

Republic of Iraq

NATIONAL SEED POLICY

**Ministry of Agriculture
Baghdad, Iraq**

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FOREWORD



It gives me great pleasure on this occasion of the adoption of the National Seed Policy for Iraq to lend my personal support and that of the Ministry of Agriculture in underscoring the importance of this policy framework for guiding and regulating the development of Iraq's seed industry.

It is obvious that seeds are the fundamental agricultural input for crop production and means of attaining food security. A viable seed industry is therefore essential for development of Iraq's agriculture and economy by offering opportunities for employment and sustainable livelihoods for rural households throughout the country.

We are aware that in post-war Iraq, one of the first and key rehabilitation goals is to re-establish the food security of the mass of our population. Further, we know that Iraq's agro ecologies are often harsh in many respects, making crop production a risky venture for many farmers. One of the ways of minimizing this risk is to utilize crop varieties which have been developed, tested and found to conform to the demands of Iraq's agro-ecologies. We need to adopt appropriate crop improvement methodologies in order to produce adapted and high performing varieties of our main crops.

Further, we need to rebuild our seed industry apparatus which will ensure that the superior varieties produced by research will be available to, and used on all crop lands where the varieties are suited. This will assist us to increase crop yields and enhance overall production, combat pests and diseases, widen crop adaptation, improve crop quality and crop suitability for agro-industry, and minimize the effects of drought and other calamities. In addition, improved varieties will lead to increases in the incomes of our farmers, enhance the nutritional status and quality of life of our rural people and minimize the rural-urban drift.

This calls for a comprehensive seed policy to provide the guiding principles for all seed related activities. I believe this policy document fulfils this need of the country.

To arrive to this stage when we have the Policy document, there had been series of vigorous exercises following participatory approach since the first step of this process began with recommendations of the Working Groups' constituted during the Iraq National Seed Workshop held at Amman from 23 to 25 April 2007. Building on those recommendations made by the Iraqi seed industry leaders, the National Seed Policy Forum organized at Amman during 25-27 November 2007 participated in by representatives of the Iraqi seed industry stakeholders both public and private sectors provided inputs for formulation of the Seed Policy document. The Iraqi MoA undertook the responsibility of collecting and collating further on a wider scale the views and comments of the country's seed sector stakeholders on the first draft of the Document to arrive into a consensus Iraq National Seed Policy Document.

The Seed Policy document is shaped looking at the present ground realities and its agricultural growth potentialities for a future Iraq which will stand side by side with other modern and progressive nations.

I believe that this Policy should provide the enabling environment for sustaining and enhancing growth of the Iraq seed industry over the long term. I would therefore like

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to call upon all stakeholders, particularly the international agencies and donors for their support and cooperation to make this Policy a success. The adoption of this Policy is timely and comes at a moment when the Government is putting emphasis on an effective role for the private sector and making the seed industry commercially competitive. To make this possible, many interventions will be needed including research in variety development and release, early generation seed multiplication, provision of appropriate support to the private sector, marketing extension services, seed quality control, adoption and enforcement of regulatory measures, and human capacity building. The task is huge and will require the full support and commitment of all stakeholders in ensuring that the seed industry eventually becomes an integrated and sustainable element of Iraq's agricultural sector.

Finally, I would like to express my profound thanks and appreciation to everyone who has been involved in the development of this important policy document and in particular those staff in MoA and FAO on whose shoulders the bulk of this work fell, and the European Commission (EC) for providing the necessary financial support through the United Nations Development Group Iraq Trust Fund (UNDG ITF).



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ABBREVIATIONS

NSC	National Seed Council
SBSTC	State Board for Seed Testing and Certification
ISTA	International Seed Testing Association
NARS	National Agricultural Research System
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
IAR	Institute of Agricultural Research
IARC	International Agricultural Research Centre
SBAR	State Board for Agricultural Research
OECD	Organization for Economic Cooperation and Development
TCP	Technical Cooperation Programme of FAO
UPOV	International Union for the Protection of New Varieties of Plants
NCRRPAV	National Committee for Registration, Release and Protection of Agricultural Varieties
MoA	Ministry of Agriculture

OVERVIEW OF AGRICULTURE IN IRAQ

1. GEOGRAPHICAL LOCATION

The Republic of Iraq is located in the south-west Asia, and constitutes the eastern part of the Arab region, bordered by Turkey to the north and by Iran to the east, by Syria, Jordan and Saudi Arabia to the west and by Arab Gulf, Kuwait and Saudi Arabia to the south, and extends between latitudes 29° 5 and 37° 22 North and between longitudes 38° 45 and 48° 45 East.

2. LAND AREA (LAND RESOURCES)

The total area of Iraq is about 435,000 km², including water that covers about 924 km² representing 0.2% of the total area. The actual land area is approximately 434,000 km². The total area of arable land up to fourth class soil classification is 11.1 million hectares, which makes about 26.1% of the total area of the territory of Iraq. The rain-fed area is about 5.54 million hectares which makes up 49.8% of the total arable land. The areas under flow-irrigation system and pump irrigation system are 29.9% and 20.4% respectively of 5.575 million hectares (49.8% of the total arable land) which have potential for irrigation by surface water sources. The remaining 49.7% of this area at present is un-suitable for cultivation due to lack of irrigation facilities.

3. CLIMATE

Iraq lies within the moderate northern region with continental and subtropical climate. Rainfall in its system is similar to the Mediterranean climate. The rainfall occurs in winter, spring and autumn, but not in the summer season. The climate of Iraq can be divided into three types: i) Mediterranean climate in the northern region, ii) Steppe climate which is a transitional climate between the northern mountain region and iii) Hot desert climate in the south.

