodiversity Strategies and Action Plans** (NBSAP) (2017-2030) for achieving the **Aichi Biodiversity Targets and Sustainable Development Goals** are;

• Pushing for greater understanding of the ways that ecosystem services and biodiversity support human well-being, maintain development goals, and encourage integration with important industries like agriculture.

Sustainable Development Goals of the UN (SDGs)

Goal 1: No Poverty: Eliminate poverty in all forms everywhere.

Goal 2: Zero Hunger: eliminate hunger, improve food security and nutrition, and promote sustainable agriculture.

Goal 3: Good Health and Well-Being: Ensure healthy lifestyles and promote well-being for people of all ages.

Goal 4: Quality Education: Ensure inclusive and equitable quality education for everyone and encourage lifelong learning opportunities.

Goal 5: Gender Equality: Ensure gender equality and empower all women and girls.

Goal 6: Clean Water and Sanitation: Ensure universal access to water and sanitation, as well as their sustainable management.

Goal 7: inexpensive and Clean Energy: Ensure that everyone has access to inexpensive, dependable, sustainable, and contemporary energy sources.

Goal 8: Decent Work and Economic Growth: Encourage sustained, inclusive, and sustainable economic growth that is full and productive.

Goal 9: Industry, Innovation, and Infrastructure: Create robust infrastructure, encourage inclusive and sustainable industry, and support innovation.

Goal 9: Industry, Innovation, and Infrastructure: Build a strong infrastructure, promote inclusive and sustainable industries, and foster innovation.

Goal ten is to reduce inequality both inside and between countries.

Goal 11: Develop cities and human settlements that are inclusive, safe, resilient, and sustainable.

Goal 12: Responsible Consumption and Production: Develop sustainable consumption and production habits.

Goal 13: Take rapid action to combat climate change and its implications.

Goal 14: Life Below Water: Conserve and sustainably use oceans, seas, and marine resources to promote sustainable development.

Goal 15: Life on Land: Protect, restore, and promote the sustainable use of terrestrial ecosystems; sustainably manage forests; combat desertification; and halt and reverse land degradation and biodiversity loss.

Goal 16: Peace, Justice, and Strong Institutions: Promote peaceful and inclusive societies for long-term development, promote equitable access to justice for all, and build effective, accountable, and inclusive institutions at all levels.

Goal 17: Partnerships for Achieving the Goal: Improve implementation mechanisms and revitalize global partnerships for sustainable development.

UNITED NATIONS CONVENTION ON BIOLOGICAL DIVERSITY (CBD)

The Convention on Biological Diversity, a result of the Conference on Environment and Development, supports all of the major habitat types found in the world, including forests, agricultural land, dry and subhumid lands, oceans and coastal areas, inland waters, mountains, and islands. It also supports related cross-cutting issues like protected areas, access and benefit sharing, incentives, and invasive species. The CBD is directly supported by and consistent with organic agriculture legislation.

KYOTO PROTOCOLS ON CLIMATE CHANGE

As part of a larger effort to combat the negative effects of climate change, Member States are required by the 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) and related post-Kyoto Protocols, such as the 2001 Marrakesh Accords and the Paris Agreement on Climate Change (2015), to support sustainable agricultural practices and the adoption of organic science.

The International Treaty on Plant Genetic Resources - encourages Member States to establish and preserve suitable legal and regulatory frameworks that will enable the sustainable exploitation of plant genetic resources for food and agriculture. Policies should

also encourage the creation and upkeep of various farming systems in order to improve the sustainable use of agricultural biological variety and other natural resources.

FAO/WHO Codex Alimentarius Commission Guidelines - Guidelines for the production, processing, labeling, and marketing of foods produced organically are provided by the FAO/WHO Codex Alimentarius Commission on organic goods. The rules describe the basic processes involved in growing organic food, from farming to processing, storing, and marketing final products. They give Member States the freedom to establish their standards while taking distinctive national traits into account.

Agreement of Trade-Related Aspects of Intellectual Property Rights (TRIPS) - Article 27(3)(b) in particular mandates that Member States protect plant varieties by effective legal means, such as patents. This would lessen the drawbacks of modern farming methods and high-yielding hybrid and exotic varieties, but it will minimize the importance of agricultural biodiversity and conventional knowledge. For this reason, a lot of traditional food crops and varieties might be overlooked.

Stockholm Convention on Persistent Organic Pollutants - was enacted in 2001 and went into force in 2004. It requires the parties to take steps to remove or minimize the risk of exposure to chemicals that build up in the fatty tissues of people and wildlife, linger in the environment for extended periods, spread widely across the globe, and have negative effects on the environment or human health.

Section III. Definition and Principles of Organic Agriculture

This section delineates the definition and fundamental principles that underscore organic agriculture, providing a comprehensive understanding of its core tenets and guiding principles.

Organic Agriculture is defined as;

According to IFOAM: Organic agriculture is a production system that maintains ecosystems, people, and soil health. Instead of using inputs that have negative impacts, it depends on ecological processes, biodiversity, and cycles that are suited to local conditions (IFOAM General Assembly, 2008).

According to USDA Organic standards: A production system that complies with this section's regulations and the Organic Foods Production Act integrates biological, mechanical, and cultural practices to adapt to site-specific conditions and encourage resource cycling, ecological balance, and biodiversity preservation.

According to European Commission Regulation (EU) 2018/848: A growing number of consumers are demanding products made with natural ingredients and processes, so organic production is an all-encompassing system of farm management and food production that combines the best practices for preserving the environment and combating climate change, a high level of biodiversity, the preservation of natural resources, and the application of strict standards for animal welfare and production.

According to the Oxford Dictionary of Environment and Conservation: The process of growing crops without the need for inorganic inputs, including insecticides and fertilisers. Organic materials like compost, green manure, and animal dung are used to make fertilizer.

According to Zoysa and Waisundara, 2022: Numerous techniques that are part of organic agriculture include managing ecosystems through farming, integrating crop and livestock systems, producing a wide range of goods, and relying on natural pest and disease control rather than traditional chemical treatments (Zoysa and Waisundara, 2022).

According to the Dictionary of Agroecology: The production approach known as "organic agriculture" is founded on agricultural practices that do not involve the use of synthetic pesticides, genetically modified organisms (GMOs), or products generated from GMOs. In addition to minimizing input and fossil energy use, organic agriculture also aims to minimize its negative effects on the environment by encouraging natural processes like the recycling of organic waste (Sanner et al., 2018).

Organic agriculture is based on the four principles of health, ecology, fairness, and care.

1. The Principle of Health:

- a. Understanding the interdependence of soil, plants, animals, people, and the earth, organic agriculture aims to maintain and improve the health of the entire ecosystem.
- b. Its goal is to create wholesome, high-quality food that promotes general health and preventive medicine.
- c. Steer clear of pesticides, fertilizers, animal medications, and food additives that could be harmful to your health.

