

3-1-3 遺伝資源関連勉強会（ウズベキスタン）

発表資料 3-1 : Plant Genetic Diversity and Resources in Uzbekistan

スライド 1

Study Group Meeting on the of Genetic Resources
in the Field of Agriculture, Forestry and Fisheries
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PLANT GENETIC DIVERSITY AND RESOURCES IN UZBEKISTAN

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BRIEF INTRODUCTION

Globally, more than 2 billion people depend on smallholder farms and about 1.4 billion people depend on forests for their livelihoods (*IPGRI report*).

In Uzbekistan, different crop plants occupy about 44,457,900ha

Total farming area: 27 667.400 ha

Arable land: 4 486.000 ha

Mowing (Grassland): 109.600 ha

Pasture: 22 532.200 ha

Forests occupy 9.1 million ha. National Parks and State Reserves occupy area 818,000ha

More than 6000 plant species grow, belonging to 138 families in Central Asia.

492 agricultural species belonging to 79 families

577 species are used as medicinal plants

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- Cotton (*Gossypium hirsutum*) is the most important crop of the national economy, planted on 50% of irrigated lands.
- Mountain and foothill areas are richest with wild-growing species:
 - Apple (*Malus sp.*),
 - Pear (*Pyrus sp.*),
 - Walnut (*Juglans sp.*),
 - Hawthorn (*Crataegus sp.*)
 - Onion (*Allium sp.*)
 - Garlic (*Allium sp.*)
 - Carrot (*Daucus sp.*)

In Uzbekistan plant genetic resources are conserved mostly in natural habitats in *in-situ* conditions and high intraspecific diversity is observed

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The following are most diversified **plant families** (with a large number of species)

Asteraceae (624 species)
Fabaceae (512)
Poaceae (301)
Lamiaceae (238)
Brassicaceae (235)
Apiaceae (231)
Rosaceae (231)
Boraginaceae (123)

The following are most diversified **plant genera** (with a large number of species)

Astragalus L. (273 species)
Cousinia Cass. (149)
Allium L. (137)
Gagea Salisb. (82 species)
Oxytropis DC. (63)
Ferula L. (59 species)
Artemisia L. (47)
Phlomis Moench (45)
Silene L. (44)
Iris L. s.l. (41 species, of which 24 species belong to Juno Tratt.)
Tulipa L. (34 species)
Hedysarum L. (30 species), etc.

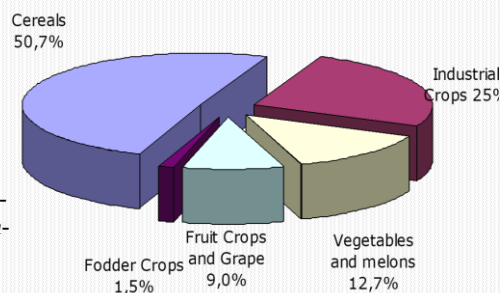
PLANT SPECIES DIVERSITY IN UZBEKISTAN

- **General plant species:** 4400 species. Of which 300 species are endemic.
 - **Desert Plant Species:** 300 species belonging to 14 families.
- 20% of the species are endemic : a large part of them grows in mountains