4. IRRIGATION (WATER RESOURCES)

4.1 SURFACE WATER

The rivers of Iraq, Euphrates, Tigris, Diyala, Shatt al-Arab and their tributaries are the main sources of water in Iraq and the ground water constitutes only small portion. This is in addition to the limited benefit of rain, because the most important agricultural lands are located in the rain-fed and arid areas.

The agriculture in the northern region depends on rain, rivers and ground water, while cultivation of land in the central and the southern parts depend mainly on river water (surface irrigation system).

The annual rate for ordinary imports of Tigris, Euphrates rivers and their tributaries (which constitute the main sources of water resources) is about 44-77 billion m³ per year of water depending on rainfall precipitation.

4.2 RAIN

Total aggregate rainfall in Iraq is 99.9 billion m³ annually. Due to the terrain factor of the Iraqi land, the quantity of rain precipitation decreases as we go from the north-east towards the south-west, ranging between 1000 mm in the far north and 50 mm in the extreme south-west of Iraq.

Rain-fed regions in Iraq (based on rainfall) are divided into three parts as follows:

- Rain-fed area (with rainfall precipitation over 450 mm per year) represents 15% of total rain-fed area.
- Semi-rain-fed area (precipitation ranging between 350-450 mm per year) representing 23% of total rain-fed area.
- Arid area (precipitation less than 350 mm per year) representing 62% of total rain-fed area.

Therefore, the large portion of this region is under unfavorable conditions for agricultural production and is annually subjected to rainfall fluctuations. The rain-line with the rainfall rate exceeding over 350 mm is considered as one of the important indicators in agriculture of the northern region where winter crops, particularly cereals (wheat and barley) are planted in rain-fed and semi rain-fed areas. It is noted that in some previous year's cereals cultivation that had been expanded to the south of the rain-line or in marginal lands, in most cases were not considered economically feasible.

4.3 GROUND WATER

The underground water is an additional source to meet the water needs of Iraq, especially in desert areas, some parts of the Aljazeera and large areas in north of Iraq, which constitute the essential alternative for surface water in these areas because of the lack of surface water, and these areas are wide area estimated (60%) of the total area of Iraq.

5. CROPPING PATTERN

Cereal crops possess the priority in cropping pattern in Iraq, occupying 80% of the total cultivated area. The vegetables crops (including bulbs and tubers) occupy the second relative importance after cereal crops with 9.7% of the total cultivated area. The relative importance of the industrial and oil crops was 2.7% and that for the legumes and fodder crops was 2.4%.

The distribution of agricultural land amounts approximately to 12 million hectares depending on the nature of land use. Of this area, the annual crops (seasonal) constitute around 45.8%, perennial crops (orchards) 2.3% and forestry 4.0%, whereas the abandoned land is 47.8%.

The lack of expansion in cultivated area indicates the presence of unused large potentialities for agriculture in Iraq, and at the same time indicates the constraints to the expansion in agricultural land use. The factors affecting the productivity of the cultivated area are as follows:

- i. Insufficient water availability for irrigation in various agricultural areas, which means that the need remains great for more irrigation projects.

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- ii. Existence of land with high-salinity or marginal land with low productivity where cultivation can not be continued, therefore, it needs further drainage networks and land reclamation projects.
- iii. A wide cultivated area exists in arid region where 62% of the total rain-fed area lies i.e. less than 350 mm precipitation annually. Therefore, supplementary irrigation system is needed where the annual rainfall is not adequate.
- iv. Inadequacy of agricultural inputs necessary for agriculture expansion quantitatively and qualitatively, such as certified seeds, fertilizers and agricultural mechanization. Therefore the needs remain for the provision of these required inputs at appropriate time for agricultural practices.

6. AGRICULTURAL SYSTEM

Several agricultural patterns exist in Iraq, reflecting the Iraqi agricultural characteristics, and these patterns are: the agricultural density, livestock, the commercial crops, and intensive investment on agricultural land. However, the pattern of agricultural density is essential for agriculture in Iraq not matched by another pattern occupying a vast area of cultivated land and therefore it gives particular importance in the agricultural economy in Iraq.

Areas dominated by pattern of cereal crops cultivation (wheat and barley), prevail in all parts of Iraq, and accordingly, agricultural mechanization has been widely implemented. The diversity of soil characteristics in this pattern has bearing on distribution of wheat and barley crops cultivation, where wheat crop is cultivated in areas possessing good soils properties, such as soil in the north of Iraq. Whereas in contrary, barley crop cultivation is done in the south, where the soil is less fertile. It is well known that the cultivation of wheat crop perform well in fertile soil, whereas poor soil result in low crop productivity. This explains the cause of low productivity per unit area (kg/hectare) of cereals, especially in southern Iraq.

7. SOILS

Soil in Iraq suffers from the spread of salts in irrigated land. The soil salinity is not new in Iraq but it is as old as the agriculture. It is a natural phenomenon occurring in the soil under dry and semi-dry climatic conditions which has brought about direct and indirect impact in Iraq, particularly in areas where there is lack of natural drainage of underground water. The land affected by salinity constitutes about 73.9% of the total arable land. The degree of salinity varies, from severe salinity (3.9%) and intermediate salinity (50.4%) to low salinity (19.6%). The quantity of salt added through its deposition in the soil after the evaporation of a large portion of irrigation water around 3 million ton per year, shows the magnitude of the damage arising due to poor exploitation of land and irrigation water especially in central and southern regions of the country.