2. The Principle of Ecology:

- a. Because organic agriculture is based on living ecological systems, it cooperates with and models these systems to support and improve them.
- b. Farming approaches prioritize recycling and ecological processes to fit within natural cycles and ecological balances.
- c. It is crucial to adapt to the environment, scale, culture, and local conditions. Reducing inputs through recycling, reuse, and effective resource management are key components of this strategy.

3. The Principle of Fairness:

- a. Relationships fostered by organic agriculture guarantee equity in the shared environment and chances in life.
- b. Fairness promotes a high standard of living for all parties concerned and is typified by equity, respect, justice, and stewardship.
- c. Giving everyone—including animals—a high quality of life and supporting food sovereignty and poverty alleviation are prioritized.
- d. Open and equitable systems of production, distribution, and trade that take into consideration the true costs to the environment and society are necessary for justice.

4. The Principle of Care:

- a. To safeguard the environment and the health and welfare of present and future generations, organic agriculture is managed with caution and responsibility.
- b. Because organic agriculture is a living, dynamic system, its practitioners must respond with caution and responsibility to both internal and external demands and situations.
- c. Health and well-being are not compromised in the pursuit of increased production and efficiency. Considering our inadequate understanding of ecosystems and agriculture, evaluating new technology and reviewing established practices are imperative.

Section IV. Institutional framework

Sub Section IV-1: Establishment of Provincial Organic Agriculture System

For the support of organic agriculture in the Province the Balochistan Government will institute a Provincial Organic Agriculture System. This organizational framework will be administered through an Organic Agriculture Desk, staffed by dedicated professionals under the jurisdiction of the Government of Balochistan. Annual budget allocations will be meticulously assigned to sustain and enhance the operations of the Organic Agriculture System.

Sub-Section IV-2: Provincial Organic Agriculture Committee

In advancing the cause of organic agriculture, the Government of Balochistan, in collaboration with the Agriculture Department, is set to establish a dynamic Provincial Organic Agriculture Committee. This committee will comprise essential stakeholders, including:

- a. Government staff (integral to the Organic Desk)
- b. Provincial Agriculture Departments
- c. Academia (representatives from Agriculture Universities)
- d. Organic producers and processors
- e. Organic vendors or merchants
- f. Organic consumers Organic support organizations (NGOs, research entities, consultancies, certifiers, etc.)

The Organic Agriculture Committee shall take an active role in the following processes:

- a. The process of modifying this policy and its associated documentation.
- b. The creation of natural action plans.
- c. Complementary rules and guidelines are being developed.
- d. Consultation with regional, national, and global stakeholders regarding all aforementioned procedures.
- e. General instructions and direction for carrying out the Organic Agriculture Programme.

Section V. Areas of Government Interventions

The Government of Balochistan will implement the following steps in support of the growth of organic agriculture as part of its Organic Agriculture Programme by the year 2024 to fulfill the goals of this Policy:

Sub Section V-1: Innovation and Knowledge Dissemination of Organic Agriculture:

Information and communication technology is changing people's lives all around the world in the modern period. Every aspect of daily life uses information technology, and the agricultural sector is no different. The government of Balochistan is among the first provinces to have embraced and applied this technology in the agriculture sector for the benefit of its farmers, recognizing the significance of this innovative and useful development.

Sub Section V-1(i): Policy Measures:

- a. The Agriculture Extension Department's Tele-Farming System is being developed.
- b. Creating a smart Agriculture Centre by upgrading the Bureau of Agriculture Information
- c. Creation of an effective surveillance unit (an independent monitoring unit) at the Smart Agriculture Centre and Bureau of Agriculture Information
- d. Working together with telecom companies and other pertinent organizations to guarantee service delivery across the province e. Including ICT in the curricula of agriculture universities and other degree-granting institutions
- e. The use of satellite imagery and cooperation with SUPARCO for crop data and yield projections
- f. The use of the Internet of Things (IoT) in agriculture
- g. Financial support and incentives for IT businesses involved in the agriculture sector
- h. The creation of an early warning system based on ICT
- i. The encouragement of gender-friendly ICT development and the fair distribution of information to marginalised groups
- j. Introduction of IoT^s (Internet of Things) in Agriculture g. Use of Satellite imagery and collaboration with SUPARCO regarding crop data and yield estimations
- k. Financial support and incentives for the IT companies engaged in the Agriculture sector
- I. Promoting gender-friendly ICT development and ensuring equitable access of marginalized groups to information and dissemination
- m. Efficient use of print and electronic media regarding the awareness of farmers as well as the general public on Organic Agriculture
- n. Advance the use of precision agriculture technologies, particularly in the water sector. Encourage the production of cutting-edge machinery and equipment locally.
- o. Encouragement of market-driven research
- p. Particular assistance for aspiring scientists and business owners (with a focus on gender mainstreaming in particular)
- q. Active participation of all parties involved, including the government, nongovernmental, and business sectors as well as the chambers of commerce, agriculture, board of investment and trade, farmers' organizations, development partners, and donors.

Sub Section V-2: Climate Change

Organic farming methods may be impacted by climate change and extreme weather events like droughts and floods, which could result in crop failures and lower yields. Temperature increases have the potential to cause contamination and spoiling. In a setting with moderate warmth and elevated atmospheric carbon dioxide, some plants may grow faster. However, more intense heat, droughts, and floods may reduce production.

Sub Section V-2(i): Policy Measures:

- a. Research focused on climate change is urgently needed.
- b. Lasbela University of Agriculture, Water, and Marine Sciences has a climate change center. To combat the effects of climate change, Uthal, and Lasbella should create

climate-resilient models, reports, and advisories for the province's researchers and farmers.

- c. Organizations should build their institutional capacity.
- d. Farmers should be made aware of the importance of adopting and promoting climate-resilient practices.
- e. They should approach international organizations for assistance.
- f. The launch of insurance programs for organic crops.
- g. Adoption and promotion of contemporary technology.

Sub Section V-3: Enhancing Agricultural Research and Extension in Balochistan for Organic Farming:

Balochistan's agricultural sector requires a robust research and extension framework to address challenges effectively and propel sustainable development.