CONSERVATION

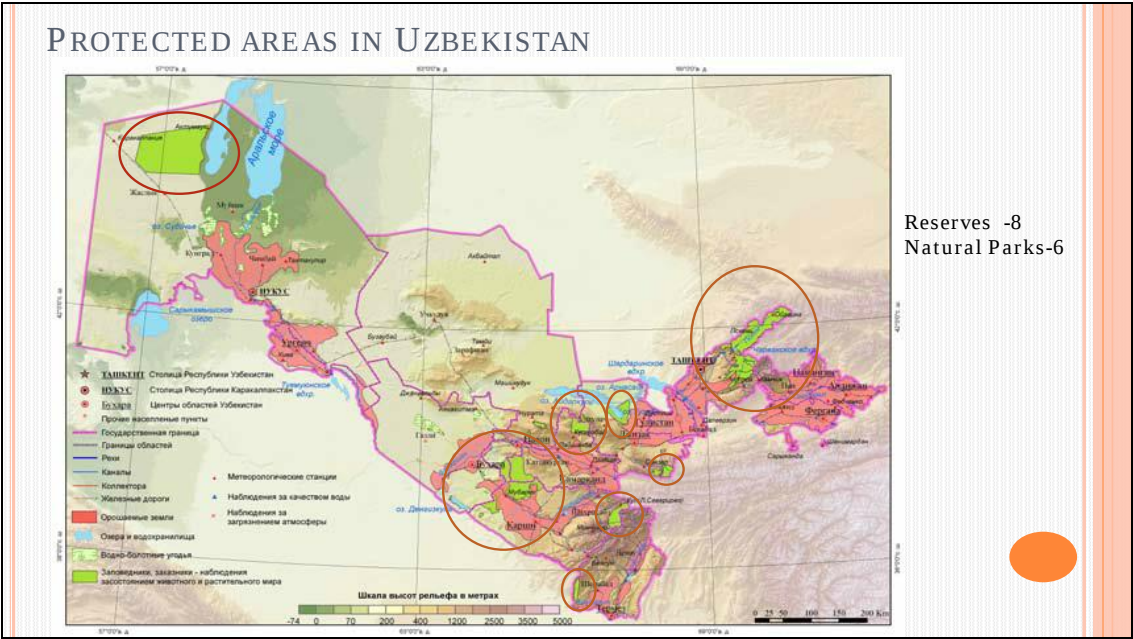
More than **75** thousand accessions on **147** different agricultural crops are conserved in **17** institutions of the country.

During several centuries has been established unique local assortment of fruits, vegetables, melons, cereals, oil-bearing crops and grape. They are conserved in *in-situ/on-farm* condition.



in <i>ex-situ</i> conditions	in <i>in-situ</i> conditions
Introduced materials, Rare disappearing species which are being under threat landraces and forms and their wild relatives are being under threat Modern breeding cultivars and hybrids, Genetic sources and donors of economic-valuable threats.	* germplasm availability * conservation of less well-collected species such as many crop wild relatives and large numbers of neglected and underutilized species with little or no representation

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スライド 8

PROTECTED AREAS IN UZBEKISTAN

Reserves and National Parks	Year of formation	Area, th.ha		Number of growing plant speds
		In all	Including forest	
State Reserves				
Chatkal Forest Biospherical Reserve	1947	45,7	6,6	1060
Zamin Mountain Juniper Reserve	1960	10,5	4,2	700
Gissar Mountain Juniper reserve	1983	80,9	12,2	870
Kizilkum Nature Reserve		1,01	5,1	120
Lower Amudarya biosphere reserve		6,5	3,9	640
Surkhan Nature Reserve	1987	24,6	-	800
Nurota Nature Reserve	1975	17,8	2,5	650
Kitob Mountain Geological Reserve	1979	5,4	2,8	800
National Parks				
Zaamin National Park	1978	24,1	12,1	1000
Ugam-Chatkal National Park	1990	574,6	56,4	1000
Zeravshan National Park	1975	2,4	0,9	300
Kitab Geological National Nature Park	2020	3,938		
Khoresm National Park	2019			
South Ustyurt National Park	2020	1,5 Mln		

PLANT DIVERSITY OF UZBEKISTAN (TREE)

Tree species representing

Fruit tree

Apricot (*Prunus armeniaca*)

Apple (*Malus domestica*)

Pomegranate (*Punica granatum*)

fig (*Ficus carica*, *F. afganistanica*)

grape (*Vitis jujuba*)

Silver berry (*Eleagnus orientalis*)

Mulberry (*Morus alba*, *M. nigra*)

Hackberries (*Celtis caucasica*)

Wild tree species

Russian olive (*Eleagnus angustifolia*)

Poplar (*Populus alba*, *P. ariana*, *P. usbekistanica*)

Maple (*Acer turkestanica*, *A. semenovii*, *A. pubescens*, *A. regelii*)

Ash (*Fraxinus sogdiana*, *F. raibocarpa*)

Aphyllum, *Haloxylon aphyllum*

Caligonum, *Malocarpus*

Nitraria, *Salsola*

Juniperus (*zeravshanica*, *turkestanica*, *semiglabosa*)

The flora of Uzbekistan is diverse in ancestors and wild relatives of cultured plants. Of special interest are wild relatives, which are of the greatest importance to cultivation of new and improvement of existing valuable cultivars.