8. RESEARCH SYSTEM

The research efforts in the agricultural sector have been able to accomplish a lot in development and introduction of a number of new varieties and hybrids and strains of different crops, particularly cereal crops (wheat, barley, rice and maize), which are characterized by high productivity and appropriateness to the Iraqi agro-climatic conditions. These results were achieved through introduction and adaptation of different varieties and through conduct of varietal hybridization, selection using mutation

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techniques in the field of agricultural technology and following advance agricultural practices such as fertilizer applications, sowing dates, seeding rate, etc. that resulted in improvement of the productivity per unit area in addition to access to scientific recommendations specific to different regions and the appropriate varieties of different kind of field crops, fruits and vegetable crops.

These scientific efforts have yielded a number of registered and released varieties of agricultural crops for the period 1992 to 2007 which were released in the recommended areas.

NATIONAL SEED POLICY AND PLAN

1. INTRODUCTION

1.1 The Government of Iraq recognizes the fundamental importance of agriculture for achieving food security and improving the well being of the population. Towards that end sustainable agricultural development, in the wider context of strengthening the rural economy, must be accorded a high priority.

1.2 It is noted that the proper use of high-quality seeds of adapted and improved varieties is a prerequisite in enhancing crop production through enhancement of crop productivity. This is already a major strategy in the agricultural policy of Iraq but requires to be further enhanced. The main objective for the future is the rehabilitation and development of the national seed programme and to position it to address the needs identified in the agricultural policy. It is the expectation that a National Seed Policy will provide a defined and stable framework for the development of an effective and sustainable seed industry.

1.3 Having taken into consideration the views of all relevant stakeholders, which are contained in the recommendations of the National Seed Workshop as well as the National Seed Policy Forum of Project OSRO/IRQ/502/UDG - 'Rehabilitation and Development of the National Seed Industry in Iraq' held in April 2007 and November 2007 respectively, the Government of Iraq formulates and adopts the National Seed Policy of Iraq as follows:

2. THE OVERALL OBJECTIVE OF THE NATIONAL SEED PROGRAMME

2.1 The overall aim of the National Seed Programme is to ensure timely availability of required quantities of high quality seeds of improved crop varieties to farmers at reasonable prices and at appropriate locations. Towards that end, roles will be assigned to all relevant stakeholders in a participatory and collaborative manner between the public and private sectors. Further, targets for seed production will be based on real demand and available facilities for safe handling.

2.2 The short and medium term expectation is that seed industry will not be financially viable in its own right. Government however is committed to developing it as a public service in view of indirect benefits such as:

- Contribution of the seed industry towards enhancement of the contribution of agriculture to the Gross Domestic Product (GDP), increasing food production and improve family food security.
- Improvement in rural incomes, and elevated standard of living of the rural population

3. OVERALL STRATEGY OF THE SEED INDUSTRY

3.1 The fragility of the agro-ecological zones in Iraq has given rise to a subsidized seed programme. It is expected that in the short and medium term, the national seed programme will continue to be based on subsidies. However over the long-term, attempts will be made to progressively minimize subsidies. This will be accompanied by vigorous extension programmes to increase farmer's outputs.

3.2 The seed industry will be supported to achieve rapid improvements in crop development to improve both the genetic and physical attributes of varieties. Improvements in availability and application techniques of other farm inputs will also be pursued.

3.3 Government will also systematically encourage and support the private sector to participate in the seed industry. This will be achieved by:

- A clear policy to support the agricultural output will be put into place on equilibrium basis with need to achieve the targeted aim of ensuring availability of high quality seeds to farmers contributing effectively in promotion of both public and private sector
- Introduction of a package of incentives aimed at encouraging private sector investment in seed sector.
- Passing of enabling legislation especially regarding varieties protection legislation, seed law and seed regulations,

3.4 Throughout the development process, government will continue to perform the following tasks:

- Play the lead support role and develop pilot research operations.
- Maintain public-service infrastructural and service support required maintaining efficient seed supply.
- Enhance farmer demand for high quality seed.
- Create an operating and economic environment favourable for investment in seed production and supply.

3.5 While the government will have the overall responsibility of ensuring that adequate stocks of high-quality seed of improved varieties are provided to farmers, seed industry rules will be allocated as follows:

3.5.1 Variety development and maintenance will be carried out by agricultural research centres which make up the National Agricultural Research System, with the expectation that the private sector will in the long term participate in it.

3.5.2 Foundation seed production will be carried out in future mainly by a specialized public company to be established for that purpose. And the private sector will be given a role in this activity.

3.5.3 Registered and certified seed production shall be carried out by seed growers. Government will encourage high performing seed growers to

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eventually develop into self-sustaining private-sector seed operators according to rules.

3.6 Eventually, the public sector shall concentrate on the production of those varieties which are required by farmers but not supplied by the private sector. Government will be responsible for activities of a public-service nature which normally require some form of budgetary support.

3.7 All activities of a commercial, market-responsive nature may be entrusted to the private sector, as appropriate.

3.8 Government will give recognition to the positive role of the informal sector as the supplier of nearly 90% of total seed used. Therefore government will aim at improving that sector to play a more effective role. The strategy will involve:

- The enhancement of the role of farmer-based seed initiatives including on-farm seed selection and multiplication, community seed production and supply and farmer to farmer exchanges.
- Improving the germplasm base of farmer-saved seeds with permission of the State Board for Seed Testing and Certification which will undertake the field inspection and issue the certificate according to the field condition, and using this certification into local market.
- Incorporation of relevant seed quality control elements into informal seed sector practices.
- Reduction in pre and post-harvest losses and deterioration.