Sub Section V-3 (i) Policy Measures:

- a. Regularly strengthen the extension system through systematic capacity building for field assistants.
- b. Professionals with specialized knowledge should conduct training sessions to empower extension agents in educating farmers and stakeholders on specific agricultural issues.
- c. Reorganize the extension service to address zone-specific challenges, allowing for more targeted and specialized advice on particular crops or management practices.
- d. Implement decentralization of the extension system to enhance performance from the grassroots level, involving farmers in the extension process through Farm Service Centers.
- e. Advocate for the establishment of the Balochistan Agriculture Research Board (BARB) to foster strong linkages between research, extension, and farmers, ensuring demand-driven extension services.
- f. Encourage the participation of the private sector, NGOs, and farmers' associations in extension services through contractual agreements. This can involve either charging for services or providing them for free in conjunction with input sales.
- g. Maintain a supervisory role for the Department of Agriculture (DoE) to ensure the quality of services and extend support to those unable to pay for extension services.
- h. Develop key performance indicators for extension services, utilizing a digitalized system to monitor the outcome-based performance of extension agents.
- i. Establish farmer field schools in Balochistan as platforms for extension agents to engage with farmers, understand their challenges, and collaboratively develop solutions with specialists and experts.
- j. Allocate resources for the development of an efficient agricultural extension system, providing technical support to farmers for efficient crop management.
- Invest in human capital engaged in extension services, offering incentives such as performance-based salaries, rewards, and promotions to motivate extension agents. Raise the minimum qualifications required for extension agents.

- I. Conduct gender sensitization for male extension agents and actively recruit female extension agents to ensure gender-inclusive extension services.
- m. Train extension agents in integrated pest management and efficient water management to enhance farmers' knowledge and promote sustainable agricultural practices, including water-efficient technologies like tunnel farming.

Sub Section V-4 Enhancing Quality of Organic GMO-free Seeds in Balochistan:

Genetically Modified Seed (GMO) free Seed is paramount for Organic agriculture, as the success of other inputs depends on it. Balochistan faces a two-fold challenge related to the lack of a certified seed system. Firstly, there is a dearth of established seed markets, hindering farmers' access to high-quality seeds. Secondly, local farmers heavily rely on traditional practices, often lacking in the quality of certified seed. Additionally, the market suffers from limited availability of quality rootstock for fruits and vegetables. Nurseries require legislative support, financial assistance, and technical guidance.

Sub Section V-4(i): Policy Measures:

- a. It is imperative to establish the Balochistan Seed Council (BSC)to ensure the availability of quality seeds in the market.
- b. The Department of Agriculture and Cooperatives (DoAg&C) should coordinate with FSC&RD to implement federal laws, such as the Seed and Plant Breeder Right Act, ensuring effective enforcement.
- c. Create an enabling environment and regulatory mechanisms to attract private sector participation in agriculture factor markets.
- d. Does Ag&C ensure improved quality of rootstock for fruits and vegetables by establishing nurseries in the province?
- e. Encourage the development of village seed banks, aiming to enhance access to quality seed and improve genetic purity through the 'one variety-one village' concept. Village seed banks have been shown to positively impact local agriculture productivity.
- f. Conduct training programs for farmers to promote the use of quality seed for crops and rootstock for fruits.

Sub Section V-5: Improve the production of organic agriculture and technology support

Farmers' eagerness to grow their businesses and/or convert to organic farming depends on adequate production and technological support. This priority area should raise demand for scientific-based methodologies, techniques, technologies, and support systems for organic production to guarantee their availability, affordability, and accessibility. To achieve sustainable development of organic agricultural production, it is necessary to strengthen the implementation of the following: soil fertility and ecosystem management, organic product certification/quality control, alternative rural financing for organic agriculture, and rural and infrastructure development and management.

Sub Section V-5 (i) Policy Measures:

- a. Increase public understanding of the advantages of organic farming as an alternative. agriculture production system with distinctive features and benefits for agriculture, economic conditions, and the environment;
- b. Create farmer cooperatives and associations to expand organic farming production that satisfies both local and international demand;
- c. Ensure the availability of high-quality seed, semen, planting supplies, and all other agricultural inputs required for organic farming;
- d. Create and maintain a database on the production of organic food, the finest possible technology, consumption, processing, and marketing methods to assist in planning and decision-making;
- e. Give farmers tax advantages starting with inputs for organic agriculture;
- f. Create a recognition program for the top organic exporters and producers.

Sub Section V-6: Handling, storing, and value addition following harvest

Lowering post-harvest losses requires excellent post-harvest management because most agricultural products have a limited shelf life. Agricultural products can be used in a multitude of ways for optimal storage and value addition, which can decrease reliance on certain markets, increase employment along value chains, and increase overall foreign exchange profits from higher-value items. This target area will guarantee that relevant agricultural technologies and support systems are available, on a scientific basis, and at a fair price for post-harvest processing, storage, and value addition.

Sub Section V-6(i): Policy Measures:

- a. Encourage the establishment of community-based learning centers and demonstration farms
- b. Research to create processing and post-harvesting methods for a variety of organic crops
- c. Encourage the highest standards for the primary, secondary, and tertiary processing of goods from organic agriculture
- d. Offer financial incentives for organic product value enhancement
- e. Encourage investments in essential utilities and infrastructure to support agroprocessing, value addition, and storage.

Sub Section V-7: Accreditation, certification, and standard

Organic produce is accelerated, access to premium markets is improved, and farmer incomes are increased through amplified development and promotion of quality standards. To distinguish organically produced goods from other locally grown produce and to advertise organic products in both domestic and international markets, a local certifying body ought to be set up. as well as promote knowledge of the standards and certification programs for organic agriculture at all stages of the value chain.

Sub Section V-7(i) Policy Measures:

- a. Create and put into place suitable standards of quality for the production, handling, distribution, and marketing of organic produce;
- b. Encourage application of certification and standards for organic farming;
- c. Encourage affordable certification for organic farming;

- d. Encourage international recognition of local certification firms by supporting their accreditation;
- e. Encourage standardization and mutual recognition practices at the national, regional, and global levels and sale of organic products.

Sub Section V-8: Development and promotion of the market

Pakistan's organic agriculture produce would fetch good prices from prestigious local, regional, and international markets. This would boost domestic earnings and standard of living, government revenue from foreign exchange transactions, as well as organic goods productivity. To encourage market development, the Government should improve market research, informational availability, and farmer skill development.

Sub Section V-8(i): Policy Measures:

- a. Create and retain an organic agriculture data bank for quick information access and distribution to all stakeholders
- b. Spread knowledge of the advantages of organic produces
- c. Foster connections between farmers and consumers through contract growing and other supporting systems that offer consistent markets
- d. Support the vigorous export promotion, including initiatives to increase local consumption of organic agriculture goods at home
- e. Provide all businesses and stakeholders with sufficient market knowledge;
- f. Support efforts to develop the export sector
- g. Encourage the construction of market arrangements, such as regional pack houses (cool storage, cooled transportation, and adequate airport cooling facility)
- h. Ensure the availability, affordability, and capacity of airfreight
- i. Develop trade negotiation skills as well as a thorough export database.