This includes the species: *Juglans regia* L., *Amygdalus communis*, *Amygdalus bucharica* Korsch., *Diospyros lotus* L., *Ficus carica* L., *Punica granatum* L., *Pyrus turcomanica* Maleev, *Malus sieversii* (Ledeb.) M. Roem., *Vitis vinifera* L., *Ziziphus jujube* L., *Pistacia vera* L. etc., which are mainly concentrated in the mountainous regions of Uzbekistan.

PLANT GENETIC RESOURCES FOR AGRICULTURE (FIELD GENBANK)

- Field genbank has 2509 species for fruit 56,6 ha

- Apple (*Malus* Mill.)- 140 species,
- Pear (*Pyrus* L.)- 329 species,
- Quince (*Cydonia* Mill.)- 90 species,
- Plum (*Prunus* Mill.)- 150 species,
- Grape (*Vitis* L.)- 1800 species.

These species of collection is going regeneration process

Peach (*Persica* Mill.)

Big cherry (*Cerasus avium* (L.) Moench.),

Cherry (*Cerasus* Juss.)

Plum (*Prunus* Mill.)



Most table grapes are grown in the south part of Uzbekistan including Samarkand, Surkhandarya region, the Ferghana Valley as well as in the Tashkent region. The long warm to hot weather, combined with the well drained soils, are ideal for grape cultivation. In all approximately 37 grape varieties are cultivated both as table grapes and for wine production.

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PLANT DIVERSITY OF UZBEKISTAN (ENDEMIC SPECIES)

Most of the endemic species in Uzbekistan include relict species that were preserved after the Tethys sea was dried up and the desert climate has established in Central Asia. The mountains of the Pamir-Alai and the western Tien Shan are especially diverse in relicts. Undoubted relicts in the Pamir-Alai flora are (*Otostegia bucharica* B. Fedtsch.), (*Allium verticellatum* Regel), (*Astragalus thlaspi* Lipsky), (*Zygophyllum bucharicum* B. Fedtsch.), (*Cleome gordjagii* Popov) and others that are preserved in the speckled strata of low mountains in Kashkadarya and Surkhandarya provinces.

(*Fumariola turkestanica* Korsh.), (*Dionysia hissarica* Lipsky), (*Cephalorhizum opodum* Popov & Korovin), and (*Ostrovskia magnifica* Regel) are characterized by narrow habitats in different sites of the Pamir-Alai part of Uzbekistan.

A moderate number of endemic relicts have been preserved in the mountains of the western Tien Shan. The western Tien Shan relicts include (*Thesium minkwitzianum* B. Fedtsch.), the relict of an ancient African flora isolated from its nearest congener; (*Kamelinia tianschanica*) is an endemic species of the Akhangaran Valley;

(*Nanophyton botschantzevii* U.P. Praton) is one of the mountain representatives of the desert genus;

(*Kuramosciadum corydalisfolium* Pimenov, Kljukov & Tojibaev) is a recently recorded endemic species of the upper reaches of the Chorkesara, etc.

the flora of Uzbekistan has its own peculiarities, which are expressed in a high index of endemism – about 8%. Relict endemics constitute 10-12% of the total number of endemic species. Among endemic species, a special place is occupied by the representatives of genera *Tulipa* L., *Allium* L., *Gagea* Salisb., *Eremurus* M. Bieb, *Astragalus* L., *Cousinia* Cass., *Iris* L. and many others.