3.9 The extension services will be improved and charged with playing the lead role in the above activities.

4. DEVELOPMENT ASSISTANCE

4.1 In spite of modest gains in seed programme development, the national seed programme is still relatively rudimentary. Major areas such as research, seed quality control, high quality seed production, seed distribution and marketing and seed extension require further development if the programme is to be able to adequately serve the needs of national agriculture. In recent times, protracted drought spells have contributed to serious setbacks in seed programme development and the programme is yet to recover fully.

4.2 Government recognizes and applauds the assistance that has been received from its development partners in developing the national seed programme and in countering the effects of natural disasters. Government is of the opinion that the eventual attainment of a comprehensive national seed programme will place national agriculture in a strong position to be able to minimize the negative impact of natural disasters, provide in-built disaster mitigation ability and thereby reduce the huge funding that is normally involved in external emergency seed relief assistance. Towards that end, government appeals to its development partners to recognize the need to extend assistance towards the further development of the National

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Seed Programme through the support and implementation of the National Seed Policy.

4.3 International assistance will be sought for capacity development through:

- Human resource development.
- Infrastructure and institutional development.
- Investment development and private sector development.

5. ADMINISTRATION OF THE SEED POLICY

5.1 NATIONAL SEED COUNCIL

Objective and Rationale:

Government recognizes that the complexities of the seed industry require a high degree of coordination to enable the large number of stakeholders play their complementary roles effectively. In order to ensure that the function of coordination is adequately carried out, Government will rehabilitate the current National Seed Committee, establishing in its place a new seed sector oversight body to be known as National Seed Council (NSC).

Strategies:

The NSC shall be established under the direct authority of the Minister of Agriculture and shall serve as an advisory body to the Minister of Agriculture and provide guidance to Government and other seed industry stakeholders in the conduct of their various rules.

5.1.1 OBJECTIVE OF THE NATIONAL SEED COUNCIL

The objective of the National Seed Council is to enhance the coordination and facilitate the growth of seed industry activities in order to ensure rapid, orderly and balanced development in tune with the requirements of agriculture. Further, the council will advise the Government on all matters relating to the Seed Policy and all ensuing legislations and protocols as well as seed industry planning and implementation.

5.1.2 FUNCTIONS OF THE NATIONAL SEED COUNCIL

The full terms of reference of the NSC shall be as follows:

- i. Advise Government on seed policy issues as well as on the development and implementation of strategies which would emanate from the National Seed Policy.
- ii. Facilitate proper and effective linkages between participating agencies in order to enhance their collaboration with each other for the orderly and balanced growth of the seed sector.

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- iii. Ensure the proper resourcing and functioning of the supporting agency, the State Board for Seed Testing and Certification and the satisfactory conduct of its activities in seed quality assurance.
- iv. Assist Government in creating favorable conditions for attracting both domestic and foreign investments in seed sector and actively promote and support private sector in variety development, seed multiplication, marketing, export and other operations connected with the seed industry.
- v. Serve as a consultative platform for the seed industry, providing opportunity for participating agencies to articulate their concerns and interests for effective resolution for the common good.
- vi. Coordination to obtain, resource support for realization developing national seed programme.
- vii. Take on the responsibility for acting as arbiter in seed industry disputes, when required.
- viii. Undertake, or cause to be undertaken, periodic studies on burning issues relating to the seed industry with the aim of obtaining necessary information to guide in its advisory rule.
- ix. Undertake any other duties as may be required in the general interest of the seed industry in particular and agriculture in general.
- x. Continuance in development of recourse for seed support fund.

5.1.3 The NSC shall be composed of representatives from all relevant stakeholders. The NSC will meet periodically to discuss the performance of seed industry. Government has accepted to consider stakeholder representation, on the NSC, on the basis of one representative per each listed stakeholder, as follows:

- Representative of the Minister of Agriculture – Chairman.
- Representative of the State Board for Seed Testing and Certification.
- Representative of the State Board for Agricultural Research.
- Representative of authorized seed growers.
- Representative of farmers.
- Representative of the State Board for Extension and Agricultural Cooperation.
- Representative of the State Board for Plant Protection /Plant Quarantine Office.
- Representative of the Ministry of Science and Technology.
- Representative of the Ministry of Planning and Development Cooperation
- Representative of the Ministry of Finance.
- Representative of the Universities (Colleges of Agriculture).
- Representative of formal sector seed production agencies.
- Representative of private sector seed production agencies.
- NSC Secretariat.

5.1.4 All members shall have equal voting rights. The council may co-opt to meetings, relevant specialists outside the above listed membership for specific purposes as required. Further, the council may allow certain agencies such as Financial Institutions, Agro-industry, Farmer Groups etc. to attend their meetings as observers.

5.2 NATIONAL COMMITTEE FOR REGISTRATION, RELEASE AND PROTECTION OF AGRICULTURAL VARIETIES (NCRRPV)

Objective:

5.2.1 The system of introducing new varieties into the seed system is required to be fair and credible in order to engender the required level of confidence from end users. An effective varietal release arrangement will also ensure that the impact of seed on crop production is adequately enhanced.

Strategies:

5.2.2 The system of variety release will be streamlined by reconstituting the membership of the National Committee for Registration, Release and Protection of Agricultural Varieties to bring it in line with internationally accepted practices. The NCRRPV is to be established as a subcommittee to the National Seed Council and its membership will be made up of representatives of relevant stakeholders who will collectively ensure that the process of variety release and deletion is unbiased and fair. The NCRRPV shall be made up of relevant technical members of the NSC, other relevant experts outside NSC and co-opted researchers who may be relevant to specific crops or varieties being considered. The procedures for variety release will be formulated and presented to the Ministry of Agriculture as one of the early acts of the NSC when inaugurated.