Sub Section V-9: Establishment and Modernization of Organic Agriculture Output Market in Balochistan:

The agricultural output marketing system in Balochistan is marked by multiple intermediaries involved in selling farmers' produce to consumers. With a significant portion of fruit production (70%) being marketed and consumed outside the province, wholesale markets play a crucial role as a linkage platform between producers and consumers. While the private sector dominates these markets, the government's role is primarily regulatory and developmental. Small farmers face challenges due to the lack of storage facilities, compelling them to sell their produce to intermediaries, and impacting their socio-economic conditions. The absence of timely market information hinders farmers' decision-making, and low standards for quality control affect international competitiveness.

Sub Section V-9(i) Policy Measures:

- a. Reform the existing Agriculture Produce Marketing Act of 1991 governing agriculture produce markets in Balochistan. Alternatively, consider adapting the Punjab Agriculture Marketing Regulatory Authority Act 2020 for market modernization.
- b. Ensure the reformed law facilitates the establishment of wholesale market committees through public-private partnerships, farmers' markets, virtual markets, and farm service centers, and introduces a system of commodity standards and grading.

- c. Facilitate the establishment of an Agriculture Management Information System (AMIS) by the Department of Agriculture and Cooperatives (DoAg&C).
- d. AMIS will provide timely market information to farmers, empowering them to make informed decisions about their farming activities.
- e. Allocate funds for the modernization of wholesale markets, development of community storage facilities for farmers, creation of farm-to-market infrastructure, and provision of micro-credit facilities.
- f. Modernization efforts should focus on enhancing the efficiency and competitiveness of the agriculture output market.

Sub Section V-10: Conservation of indigenous knowledge and sustainable use of natural resources

By creating integrated farm nutrient cycle systems, sustainable organic farming aims to preserve biodiversity and balance the ecosystem. Climate variations impact microorganisms, especially vector organisms and organic crops. These variables also affect surface water, wind, humidity, precipitation, and vegetation. We should support initiatives that ensure that natural resources are used sustainably for present and future generations.

Sub Section V-10(i): Policy Measures:

- a. Improve Organic Agriculture production by leveraging cutting-edge indigenous and regional community-based expertise
- b. Encourage the verification, archiving, patenting, and communication of native information
- c. Establish and put into practice soil management plans that emphasise the prudent use of renewable resources.
- d. Encourage environmentally sound programs that are also climate smart in regions vulnerable to natural disasters to assist farmers in adapting to changing weather patterns.

Sub Section V-11: Subsidies Premium Distribution for Organic Supply Chain

Government regulations and commercial conversion incentives, such as cost-sharing transition expenses, premium price, support for research and extension, aiding in market development, and upholding the quality of organic certification, must be used to encourage farmers and other organic supply chain actors to switch to organic agriculture practices.

Sub Section V-11(i): Policy Measures:

- a. Subsidizing the targeted farmers in the form of Profit Money or Premiums they need to switch to organic farming will lessen their dependency on agricultural pesticides.
- b. The farmers should be compensated for any potential losses they may incur during the first three years of the transition to increase the number of farmers who practice organic agriculture.
- c. Farmers must be provided access to organic technical guidance and information, as is widespread environmental knowledge of organic systems, which are becoming more and more well-known worldwide.
- d. Develop a comprehensive framework that outlines the criteria and guidelines for distributing premiums within the organic supply chain. This framework should include mechanisms for determining eligibility, calculating premiums, and distributing funds transparently.

- e. Ensure that all participants in the organic supply chain adhere to recognized certification and compliance standards. This includes organic farmers, processors, distributors, and retailers. Premium distribution should be contingent upon maintaining compliance with these standards, as verified through regular inspections and audits.
- f. Implement a transparent methodology for calculating premiums throughout the organic supply chain. Factors such as production volume, quality standards, sustainability practices, and adherence to organic principles should be taken into account in the premium calculation process.
- g. Encourage fair trade practices within the organic supply chain by ensuring that premiums are distributed equitably among all participants. This includes providing fair compensation to farmers for their organic products and ensuring fair pricing and distribution practices at each stage of the supply chain.
- h. Provide support to organic supply chain participants in accessing premium markets for their products. This may involve assistance with market research, product promotion, distribution networks, and certification processes to help organic products reach consumers willing to pay a premium for organic and sustainably produced goods.
- i. Invest in the development of infrastructure and logistics systems that support the efficient and sustainable movement of organic products through the supply chain. This includes investments in cold storage facilities, transportation networks, packaging solutions, and distribution hubs to ensure the timely delivery of high-quality organic products to market.
- j. Implement capacity-building and training programs to enhance the skills and knowledge of participants within the organic supply chain. This may include training on organic farming practices, food safety standards, quality control measures, and sustainable production methods to improve the overall efficiency and competitiveness of the supply chain.
- k. Allocate funds for research and innovation initiatives aimed at improving efficiency, productivity, and sustainability within the organic supply chain. This may involve investments in technology development, process optimization, product development, and waste reduction strategies to enhance the overall resilience and viability of the organic supply chain.
- I. Establish transparent and accountable mechanisms for monitoring and evaluating premium distribution within the organic supply chain. This includes regular reporting requirements, performance audits, and stakeholder engagement processes to ensure that premium funds are used effectively and ethically.

Sub Section V-12: Establishment of Buffer Zones for the protection of Organic farmlands

Farmers don't live in isolation. To shield organic crops from pesticide spray drift caused by nearby farms, organic producers need to create buffers. A buffer zone, which is an area of at least 8-100 meters between their crops and land where prohibited substances are utilized, or permanent hedgerows or windbreaks can also be effective. If there is a higher chance of contamination from things like wind-borne pesticides, fertilizer runoff, or cross-pollination by genetically engineered (GE) crops, buffer zones might need to be bigger.

• For organic sites to avoid unintentionally applying a prohibited material to the crop or coming into touch with a prohibited substance applied to nearby land that

is not under organic management, clear, defined boundaries and buffer zones, such as runoff diversions, must be required.

Section VI. Role of Government

Sub-Section VI-1: Policy Implementation Measures

Proposed interventions and actions in the policy document will be implemented by departments of provincial government in collaboration with federal government, donors, national and international organisations, entrepreneurs, private sector partners, and farmer organisations i.e.

-The Chief Minister of Balochistan and the Provincial Government will examine this policy's effective execution and progress on an annual basis.

Sub-Section VI-2: Role of Provincial Government

As the Policy document's guardian, the government of Balochistan shall oversee its general implementation and make the required arrangements for it.

Sub-Section VI-2(i): Policy Measures:

- a. Arrange necessary funds for the implementation of this policy
- b. Take administrative actions for enforcement of this document
- c. Approach the federal government for necessary assistance as and when required
- d. Ensure successful implementation of the policy through stakeholders
- e. Ensure that the legal framework is improved as recommended by this document
- f. Coordinate and collaborate with national and international organisations and donors working for the uplift of organic agriculture.