スライド 12

USEFUL WILD PLANTS IN THE FLORA OF UZBEKISTAN

Groups of plants according to their use	Families	Number of species
Food plants	<i>Rosaceae, Amaryllidaceae, Juglandaceae, Rhamnaceae</i>	More than 350
Fodder plants	<i>Poaceae, Fabaceae, Chenopodiaceae, Asteraceae</i>	1700
Medicinal plants	<i>Ranunculaceae, Lamiaceae, Rosaceae, Boraginaceae, Apiaceae u òp, Asteraceae, Peganaceae</i>	More than 800
Ether-oil plants	<i>Lamiaceae, Apiaceae</i>	650
Dye plants	<i>Malvaceae, Papaveraceae, Asteraceae</i>	150
Ornamental plants	<i>Liliaceae, Asphodelaceae, Iridaceae, Amaryllidaceae, Rosaceae, Asteraceae</i>	270
Culinary herbs and Spices	<i>Lamiaceae</i>	200
Saponin plants	<i>Fabaceae</i>	100

- **bottle gourd**-тыква бутылочная; тыква посудная-*Lagenaria vulgaris*, *Lagenaria siceraria*-однолетнее растение. Разводят в Узбекистане специально для емкости; из плодов изготавливают посуду, музыкальные инструменты, из семян получают пищевое масло; декоративное растение. В Узбекистане не производится в широко-масштабном эквиваленте. Today the Calabash can be found growing around the world, thriving in tropical and sub-tropical climates. В Узбекистане суб-тропический климат можно встретить в южной части (Сурхандарья)
- **white gourd**; white pumpkin-*Benincasa hispida* (Thumb)- no data about cultivation. But, previously, it was cultivated in large scale.
- **люффа**-*Luffa cylindrica* (L.) M. Roem.-Общее число видов — более 50. Но только два вида получили распространение в качестве культурных растений — это Люффа цилиндрическая (*Luffa cylindrica*) и Люффа остросеребристая (*Luffa acutangula*).



FAMILY: LILIACEAE

Colchicum

A total of 45 species in Uzbekistan

Colchicum luteum Baker

C.kesselrinii Rgl

Eremurus robustus

Allium

Garlic (*Allium sativum*)

Лук порей – *Allium porrum*

Лук репчатый-*Allium* сера

Allium motor, *Allium sp* (areal: **Tianshan ranges**-Parkent, Bostonliq)

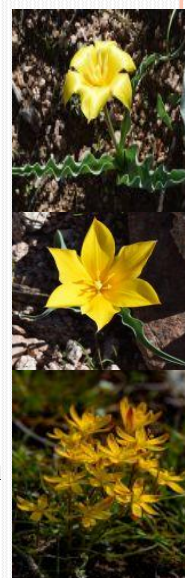
Lilium

Lily (*Lilium hybridicus*)

Tulipa

The total number of species is 70. More than 20 species are found in nature in Uzbekistan. Included in Red Book

Tulipa Fosteriana, T.Greigii, T.ingens, T.Kaufmanniana



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APIACEAE

In the flora of Uzbekistan, there are more than 220 species of Apiaceae.

The number of endemic Apiaceae species in Uzbekistan was reduced from 38 to 18.

Nowadays, Uzbekistan is a big exporter of *Ferula* sp. (gum) to India, Pakistan and China.




Apiaceae (medicinal purpose)

Cumin- *Bunium persicum* L. - it is very popular food ingredient in Central Asia.

Carrot - *Caucus carota* - Uzbek carrots are also exported to neighboring countries such as Kazakhstan and are marketed purposely as Uzbek carrots in foreign markets, as Uzbekistan is known for producing quality and flavorful produce. There are both foreign and domestic varieties encompassed under the Uzbek carrot name, with some of the most popular varieties being Mirzoi or Mirza Yellow, Mirzoi or Mirza Red, Mshak, and Nant es. Uzbek carrots are valued by commercial growers and home gardeners for their compact size, durability, long storage life, and resistance to disease. The roots are favored as an everyday ingredient and are utilized in a wide variety of both raw and cooked applications. In Uzbekistan, people consuming this food as store of vitamin E.