5.2.3 The State Board for Seed Testing and Certification shall provide secretarial and back up services for both NSC and NCRRPV.

6. PRIORITY CROPS

6.1 Government attaches importance to all crops grown by Iraqi farmers since each crop, in its own way, contributes to both the individual and national effort. However, in recognition of limitation in national resources as well as the specific needs and circumstances of specific crops, research and the formal seed sector can only handle a limited number of crops. Consequently Government accepts as priority crops for research and seed multiplication the following:

Cereals crops: wheat, barley, rice, maize, sorghum.

Vegetable crops: tomato, potato and onion.

Legumes crops: lentil, broad bean and chickpea.

Industrial crops: sugar beets, cotton, sunflower and sesame.

Forage crops: alfalfa and barseem.

6.2 It is also recognized that there is a long list of vegetable crops, such as cabbage, tomato, lettuce and watermelon. etc, whose seeds are largely of foreign origin and regularly imported by the private sector for use in Iraq. While these seeds do not emanate from national research, nor are multiplied locally, it is recognised that national research system may require to participate in their release and marketing through trials and testing. Government will also encourage the private sector to move beyond mere importation and develop local seed multiplication of major vegetable crops where agro-climatic conditions allow it.

6.3 Government expects that the list of priority crops will be reviewed from time to time to keep it current. The basis of the prioritization will be the extent to which the crop is grown as well as its contribution to food security, rural income, export earnings, gross domestic product (GDP), employment, etc.

7. RESEARCH

Objective:

7.1 Government recognizes that agricultural research and variety development are fundamental to the seed industry. The main aim of research will be the development of new varieties which are adapted to agro-ecologies of Iraq and which enhance farm productivity. The objective of Government is that the research system of Iraq remains strong to play its desired role.

Strategies:

7.2 Government will ensure that adequate resources are provided to the national agricultural research system to undertake crop improvement activities for priority crops. For the medium term, the government acknowledges the responsibility it has to fund agricultural research. However government will encourage private sector involvement in research that supports national priorities.

7.3 The main basis of new varieties will be indigenous germplasm as well as trials and testing under Iraqi conditions. Government will continue its support of development of a strong national system of gene banks by which the valuable germplasm of Iraq will be conserved.

7.4 Government will expect that research shall safeguard local biodiversity by co-operating with the national bodies responsible for germplasm conservation. This cooperation should lead to the incorporation of indigenous germplasm into new varieties, where possible and ensure a wide genetic base for the resultant variety. This will enhance the adaptability of new varieties.

7.5 In order to enhance cost effectiveness, research will be encouraged to adopt adaptive research by which the outputs of IARCs and cooperating research agencies of other countries will be incorporated into national

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research. This will also be aimed at reducing the long period of variety development.

7.6 Government will also ensure close collaboration among all the agencies engaged in research and variety development such as the State Board for Agricultural Research, Biological Research Centre and the Universities.

7.7 Irrespective of origin, all new varieties to be admitted to the seed industry will be screened through a system of variety release which shall be established by the National Seed Council. Under the control of the National Committee for Registration, Release and Protection of Agricultural Varieties, each new variety will undergo a period of testing and evaluation.

7.8 The onus for proving the uniqueness of a nominated variety will rest on the breeder or the sponsoring research agency. Applications for registration and release of a new variety will include a comprehensive description of the variety, its attributes (distinctness, uniformity, stability, etc) and data from trials across designated environments.

7.9 Records of all registered and released varieties will be kept at the State Board for Seed Testing and Certification which shall serve as the secretariat for the National Committee for Registration, Release and Protection of Agricultural Varieties. In the process of registering varieties, every effort will be made to ascertain the eligibility of all stakeholders with claim to the variety.

7.10 Adequate quantities of seed will be required to be provided by the breeder to cover the testing needs. Successful candidate varieties shall be formally approved, registered and entered into the yearly bulletin for registered and released agricultural varieties in Iraq. The full characteristics of the variety shall be provided by the breeder and entered into this bulletin, according to the rules of the National Committee for Registration, Release and Protection of Agricultural Varieties

7.11 It shall be required that upon approval of a new variety, the sponsoring research station or breeder shows evidence of availability of adequate breeder seed to start off the seed multiplication chain. The research station will also be required to pledge and show evidence of arrangement for variety maintenance and production of breeder, and where necessary foundation seed, for the entire period that the new variety will be in commercial use.

7.12 In order to enhance farmer adoption of new varieties farmers will be closely consulted and included in the process of variety development. This will be achieved through participatory approaches in research and will include participatory seed selection, adaptive trials, on-farm trials and demonstrations, field days and other farmer awareness raising activities.

8. REGISTRATION, RELEASE AND PROTECTION OF AGRICULTURAL VARIETIES.

Objective:

8.1 The objective of the policy on registration and release is to ensure that the full circumstances of a new variety are recorded as basis for technical, commercial and legal processes.

Strategies:

8.2 The National Seed Council, on the advice of the National Committee for Registration, Release and Protection of Agricultural Varieties, will be the sole body responsible for the registration of varieties in Iraq.

8.3 The onus for proving the uniqueness of a nominated variety will rest on the breeder or the sponsoring research agency. Applications for registration and release of a new variety will include a comprehensive description of the variety, its attributes (distinctness, uniformity, stability, etc) and data from trials across designated environments.

9. CONTROL OF VARIETIES AND VARIETY OWNERSHIP

Objective:

9.1 The policy objective is to establish the legal basis for variety ownership in a manner which ensures protection for the originators as well as identifying the true sources for sourcing the new materials.