Sub-Section VI-3: Role of Federal Government

The federal government, which is the nation's federating unit and is in charge of guaranteeing national organic agriculture, needs to offer the greatest support for the implementation of this policy.

Sub-Section VI-3(i): Policy Measures:-

- a. Funding should be made available to facilitate the implementation of this document
- b. Exports of goods derived from organic agriculture should be encouraged
- c. International donors and organizations should be involved in the development of national strategies for organic agriculture in the nation
- d. Coordinated efforts should be made at the local, regonal, and provincial levels
- e. Special incentives and support should be given to women entering the organic agricultural field
- f. Organic agricultural inputs should be subsidized
- g. Start research into seeds for organic vegetables.

Sub Section VI-4: The Government should support the establishment of Organic academic and vocational training programs.

Particularly, the Government should:

- a. Create a pool of academics with experience in organic agriculture to serve as professors and teachers around the country
- b. Confirm that the majority of national agricultural universities and technical education institutes provide courses and study options in organic agriculture.

Sub Section VI-5: The Government shall allocate resources from the general budget for research on organic agriculture.

Particularly, the Government shall:

- a. Encourage the establishment of a national research agenda for organic farming that spans the short, medium, and long terms and is produced through public-private collaboration between the public and commercial sectors
- b. Design one or more special research initiatives with allocated funds specifically for organic research, focusing on the issues indicated in the previously mentioned national research plan
- c. Promote and enable collaboration among local researchers studying organic farming and the global community of organic researchers
- d. Make sure that research on organic farming is carried out collaboratively, drawing on the needs and experiences of farmers as well as traditional knowledge from the area
- e. Share farmer associations and agricultural extension services the findings of your organic research.

Sub Section VI-6: The government will make sure that national agricultural extension services have access to organic advice.

Particularly, the Government shall:

- a. Construct a plan for a multi-year transition towards the complete provision of organic guidance on the entire range of agricultural production activities that are practiced in organic agriculture, and in all regions of the country
- b. Ensure that the National Agricultural Extension Service develops organic agriculture competencies by hiring new staff members or increasing the ability of current staff members to carry out the aforementioned strategy
- c. Develop and carry out institutional connections to guarantee continued communication and collaboration between academic institutions, organic research, and extension services.

Sub Section VI-7: The government will facilitate access to Participatory Guarantee Systems and organic certification at the state level.

Particularly, the Government shall:

a. Establish a cost-sharing program for organic certification, whereby the government will partially or completely fund domestic organic producers' access to third-party certification

- b. Promote the provision of local organic certification services, whether from domestic or foreign organic certifiers, by streamlining the registration process, enhancing the skills of local certifiers, gaining acceptance from other countries, etc
- c. Support farmer groups to establish Internal Control Systems through training and technical assistance programs
- d. Review the relevant legislation and the organic regulation, making changes as needed to guarantee that Participatory Guarantee Systems (PGS) are recognized by the authorities as a reliable method of market verification. Create the appropriate PGS approval processes.

Sub Section VI-8: The Government shall provide state support for the development of organic inputs

Particularly, the Government shall:

- a. In collaboration with the organisations that represent the organic industry, look into the gaps and needs in the delivery of organic inputs to domestic farmers. (Inputs include natural veterinary products, feed, fertilisers, crop protectants, and GMO-free seeds, among other things.)
- b. Create or fund initiatives focused on developing and supplying domestic organic farmers with organic inputs.

Sub Section VI-9: The government will encourage the growth of export and domestic value chains, as well as organic value addition.

Particularly, the Government shall:

- a. Provide government assistance to the private sector to build up the country's organic processing capabilities
- b. Support the growth of particular value chains that introduce domestic organic products into international markets
- c. Promote the growth of domestic value chains by expanding organic marketing channels on the domestic market, diversifying the supply and marketing of organic products, and nurturing the growth of organic value chains.

Sub Section VI-10: The Government shall increase consumer awareness of organic products

Particularly, the Government shall:

a. Promote the promotion and execution of countrywide user marketing for organic products in collaboration with the private organic industry. The purpose of these informational and promotional campaigns is to raise consumer awareness and recognition of organic products while educating consumers, public institutions, schools, and other main stakeholders in the suply chain about the advantages of organic agriculture, particularly its positive effects on the environment, society, and health.

Sub Section VI-11: The Government will facilitate the gathering and sharing of information about the country's organic sector.

Particularly, the Government shall::

- a. Develop and sustain a local system to systematically gather data on the organic sector, such as the number of organic farmers and the regions under organic farming.
- b. Make the data accessible to the general public online and set up a mechanism that takes stakeholder feedback into account when gathering, compiling, and presenting the data
- c. Communicate with global organizations that gather organic data to guarantee compliance with international standards for the compilation of organic data as well as precision, comparison, and consistency with global data compilation procedures
- d. Commence working on a mechanism to determine the annual import and export values of organic products as well as the value of domestic organic sales.

Sub Section VI-12: The Government will promote public-private partnerships for the growth of the organic industry as well as the institutionalization of the national organic sector.

Particularly, the Government shall::

- a. Develop and sustain a local system to collect data on the organic industry in an organized manner, including the number of organic farmers and the areas where organic farming is practiced
- b. Share the data online for public access and establish a system that considers input from stakeholders in the collection, processing, and display of the data. To ensure accuracy, comparability, and coherence with global data compilation procedures, as well as conformity with international standards for the compilation of organic data
- c. Collaborate with international organizations that collect organic data.
- d. Establish a structure to calculate the cost of local organic selling as well as the yearly import and export values of organic items.

Sub Section VI-13: The Government will examine and change current food and agriculture policies that impede the growth of organic agriculture.

Particularly, the Government shall:

- a. Examine the national policies about subsidies and taxes on fertilizers and pesticides, and suggest changes to rebalance the incentives in favor of recycling nutrients on the farm, using natural fertilizers and crop protection materials that are compatible with organic farming, and reducing the use of synthetic fertilizers and pesticides.
- b. Examine the nation's genetically modified organism policy and suggest changes to shield organic producers from the danger of GMO pollution and the consequent loss of the organic market place.
- c. Determine which other food and agriculture policies might harm the organic industry, evaluate them, and suggest changes to the policies to offset the impact.