Wild carrot- *Daucus carota* L. fruits used as a diuretic. The plant extract has been used as a vermifuge and purgative, while carotinoids obtained from the roots used for ulcer, burning and kidney stones. For a long time, the essen-tial oils of wild carrot fruits have been used in medicine for making astringent and spicy extracts

Source of pictures: Yellow carrot: https://www.google.com/imgres?imgurl=https%3A%2F%2F1pinimg.com%2Foriginals%2F3d%2F80%2F7c%2F3d407c5643af5b1899d29d490de7706.png&imgrefurl=https%3A%2F%2Fwww.pinterest.com%2Fpin%2F269653096427986659%2F&hmid=1ahCYbV7eDas9M&ver=12ahUKEwjn0K3lgZjgAhWfKkQKHU03AY4QMgGegUIARCI1AQ_1&docid=5bhpmmrZh3bM&w=600&h=450&q=carrot%20family%20vegetables%20in%20uzbekistan&safe=active&ved=2ahUKEwjn0K3lgZjgAhWfKkQKHU03AY4QMgGegUIARCI1A

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SOLANACEAE

- In Uzbekistan, Solonaceae has 36 species of the 11 genus
- Eggplant or aubergine (*Solanum melongena*)
- Tomato -Tomatoes account for 40-45% of the total area under vegetable crops. 80% of the main crop is processed (conservation).
- Potato-*Solanum tuberosum* L.- appr. 20 types of potato growing in large scale in areas of Uzbekistan

SOLANACEAE(WILD)

- Паслён сладко горький -*Solanum dulcomara*,
- Паслён черный- *Solanum nigrum*,
- Паслён ольги- *Solanum olgae* Pojark,
- Паслён пропущенная -*Physalis praetermissa* Pojark,
- Дереза русская-*Lycium ruthenicum* Murr,
- Белена черная -*Hyoscyamus niger*,
- Белена крошечная -*Hyoscyamus pusillus*,
- Дурман обыкновенная-*Datura stramonium*

BRASSICACEAE

In Uzbekistan, this family includes 76 genera and about 200 species

Introduced	wild
Cabbage-Капуста- <i>Brassica olerace</i>	Рапс (<i>Brassica napus</i>)
Turnip-Репка- <i>Brassica rapa</i>	Сафлор-safflower (<i>Carthanius tinctorius</i>)
Radish-Редиска- <i>Raphanus sativns</i>	Пастушья сумка (Jag-jag)- <i>Capsella bursa-pastoris</i> (L.) Medic.
Зеленая редька-Турп- <i>Raphanus sativus</i> var. lobo	курттана-гулявник-sauce-alone (<i>Sisymbrium alliaria</i>)
Вайда- ўсма-Pastel - <i>Isatis tinctoria</i>	Горчица-mustard- <i>Sinapis</i> L.
	Лизель
	икотник серозеленый- <i>Besteroa incana</i> (L.) DC.
	индоу
	кромбе-Crambe L.

BRASSICACEAE

○ Cabbage

Brassica L.

○ Daikon

Daikon (*Raphanus sativus* subsp. *acanthiformis*) is introduced plant in Uzbekistan. In small hectares (10-15 ha) produced for soup ingredients and making salads in summer time. It is a promising cultivar, especially for industrial areas where polluted with heavy metals (Kashkadarya, Surkhandarya, Navoi, Zarafshan regions). For Uzbekistan, it is necessary introducing spring-summer types

LEGUMES

○ Soybean

- New varieties of legumes like **vegetable soybean** and mung bean, which increase soil fertility and are good for crop rotation, and the **Jerusalem artichoke** (or topinambour or girasol) are being taken up by farmers in Uzbekistan. What is good, these varieties are early-maturing and well adapted to the country's soil and climatic conditions. Average harvest around 18 c/ha, vegetable soybean is planted in around 20 th. ha of the land (2019), especially before cotton growing for crop rotation. Planned for 2021 growing around 21th.ha in Uzbekistan.



BRASSICACEAE

- **Broccoli** (*Brassica oleracea* var. *botrytis*, *B. oleracea* var. *italica*)
 - is introduced plant in Uzbekistan (annual). On food consuming crown (head) part. Mostly, private sector has grown these species for export in Russia. Currently, grown around 150 ha in Uzbekistan. Not resistant to the cold (-3C)
- **Cauliflower** (*Brassica oleracea* var. *botrytis cauliflora*)
 - is introduced plant in Uzbekistan (annual). On food consuming crown (head) part. Harvesting yield around 180c/ha.
- **Komatsuna** (*Brassica rapa* var. *Perviridis*)
 - is **not introduced** in Uzbekistan. “Japanese mustard spinach” has soft leaves, compare to the spinach. It is a very important cultivar in our country, such as in our country’s climate is more realiable to produce it.