Strategies:

9.2 All varieties that are developed with national resources shall be considered state property and reserving the breeder rights. However, private ownership shall be recognized where private resources have yielded new varieties. All eligible contributors to the development of a variety will be documented.

9.3 FARMER'S RIGHT

9.3.1 It is recognized that farmers have contributed immensely in the development, maintenance and preservation of local plant genetic resources in Iraq. Indigenous cultivars that have been developed and preserved by farmers are expected to serve as major components or contributors to new varieties. Every effort will therefore be made to ensure that farmers are adequately compensated for their efforts. Towards that end, farmers will maintain their right to use, exchange, share or sell their farm-saved seed between themselves, without any restriction and will have the right to continue using any varieties of their choice without being hampered by the system of compulsory registration, provided they do not commercialize production emanating from proprietary varieties according to the instructions and rules.

10. BIOTECHNOLOGY

Objective:

10.1 The objective is to establish the stand of Government on the issue of GMO technology towards developing programmes in the general area of biotechnology applications relating to the seed industry.

Strategies:

10.2 Government recognizes the controversy of GMO technology currently raging in the world. Every effort will be made to understand the underlying principles and practices of biotechnology particularly with regards to bio-safety in the application of GMO technology in the future, without disturbance to the local genotypes, and to be limited on the experimental aspect, and to avoid any GMO that effect the safety aspect of human nutrition.

11. SEED PRODUCTION

Objective:

11.1 Several technical and organizational steps are involved in seed production and the objective of the policies relating to this area is to articulate government's stand on the code of conduct and guidelines regarding their implementation in order to achieve necessary cohesion.

11.2 GENERATION SYSTEM OF SEED MULTIPLICATION

11.2.1 The national seed programme of Iraq will follow a four-generation system of seed multiplication. This means that recognition will be given to four seed classes, namely, breeder, foundation, registered and certified seed:

- Breeder seed: Seed (or vegetative propagating material) that is produced under the supervision of plant breeder, originator, or owner of the variety, is controlled by that person or institution, and is the source for production of foundation seed.
- Foundation seed: Seed stocks increased from breeder seed, and so handled as to closely maintain the genetic identity and purity of a variety. Production of foundation seed is carried out under the responsibility of the breeder and approved by an official certifying agency. Foundation seed is the source of registered and certified seed.
- Registered seed: The progeny of foundation or registered seed produced and handled so as to maintain satisfactory genetic identity and purity, and approved certified by an official certifying agency. Registered seed is normally grown for the production of certified seed.
- Certified seed: The progeny of foundation, registered, or certified seed produced and handled so as to maintain satisfactory genetic identity and purity, and approved and certified by an official certifying agency.

11.2.2 In the event of a serious shortage of seeds, the State Board for Seed Testing and Certification, acting under the guidelines of the National Seed Council, will authorize the recognition of a temporary fifth class called certified seed (generation 2) which is select from certified seed (generation 1).

11.3 BREEDER AND FOUNDATION SEED MAINTENANCE AND SUPPLY

11.3.1 Maintenance and supply of breeder seed of improved varieties are the responsibility of the agency which develops the variety/hybrid. Government shall ensure that national research system has the capabilities in terms of staff, facilities and budgets to ensure timely supply of the required amounts and kinds of breeder seed.

11.3.2 Government recognizes the importance of ensuring adequate quantities of foundation seed to start off the multiplication process. Government will authorize the establishment of a publicly funded agency to be named as National Centre for Foundation Seed Production to hold the mandate for the production and supply of foundation seed of the main cereal and legume crops etc. The new centre will cooperate with all variety developers and research stations. Government will ensure that the National Centre for Foundation Seed Production is adequately resourced to produce and supply foundation seed as a public service and to give the private sector role in this activity.

11.3.3 Foundation and other seed ranks shall be freely allocated at reasonable cost to qualified private-sector agencies upon request, as and when it is available and in accordance with established requirements for producing high quality seed and in compliance with Variety Protection law which may be enacted.

11.4 CERTIFIED SEED PRODUCTION

11.4.1 Certified seed production shall be undertaken by specialised seed growers who have been trained by the relevant agencies. The selection of seed production sites and growers should be made on the basis of targeting optimum site productivity conditions. The seed growers should have good farm management skills and have a demonstrable record of well managed fields delivering better than average yields. The State Board for Seed Testing and Certification will retain records of the performance of the seed growers. The terms and conditions for seed growers should fairly reflect the importance and risks of seed production. However premium payments awarded to seed growers must be carefully determined, and based on quality, in order to be able to commercially market the end product.

11.4.2 Government recognizes that the bulk of seeds to be used by farmers every year will emanate from the informal seed sector through the activities of a large number of small scale farmers who make up the informal seed sector. Government will encourage this parallel programme and will strive to enhance its contribution to the national efforts through

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well designed extension education and campaigns on seed appreciation, variety selection, seed processing, storage and marketing.

11.4.3 Additionally, farmers participating in the informal seed sector will be encouraged to use seed of newly released varieties emanating from national research where such varieties hold advantage over their own cultivars. The intention of this integrated strategy is to assist in meeting the overall national seed demand while at the same time encouraging the development of private seed producers and assisting in enhancing seed security.

12. SEED PROCESSING

Objective:

12.1 Seed processing is an essential seed supply operation. It is required to ensure the rapid, safe and efficient conversion of raw seeds into clean and storable material, possessing the required quality attributes.

Strategies:

12.2 Government shall ensure that the considerable investments already made in this area are put to good use. Government shall, in principle, encourage and assist all relevant agencies in both formal and informal seed sectors to develop and maintain their own up-to-date and efficient seed conditioning facilities under the supervision of the SBSTC.