Pro	Proposed Short-term Action Plan and Their Impact				
S#	ACTION	IMPLEMENTING AGENCY	IMPACT		
1	Establishment of Seed Industry in the province	Agriculture Extension	GMO-free Seeds will be easily available.		
2	Reinforcement of the Directorate of Plant Protection	Agriculture Extension/Research	Pest and disease will be less		
3	Establishment of a Biological Control Laboratory in each zone	Agriculture Extension/Research	The use of Pesticides will be minimized		
4	Establishment of a Monitoring and Implementation Unit in the Department of Agriculture	Agriculture Deptt:			
5	Promotion of Womanhood in Farming and Entrepreneurship Through Financial Inclusion	Agriculture, Finance &Private Sector			
6	Strengthening of Agriculture Parks & Establishment of Agro- Processing & Value Addition Units	Agriculture, Agribusiness Authority			
7	Subsidy for Wheat, Rice, Sugarcane & Oilseed Crops Seed	Agriculture Deptt:			

Proposed long term Action Plan and Their Impact

S#	ACTION	IMPLEMENTING AGENCY	IMPACT
1	Establishing of digital services platform for agriculture extension services in Balochistan	Agriculture Extension, Research &SUPARCO	Improved Service Approach, Fast Info Sharing & Governance
2	Strengthening & Revitalization of Agriculture Marketing Directorate as Agri-business Development Authority	Agriculture Extension MFSC and Chamber of Commerce,	Good Governance, Role of Middle Man Minimalized. Setting Fair Price

3	Harnessing Export Potential of Major Organic Agriculture Commodities	Agri:,Chamber of Commerce & Industries	
4	Public Private Partnership for Establishing Processing & Value Addition Units	P&D, Agriculture/ Chambers of Commerce, Industries	Employment Generation
5	Encouragement of Zoning and Contract Growing	P&D, Irrigation, Agri:, Private Sector & FAO,	Poverty Alleviation Business Opportunity and Employment Generation
6	Research Organic Vegetable Seeds via Public-Private Collaboration	Agriculture, P&D, Private Sector	Saving of Foreign Exchange (25 Mn USD)
7	Establishment of the Center of Excellence for Organic Agriculture	Agriculture Deptt:	Improved Planning, HR & Policy Making

Section VII. Monitoring and Evaluation

Sub Section VII-1: Review and Evaluation of Policy

The provincial government will ensure that the Organic Agriculture Program's implementation and effects on the expansion of the organic industry are regularly reviewed. The business sector will be involved in national organic action plan formation, policy review, and future policy design, etc.

Sub Section VII-2: Role of the Organic Agriculture Committee (OAC)

After analyzing data collected through monitoring and assessment procedures, the Organic Agriculture Committee (OAC) will offer suggestions on institutional and resource allocation to guarantee the best possible operation and effectiveness of the Organic Agriculture Programme during the upcoming implementation periods.

The following performance metrics will be used to track and oversee the policy document's implementation:

POLICY	INDICATORS	MONITORING	FREQUENCY
OBJECTIVES		TOOLS	
 Increase the production of high-quality and safe organic products for both local and export markets. 	 Increased yields and volumes Increased number of hectares under organic farming 	✤ Reports✤ Surveys	 Monthly Quarterly Annually
 To facilitate broad participation in the organic farming sector. 	Increased number of farmers entering the organic farming sector	✤ Reports✤ Surveys	 Monthly Quarterly Annually
 To protect consumers against false, misleading, and unfounded claims. 	 An increased number of people are aware of organic agriculture Increased prosecution of fraudulent claims 	✤ Reports✤ Surveys	 Monthly Quarterly Annually
 To improve competitiven ess and profitability of the 	 Increased sales of South African organic products Increased incomes for 	✤ Reports✤ Surveys	MonthlyQuarterlyAnnually

organic sector both on local and export markets	organic farmers and the sector		
 Provide a framework for regulating the organic sector. 	 Development and promulgation of legislation and regulations for organic farming. Effective, inclusive, and affordable certification system (credible and trustworthy) Accreditation of all certification bodies according to ISO Guide 65 or IFOAM. 	 Reports Surveys 	 Monthly Quarterly Annually

Section VIII. Role of the Ministry of Agriculture

The Ministry of Agriculture would oversee everything, including reporting, keeping an eve on. and handling important policy matters. Additionally, the Ministry of Agriculture will keep taking the lead in addressing matters about trade and connections between other sectors. An execution Committee will oversee policy execution on behalf of the Ministry of Agriculture. The Committee will be chaired by the Secretary of Agriculture and will consist of provincial secretaries of relevant ministries, commissions, and programs as well as members from academia, business, and civil society organizations. The Committee will periodically report to the Chief Minister and the Ministry of Agriculture, reviewing the overall status of federal actions, including the creation and implementation of laws and regulations. Additionally, commissions or councils will be established by the Ministry of Agriculture to oversee and document particular initiatives and actions. One of these will be the Provincial Organic Council, which is made up of relevant federal and provincial government departments, nongovernmental organizations (NGOs/CSOs), and the commercial sector. Its purpose is to resolve matters about organic agriculture and non-compliance. The Ministry of Agriculture will continue to provide general coordination and assistance for many facets of organic agriculture, even though the provinces will take the lead in topics about agriculture. These are going to be:

- a. Addressing local concerns, like the interprovincial commerce in goods and services, and crafting rules and regulations so that local and federal laws and regulations complement one another rather than clash
- b. Coordinating research initiatives across national, international, and provincial systems while sharing innovations, outputs, best practices, and knowledge

- c. Restructuring the National Agricultural Research System (NARS) to increase coordination and connections in the least amount of time
- d. The advancement of global collaboration among countries through bilateral agreements, the UN, and other international partners
- e. Managing provincial matters, such as the trade in inputs and outputs across provinces, and crafting legislative and regulatory measures that make sure local and federal laws and regulations complement one another rather than clash.
- f. Monitoring of food and agricultural supplies to guarantee their sufficiency and timeliness, quality and safety, and control over the import and export of necessities
- g. Monitoring national quarantine and transboundary pests and diseases and coordinating management efforts
- h. Providing guidance on tariffs and international trade, particularly as they pertain to phytosanitary and quarantine regulations
- i. Cooperation and collaboration with other organizations whose work is related to organic agriculture
- j. Analysis of the effects of programs put in place to address issues of hunger, poverty, and health through systematic, routine data gathering at the farm and home levels.

Section IX. Sustainability of Organic Agriculture Policy

The following tactics will be used to guarantee the sustainability of the Organic Agriculture implementation:

- a. A plan for mobilising resources will be devised in order to obtain pledges from trust funds, the corporate sector, the government, and development partners
- b. The provincial Government will initially fund the policy, with support from other players, primarily the private sector
- c. To ensure that the best agronomical farming techniques are implemented sustainably at the production level, farmers will be organised and mobilised along specified enterprises by the government, with help from the agriculture extension personnel
- d. In order to mobilise support and commit resources for the policy's implementation, awareness among stakeholders and actors along the Organic Agriculture value chain will be raised and enhanced
- e. The Organic Agriculture Farmer Organisations and Associations will also enhance and support farmers' ability to decrease postharvest losses by offering better storage and trade facilities
- f. The government will create and support farmer cooperatives for Organic Agriculture at the marketing level to guarantee appropriate processing and value addition, packaging, and produce labelling to satisfy local, national, and worldwide requirements. Farmers who practise organic agriculture will have some assurance of a sustainable market thanks to these activities
- g. The government will eventually allow farmers that practise organic agriculture to use the Warehouse Receipt System, protecting their harvest and preventing contamination during processing and storage.