CAPPARACEA

- Пастушья сумка (Jag-jag)- *Capsella bursa-pastoris* (L.) Medic.- Blood coagulant, used when vitamin deficiency. In spring time, local people consumed with mixing spinach for getting energy after winter period.

Amaranthaceae

- Spinach - *Spinacia oleracea*- only growing 2 types. One of them is berry spinach, which is grown among the spice plants.

Asteraceae

- Lettuce- *Lactuca sativa*. 5 varieties are growing in Uzbekistan. In Uzbekistan, “Blue Horn” varieties produced in 2002 by Uzbek Research Institute of Vegetables, Melons and Potatoes are grown.



POACEAE

Тимофеевка луговая- *Phleum pratense* (timothy grass)

Many cereals are a major component of natural hayfields and pastures, and are included: o'tloq timoti (*Phleum pratensis*), tipratikan (*Dactylis glomerata*), o'tloq feshesi (*Festuca pratensis*), ulkan bukilgan (*Agrostis gigantea*), qarovsiz gulxan (*Bromus inermis*), ko'p yillik somon (*Lolium perentens*) (o'tloq tulki), o'tloq bluegrass (*Poa pratensis*), baland javdar (*Arrhenatherum elatius*) va boshqalar Qizil feska (*F. rubra*), ko'p yillik javdar (*Lolium perenne*) and etc. It has used as lawn grass in ornamental horticulture. Also broadly used to fix moving sands (*Ammophila arenaria*) and sandy spikelet (*Leymus arenarius*)

Hie (*Echinochloa esculenta*)-Japanese millet-no data

MAIZE

- *Zea mays* L.-In Uzbekistan, irrigated lands can produce 100-110 s / ha of grain and 800-1000 s / ha of silage. Advanced farms produce 80-100 c / ha of grain on large areas. Currently, most hybrid types exported from China and Holland. Mix maize with alfalfa are widely grown in Uzbekistan. Also, tested sorghum (*Sorghum bicolor*) and pearl millet (*Pennisetum glaucum*) seeds from ICBA varieties in Central Asia.

FOXTAIL MILLET

- просо итальянское (*Setaria italica*)- not cultivated in Central Asia.

Rye

Рожь -*Secale cereale*- group of annual and perennial plants belonging to the family of cereals, cereals. Of the 13 species, 11 are wild. One of the 2 species is found in the fields as a weed (*S. segetale*). Rye is rarely cultivated in Uzbekistan (8,000 ha, 1999).

DEVELOPING MONITORING AND EARLY WARNING SYSTEMS FOR LOSS OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE IN UZBEKISTAN

- In this subject the less attention has been drawn by Government and researchers. In fact, the international projects has been involved like FAO, UNDP, etc. and their investment money is less than 1% equal to plant genetic aspects.
- In some institutes double collections are created. The estimation of genetic erosion is carried out within international projects UNEP GEF, IPGRI framework.
- Public awareness of the value of plant genetic resources for food and agriculture conservation and use has been less described in TV, radio (broadcasting)

CONCLUSIONS

For improvement and effective use of plant genepool priority direction are:

- almost **95% of the information is not in the electronic form** and it is necessary to conduct this work the next years.
- Perfecting of the legislation and dilation of the National Program on plant genetic resources
- **Carrying out of monitoring of plant genetic resources status for its efficient management and use.**
- Enrichment of genepool by way of collecting missions in the Central Asia and collecting of valuable landraces, rare and disappearing species, and also introduction, exchange between genebanks.
- Improvement storage conditions of ***ex-situ* collections in institutions.**
- Periodic multiplication of accessions.
- Development of double collections of fruits and grape.
- Development of methods of regeneration for plant species of which the multiplication is difficult.
- Realization of documentation and development of database on genetic resources of agricultural crops.
- Development of cooperation with international centers and organizations in the field of plant genetic resources.
- Molecular methods of investigations are applied basically in small amount on cotton.