12.3 The public and private sector seed agencies shall be encouraged to provide conditioning services to small or new seed operations on a fee basis, to assist in developing the seed industry.

13. SEED QUALITY CONTROL

Objective:

13.1 The use of poor quality seed results, low yields and proliferation of diseases and pests. Good quality seeds should have high varietal and physical purity, high germination ability and meet the minimum requirement of seed moisture content for storage and have sound health, according to the rules issued from the NSC which follow the international rules.

Strategies:

13.2 Government will ensure the continuation of seed quality assurance as a public service in order to ensure unbiased decisions and actions by the mandated agencies. To that end Government will shoulder full responsibility for the setting up of well equipped seed laboratories; adequately trained manpower and sufficient budgetary support to enable the responsible agencies carry out their work effectively.

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13.3 Seed quality control which is the responsibility of SBSTC will be based on the minimum standards system and the eventual goal is seed certification when the necessary legislations have been adopted. Government will encourage all participating agencies to have high regard for the seed quality assurance and to aim at meeting their own internal best standards even ahead of external quality checks.

13.4 The current seed standards in use in the country will be reviewed to reflect the above objectives and to reflect local needs as well as regional and international requirements in order to facilitate seed trade and use. Particularly, Iraq will contribute to support efforts to harmonize seed standards with international organizations.

13.5 Government will ensure the preparation of a unified seed law which will take account of all the seed legislations currently in use (national and international). This will be done in consultation with all relevant stakeholders. The law will cover provisions for seed production, processing and handling and trade as well as variety protection and farmer's right. It will cover and confer legal status on authorized agencies including NSC, NCRPAV, etc. It will also cover seed laboratories and their activities in seed testing which shall conform to ISTA rules and procedures for seed testing. The seed law will be supported by a set of regulations to be passed by Ministry of Agriculture to guide in the detailed processes of seed quality control.

14. PLANT QUARANTINE

Objective:

14.1 The goal of plant quarantine is to conduct inspections at ports of entry to prevent seeds and planting materials as well as soil contaminated with exotic insect pests and diseases, mites and extraneous materials from entering Iraq and causing harm to the nation's agriculture. An effective plant quarantine service can also help to assess and quantify crop losses, monitor and provide pests and disease forecasting information, and develop and disseminate pest control practices to farming communities through collaborative research and training.

Strategies:

14.2 Government will seek to strengthen plant quarantine regulations and provide the required resources, both human and material, to the responsible agencies so that adequate safeguards are developed at the country's borders and entry points. As far as possible, plant quarantine procedures will be harmonized with those of other neighboring countries in order to enhance movement of seeds within the sub-region.

14.3 The extension services and other agencies will be involved in awareness creation among border residents to create an informed first line defense against unwanted plant introductions.

15. AGRICULTURE EXTENSION

Objective:

15.1 Extension education should be considered as an important partner to improved seed. Extension is required to play an important role in guiding research to achieve effective variety development, in assisting the farmer for proper utilization of crop varieties and the informal seed sector for upgrading their seed skills.

Strategies:

15.2 Government will strengthen extension in terms of resources, manpower and methodology to assist farmers and research agencies to conduct their activities in line with the stated objectives.

15.3 Extension will also be given the responsibility of seed promotion and education and development of marketing channels.

16. SEED MARKETING

Objective:

16.1 The goal of seed marketing is to ensure the widespread dissemination of crop varieties to all areas where the varieties are adapted and in demand. The aim is to ensure the delivery of adequate quantities of seed of the required variety and of the right quality, at right time and at right place and at prices the farmers can afford.

Strategies:

16.2 Government will assist in developing a seed distribution channel in which the private sector will be expected to play a leading role. Government will carry out a deliberate process of developing private sector entrepreneurs as seed stockists.

16.3 Stockists will be recruited from among agricultural input suppliers.

16.4 The NSC and MoA will assist in seed demand surveys and provide market intelligence to facilitate operational decisions of seed stockists.

16.5 The quality control agency will monitor seed quality and ensure safe storage and handling at seed stores. The agency will also check arrangements whereby left-over seed will be returned to safe storage, discarded or rechecked before the next sales and next season.

16.6 Government will encourage financial institutions to give priority consideration to the credit needs of emerging seed dealers.

16.7 Government will also support both public and private sector marketing effort with appropriate extension and promotional programmes,

with the aim of enhancing seed demand levels needed for profitable investment.

17. SEED PRICES

Objective:

17.1 Seed prices must ensure adequate return for the producer but must remain affordable to the end user to ensure demand.

Strategies:

17.2 In view of the harsh conditions of Iraqi farming with attendant frequent crop loss, Government will continue the current system of seed subsidies. A subsidy level for seed sales will be determined annually by NSC and communicated to the Minister of Agriculture for final approval. However the long term aim is to systematically minimize subsidy levels side by side with the development of the private sector and improvements in the efficiency of seed production.

18. INPUTS AVAILABILITY AND PRICES

Objective:

18.1 Availability of other farm inputs such as fertilizers and chemicals is crucial in enhancing crop production. The policy objective is therefore to ensure that farming inputs are readily available and affordable to enhance the performance of improved seeds.

Strategies:

18.2 Although Government itself will not engage in input supplies it will seek to create the necessary enabling climate which will encourage the private sector to be active in that field. Government will assist the private sector in their applications for credit, importation and facility development.

19. NATIONAL SEED RESERVE

Objective:

19.1 The main objective of the policy on the national seed reserve or seed buffer stock is to ensure the continuous availability of reasonable quantities of seeds of the selected priority crops to meet the planting needs of farmers following agricultural emergencies which require replanting of crops.