Section X. List of Allowed Substances

Appendix 1: Fertilizers and Soil Conditioners

Substances Description, Compositional Requirements	Conditions for Use
I. Plant and Animal Origin	
Farmyard manure, slurry, and urine	Shall not constitute the main source of nitrogen in the absence of complementary and additional nitrogen-generating practices on the farm and shall not be from conventional intensive livestock production systems without prior permission from the conformity assessment body
Guano	
Source-separated human excrement	Only in compliance with requirement 5.4.4.5.
Vermicastings	
Blood meal, meat meal, bone, bone meal	
Hoof and horn meal, feather meal, fish and shell products, wool, hide, fur, hair, dairy products	
Biodegradable processing by-products, plant or animal origin, e.g. by-products of food, feed, oilseed, brewery, distillery, or textile processing	Free of significant contaminants; or composted before bringing onto organic land and confirmed free of significant contaminants
Crop residues and plant materials, mulch, green manure, straw	
Wood, bark, sawdust, wood shavings, wood ash, wood charcoal	Only if not chemically treated
Seaweed and seaweed products	As far is obtained by: (i) physical processes including dehydration, freezing, and grinding; (ii) extraction with water or potassium hydroxide solutions, provided that the minimum amount of solvent necessary is used for extraction; (iii) fermentation.
Peat (prohibited for soil conditioning)	Excluding synthetic additives; permitted only in horticulture (floriculture, nursery plants, potting mixes).
Plant preparations and extracts	
Compost made from ingredients listed in this appendix,	
spent mushroom waste, humus from worms	

and insects.	
urban composts and household wastes from	
separate sources which are monitored for	
contamination	
II. Mineral Origin	
Calcareous and magnesium amendments:	
Limestone, gypsum, marl, maerl, chalk,	
sugar beet lime,	
calcium chloride,	
Magnesium rock, kieserite, and Epsom salt	
(magnesium	
sulfate)	
Other non-synthetic calcareous and	
magnesium amendments	
Clay (e.g. bentonite, perlite, vermiculite,	
zeolite)	
Mineral potassium (e.g. sulfate of potash,	Shall be obtained by physical
muriate of potash, kainite, sylvanite, patenkali)	procedures but not enriched by
	chemical processes
Phosphates in non-synthetic form (e.g. rock	Cadmium content less than or equal
phosphate, colloidal phosphate, apatite)	to 90 mg/kg of P ₂ O ₅
Pulverized rock, stone meal, crushed stone.	
Sodium chloride	
Sulfur	
Trace elements, e.g.:	Use is restricted to cases where
boric acid, sodium borate, calcium borate,	soil/plant nutrient deficiency is
borethanolamin,	documented by soil or tissue testing
cobalt-acetate, cobalt-sulphate,	or diagnosed by an independent
copper oxide, copper sulfate, copper	expert.
hydroxide, copper silicate, copper	Micronutrients in either chloride or
carbonate, copper citrate	nitrate forms are prohibited.
ferric oxide, ferric sulfate, ferrous sulfate,	Micronutrients may not be used as a
Iron citrate, iron suitate, or iron tartrate	defoliant, herdicide, or desiccant.
manganous oxide, manganese suitate, and	
manganese carbonale	
selenic aciu, selenious aciu,	
zinc carbonate, zinc oxide, zinc silicate, and	
zine carbonale, zine oxide, zine silicale, and	
Biodegradable processing by-products of	
microbial origin	
e a by-products of brewery or distillery	
processing	

Microbiological preparations naturally occurring organisms	based	on	
IV. Others			
Biodynamic preparations			
Calcium lignosulfonate			

Appendix 2: Crop Protectants and Growth Regulators

Substances Requirements	Description,	Compositional	Conditions for Use
I. Plant and Anima	al Origin		
Algal preparations			As far is obtained by: (i) physical processes including dehydration, freezing, and grinding; (ii) extraction with water or potassium hydroxide solutions, provided that the minimum amount of solvent necessary is used for extraction; (iii) fermentation.
Animal preparation	s and oils		
Beeswax			
Chitin nematicides	(natural origin)		Not processed by acid hydrolysis
Coffee grounds			
Corn gluten meal			
Dairy products (e.g	. milk, casein)		
Gelatin			
Lecithin			
Natural acids (e.g.	vinegar)		
Neem (Azadirachta	indica)		
Plant oils			
Plant preparations			
Plant-based repelle	ents		
Propolis			
Pyrethrum (Chrysa	nthemum cineraria fo	blium)	The synergist Piperonyl butoxide is prohibited.
Quassia (Quassia a	amara)		
Rotenone (Derris e spp.)	illiptica, Lonchocarpu	us spp. Tephrosia	Not near waterways. Subject to approval by the CB
Ryania (Ryania spe	eciosa)		
Sabadilla			
II. Mineral Origin			
Chloride of lime (ca	lcium chloride)		
Clay (e.g. bentonite	, perlite, vermiculite.	zeolite)	

Copper salts (e.g. sulfate, hydroxide, oxychloride,	Max 6 kg Cu/ha per year (on
octanoate	a rolling average basis)
Diatomaceous earth	
Light mineral oils (paraffin)	
Lime sulfur (Calcium polysulfide)	
Potassium bicarbonate	
Calcium hydroxide (hydrated lime)	For application on aerial
	plant parts only
Silicates (e.g. sodium silicates, quartz)	
Sodium bicarbonate	
Sulfur	
Fundal preparations (e.g. spinosad)	
Bacterial preparations (e.g. Bacillus thuringiensis)	
Release of parasites, predators, and sterilized insects	
Viral preparations (e.g. granulosis virus)	
IV. Others	
Biodynamic preparations	
Carbon dioxide	Shall not be the result of
	burning fuel solely to
	produce carbon dioxide;
	allowed only as a by-product
	of other processes.
Ethyl alcohol	
Homeopathic and Ayurvedic preparations	
Iron phosphates (for use as molluscicide)	
Seasalt and salty water	
Soft soap	
V. Traps, Barriers, Repellents	
Physical methods (e.g. chromatic traps, mechanical traps)	
Mulches, nets	
Dharamanaa in trans and diananaara anly	

Appendix 3: List of Approved Additives¹ and Processing / Post-Harvest Handling Aids

Substances of certified organic origin must be used if commercially available. If organic sources are not available, natural sources must be used if commercially available. Only if organic and natural sources are not available, synthetic forms of the substances below be used.