CONCLUSIONS (CONT)

- *Ex situ* conservation of plant genetic resources is an important endeavor that provides security for loss of crop diversity in the field and ease of access, and hence usage, for research and crop improvement. It can also allow reintroduction into their natural habitat when the species or crops have disappeared.
- *In situ* conservation on farm remains a vital part of ensuring germplasm availability for use by future generations through the combination of evolution that happens between the crop, the environment and the human selection component. It also ensures **the conservation of less well-collected species such as wild relatives and large numbers of neglected and underutilized species with little or no representation in *ex situ* collections.**
- It is not enough to have just a few farmers engaged in *in situ* conservation. Scale matters. Uzbekistan needs a lot more attention to give *in situ* conservation, if we are to conserve the crop diversity that is essential for our future food security.

CONCLUSIONS (CONT.) PROPOSAL

IMPROVING THE NATIONAL INFORMATION SHARING MECHANISM

- A number of institutes and organizations which have collected the available information related to the plant genetic diversity is still required to input into computer (digitizing)
- Gaps still exist among partners and stakeholders in relation to the collecting, managing and sharing of seeds and information.
- Farmers are less interested in wild native plants and do not contribute to the promotion and growing of wild natives plants (for conservation of natural genetics)

PROPOSED PROJECTS

- Uniquely collect all wild tree species in Uzbekistan and digitizing all available sources for wild tree species (*areal of distribution*)
- Collection of all types of tulips and creation of unique land for grow all types of tulip
- Collection of decorative plant species from family **Alliaceae** and **Amaryllidaceae**
- Endemic plant: conservation of *Otostegia bucharica* & *Sperostegia bucharica* in the Surkhandarya region (Red Book)
- Producing and growing following species in our country (recommended in large scale): daikon, Japanese mustard spinach

PROPOSED WILD TREES FOR UZBEKISTAN WHICH WILL ADAPTED
TO CLIMATE CHANGE CONDITIONS

- Ryabina (*Sorgus persica*, *S.tianschanica*, *S.turkestanika*)
- Sariq dolana (*Pratageous pontica*)
- Cherry (*Prunus devaricata*)
- Pear (*Pyrus regelii*, *P. bucharica*, *P. communis*)
- Grapes
- Apple

Спасибо за внимание
Thank you for your attention

ABS legal framework and its implementation and competent authorities in Uzbekistan

ABS legal framework

RESOLUTION of THE
CABINET of MINISTERS
OF THE REPUBLIC OF
UZBEKISTAN

“ON THE PROCEDURE
FOR THE REGULATION
OF THE USE OF
BIOLOGICAL RESOURCES
AND THE PROCEDURE
FOR PERMISSION IN THE
FIELD OF NATURE USE”
(11,10,2014)

<https://lex.uz/docs/2485765>

LAW “ON THE
PROTECTION AND USE OF
PLANTS”
(21.09.2016)

<https://lex.uz/acts/303036>

RESOLUTION of THE
CABINET of MINISTERS
OF THE REPUBLIC OF
UZBEKISTAN “ON
APPROVAL OF
BIOLOGICAL DIVERSITY
CONSERVATION
STRATEGY IN THE
REPUBLIC OF
UZBEKISTAN FOR 2019-
2028”
(11,10,2019)

<https://lex.uz/docs/2485765>

Competent authorities responsible for the ABS regulation

- ▶ Law on “ABOUT CHANGES AND ADDITIONS TO THE LAW OF THE REPUBLIC OF UZBEKISTAN «ON THE CABINET OF MINISTERS OF THE REPUBLIC OF UZBEKISTAN” <https://www.lex.uz/docs/4636598>
- ▶ **Article 14. Cabinet of Ministers:** ensures the implementation of a **unified state policy in the field of ecology and environmental protection and ensuring environmental safety...**

RESOLUTION OF THE CABINET OF MINISTERS OF THE REPUBLIC OF UZBEKISTAN “ON THE PROCEDURE FOR THE REGULATION OF THE USE OF BIOLOGICAL RESOURCES AND THE PROCEDURE FOR PERMISSION IN THE FIELD OF NATURE USE”

General rules

Use of objects of the plant world

The procedure for passing licensing procedures in the field
of using objects of the flora(растительного мира)
<https://lex.uz/docs/2485767>