Strategies:

19.2 Government is aware of the dangers of weather failure and other emergencies that can disrupt crop production. Interventions involving emergency seed distribution, which have an attendant potential of genetic

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erosion and disease and pest introductions, shall be minimized by ensuring the deliberate and systematic stocking of an annually renewable national seed reserve. The size of the reserve shall be based on the quantity of seeds required to meet the estimated minimum requirement for sustaining the seed industry and key vulnerable crop production areas. The national seed reserve shall be kept at government expense. The operation of a national seed reserve will require considerable investment in terms of specialized storage facilities and financing.

19.3 The cost of operating the national seed reserve will be minimized through the institution of a revolving fund. A revolving fund enables the seed reserve stock to be largely self-financing through sales of the stock at the beginning of the next marketing season to finance its regeneration.

20. SEED IMPORT

Objective:

20.1 Government desires to position seed import arrangements so as to ensure the safe sourcing and availability of seeds which are required by farmers in Iraq but which are only produced in foreign locations. Seeds which may be required to be imported are vegetables seed, seeds for breeding and development purposes and emergency seeds.

Strategies:

20.2 All possible Government assistance shall be provided to any government or private-sector agency, which requests import clearance of such seed, within procedures specified in appropriate regulations established under this policy.

21. SEED SECTOR DEVELOPMENT

Objective:

21.1 Government recognizes the important rule of the private sector which can play in certain aspects of seed production and supply, and in providing required seed at minimum Government expense and minimum cost to farmers. Government will therefore encourage the private sector to play a major role in seed supply.

Strategies:

21.2 Government recognizes that the process of privatization and private sector entrepreneurial development should receive a high level of continuous assistance in view of the complexities of the seed industry. This assistance will be ensured through the collective actions of all private sector seed agencies under the coordination of the NSC.

21.3 Government shall provide all possible support, as specified in this policy or established in ensuing supportive protocols, upon the advice of the National Seed Council.

21.4 It shall be the aim of government that encourage private-sector to invest in the activities of seed supply in official method according to the investment law.

22. INTERNATIONAL COOPERATION

Objective:

22.1 Government intends to take full advantage of the benefits that international cooperation can contribute to the national seed development.

Strategies:

22.2 Government will cooperate with such international organizations as International Seed Testing Association (ISTA), UPOV, OECD and International Centre for Genetic Engineering and Biotechnology, etc. As soon as possible when an appropriate level of seed quality control has been achieved, Iraq will take steps to attain ISTA membership in order to realize the full benefits of the association.

23. ENTRY INTO FORCE

23.1 EFFECTIVE DATE

The National Seed Policy shall come into effect as of June 2008. The tenets of the policy shall have long-term application, and shall continue in force indefinitely, until specifically modified under provisions of this Policy. However, any such modifications shall not change the intent or philosophy of this National Seed Policy.

23.2 APPLICABILITY

Government recognizes that this policy statement does not have force of law but urges all stakeholders in the seed industry to respect the content and spirit of the policy. Government may in due course introduce legislation and regulations to support some aspects of the seed policy in order to be able to regulate some areas of the seed policy. Legislations to be enacted are:

- a) A Seed Law, to give legal backing to the mandated public sector institutions, and establish the legal basis for variety registration as well as seed producer and supplier licensing.
- b) Variety Protection Legislation, which will grant legal recognition to the owners of registered varieties.
- c) Farmers Rights Legislation which will give protection to farmers on farm multiplication and use of varieties on their own farms.

It is desired that all the three above legislations shall be components of a single legal document.

23.3 POLICY ADVISORY AND UPDATING

23.3.1 To keep the National Seed Policy current and applicable to changing conditions, the NSC will from time to time, make

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recommendations to the Minister of Agriculture on relevant issues of importance to the seed industry. The Minister shall consider such recommendations, discuss them with stakeholders, and in accordance with applicable laws, issue modifications in the National Seed Policy to improve its suitability and applicability to current conditions without changing its long-term intent or legitimacy of law.

23.3.2 Plans of action shall be prepared and updated from time to time to serve as guide to both Government and other stakeholders in the implementation of actionable components of this policy. The plans of action shall be based on the strategies outlined in this policy and shall determine the required outputs and activities expected of the recommended interventions, the time frames, the responsible or implementing agencies as well as cost, budgets and other resources. The NSC will oversee the preparation of the plans of action but all participating agencies will be required to propose the specifics relating to the components they are responsible for.

ISSUED this 16th of June, 2008

**Minister of Agriculture
Republic of Iraq**

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Annex 1

**Participants of the National Seed Policy Forum
25 -27 November 2007
Amman, Jordan**

Name of Participant	Organization
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Ali Saleem Mahdi Asseel	Plant Breeder, State Board for Agricultural Research, NPC Seed Project, MoA.
Abdul Satar A. Jassim	Asst. Professor, College of Agriculture, Mosul University.
Senan A.A. Al-Jalili	Farmer, seed producer
Qahtan Mohammed Naji Mohammed Said Al-Mitwalli	Manager, Iraqi Company for Seed Production (Public+private Company)
Mahamoud Ismaeel Abdulkadir Selbi	Seed Technology Centre, Ministry of Science and Technology
Saleh M. Bader Fatlawi	Director General, State Board for Agricultural Research, MoA
Abdulmir Diiiaif Mezel Mezel	Govt. Sector
Hussein Hassan Hussein Al-Muslehi	Private Sector, Farmer
Salah H. Jabour Jabour	Director of Agriculture, Diwaniya Governorate, MoA
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