International Numbering System (INS)	Product	Additive	Processin g. & Post Harvest. Handling. aids	Limitation/ Note
INS 170	Calcium carbonate	Х	Х	Not for coloring
INS 184	Tannic acid		Х	Filtration aid for wine
INS 220	Sulfur dioxide	Х		Only for wine
INS 224	Potassium metabisulphite	х		Only for wine
INS 270	Lactic acid	Х	Х	
INS 290	Carbon dioxide	х	Х	
INS 296	L-malic acid	Х	Х	
INS 300	Ascorbic acid	Х		
INS 306	Tocopherols, mixed natural concentrates	X		
INS 322	Lecithin	X	X	Obtained without bleaches
INS 330	Citric acid	х	Х	
INS 331	Sodium citrates	Х		
INS 332	Potassium citrates	Х		
INS 333	Calcium citrates	X		
INS 334	Tartaric acid	Х	Х	Only for wine
INS 335	Sodium tartrate	Х	Х	
INS 336	Potassium tartrate	Х	Х	

¹ Additives may contain carriers, which shall be evaluated.

INS 341	Mono calcium phosphate	X		Only for "raising flour"
INS 342	Ammonium phosphate	X		Restricted to 0.3 gm/l in wine
INS 400	Alginic acid	X		
INS 401	Sodium Alginate	X		
INS 402	Potassium alginate	X		
INS 406	Agar	X		
INS 407	Carrageenan	X		
INS 410	Locust bean gum	Х		
INS 412	Guar gum	X		
INS 413	Tragacanth gum	X		
INS 414	Arabic gum	X		
INS 415	Xanthan gum	X		
INS 428	Gelatin		Х	
INS 440	Pectin	X		Unmodified
INS 500	Sodium carbonates	X	Х	
INS 501	Potassium carbonates	X	Х	
INS 503	Ammonium carbonates	X		Only for cereal products, confectionery, cakes and biscuits
INS 504	Magnesium carbonates	Х		
INS 508	Potassium chloride	X		
INS 509	Calcium chloride	X	Х	
INS 511	Magnesium chloride	X	X	Only for soybean products
INS 513	Sulfuric acid	X	X	As processing aid for pH adjustment of water during sugar processing. As an additive for wine and apple cider production

INS 516	Calcium sulfate	Х		For soybean
				products,
				confectionery, and
				bakers' yeast
INS 517	Ammonium sulfate	Х		Only for wine,
				restricted to 0.3 mg/l
INS 524	Sodium hydroxide	Х	Х	For sugar processing
				and the surface
				treatment of
				traditional bakery
		V		products
INS 520	Calcium hydroxide	^	×	Food additive for
				Processing aid for
				sugar
INS 551	Silicon dioxide		х	
	(amorphous)			
INS 553	Talc		Х	
INS 558	Bentonite		Х	Only for fruit and
				vegetable products
INS 901	Beeswax		Х	
INS 903	Carnauba wax		Х	
INS 938	Argon	Х		
INS 941	Nitrogen	Х	Х	
INS 948	Oxygen	Х	X	
	Ethylene		X	De-greening of citrus
				and ripening
	Activated carbon		X	
			X	Only for wine
			X	
	Diatomaceous earth		^	
	Ethanol		Х	
	Isinglass		Х	Only for wine
	Kaolin		Y	
	Raolin		^	
	Perlite		Х	
	Plant and animal oils		Х	For extraction only
	Preparations of bark		Х	Only for sugar

Flavoring Agents

Operators may use:

- Organic flavoring extracts (including volatile oils), and, if not available,
- Natural flavoring preparations approved by the conformity assessment body. Such approval shall include the assessment that natural flavors meet the following criteria:
 - The sources are plant, animal, or mineral;
 - The process of production is by a recognized organic standard;
 - They are produced using solvents such as vegetal oils, water, ethanol, carbon dioxide, and mechanical and physical processes.

Preparations of Micro-organisms and Enzymes for use in food processing

These may be used as ingredient or processing aids with approval from the conformity assessment body:

- Organic certified micro-organisms
- Preparations of micro-organisms
- Enzymes and enzyme preparations

Appendix 4: Indicative List of Equipment Cleansers and Equipment Disinfectants

Product	Limitation/note
Acetic acid	
Alcohol, ethyl (ethanol)	
Alcohol, isopropyl (isopropanol)	
Calcium hydroxide (slaked lime)	
Calcium hypochlorite	An intervening event or action must occur to eliminate risks of contamination
Calcium oxide (quicklime)	
Chloride of lime (calcium oxychloride, calcium chloride, and calcium hydroxide)	
Chlorine dioxide	An intervening event or action must occur to eliminate risks of contamination
Citric acid	
Formic acid	
Hydrogen peroxide	
Lactic acid	
Natural essences of plants	
Oxalic acid	
Ozone	
Peracetic acid	
Phosphoric acid	Only for dairy equipment
Plant extracts	
Potassium soap	An intervening event or action must occur to eliminate risks of contamination

Sodium carbonate	
Sodium hydroxide (caustic soda)	An intervening event or action must occur to eliminate risks of contamination
Sodium hypochlorite	An intervening event or action must occur to eliminate risks of contamination
Sodium soap	An intervening event or action must occur to eliminate risks of contamination

Appendix 5: Substances for Pest and Disease Control and Disinfection in Livestock Housing and Equipment

PRODUCT	
Alkali carbonates	
Calcium oxide (lime, quicklime)	
Caustic potash (potassium hydroxide)	
Caustic soda (sodium hydroxide)	
Citric, peracetic acid, formic, lactic, oxalic and acetic acid	
Cleaning and disinfection products for teats and milking facilities	
Ethanol and isopropanol	
Hydrogen peroxide	
lodine	
Milk of lime (slack lime, cal, picking lime, hydrated lime, slaked lime) = calcium hydroxide	
Natural essences of plants	
Nitric acid (dairy equipment)	
Phosphoric acid (dairy equipment)	
Potassium and sodium soap	
Sodium carbonate	
Sodium hypochlorite (e.g. as liquid bleach)	
Water and steam	



Consultation workshop with national stakeholders on Organic Agriculture Standards for Pakistan-Rawalpindi (CABI-RBC)



National Review Workshop for Organic Agriculture Policy-Islamabad (NARC)



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Provincial Review Workshop for Organic Agriculture Policy-Quetta

Agriculture and Coopratives Block No 2 Civil Secretariat,Quetta Balochistan +92 081-9201261