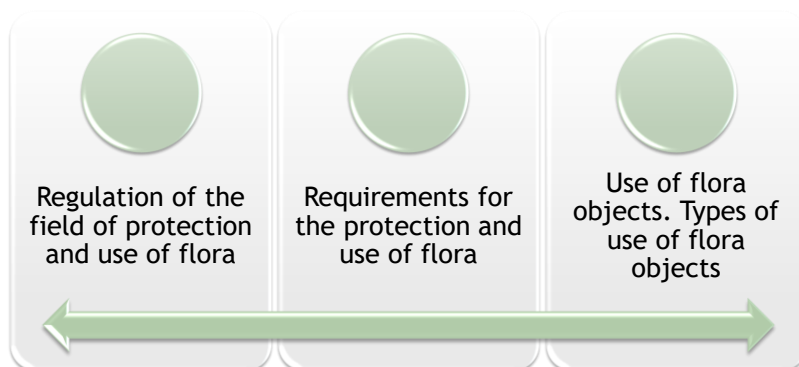
The procedure for passing licensing procedures in the field of using objects of the flora (<https://lex.uz/docs/2485767>)

Permits to perform actions and (or) carry out certain activities in the field of using objects of the flora are issued by the relevant authorized bodies

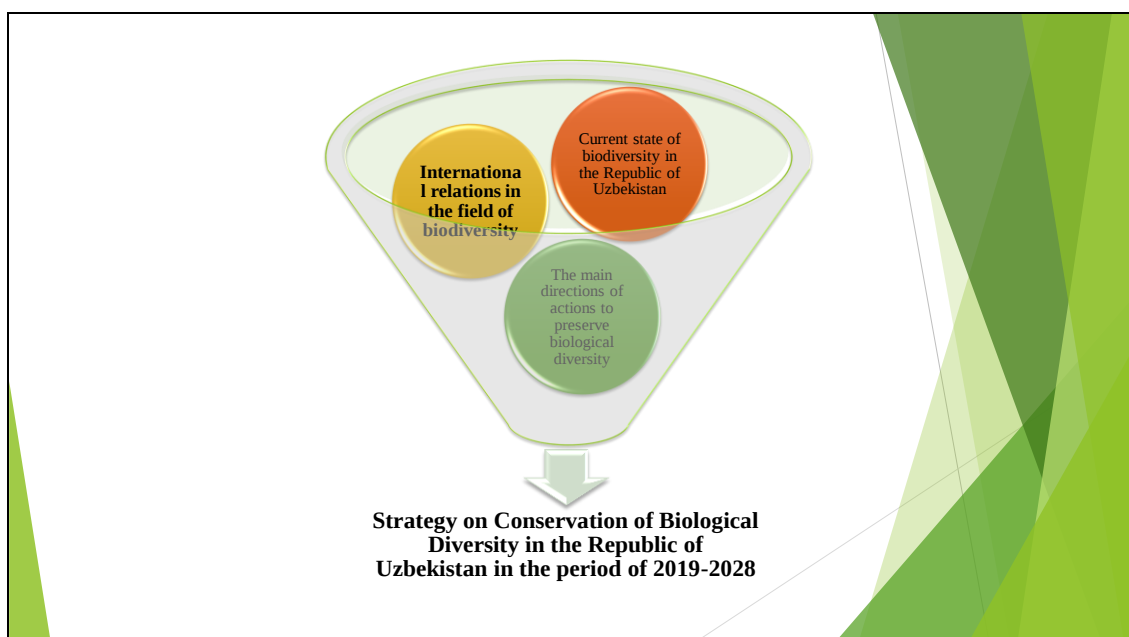
- ▶ The State Committee for Ecology and Environmental Protection of the Republic of Uzbekistan:
- ▶ For collection of plant species not included in the Red Book in the whole territory of the Republic of Uzbekistan from the natural environment;
- ▶ For extraction of rare and endangered plant species listed in the Red Book of the Republic of Uzbekistan from the natural environment;
- ▶ to bring in and take away wild plants, their parts; for haymaking and grazing livestock;

(Compliance with the legislation on protection and use of flora is obligatory for legal entities and individuals (this legislation also applies to foreign legal entities))

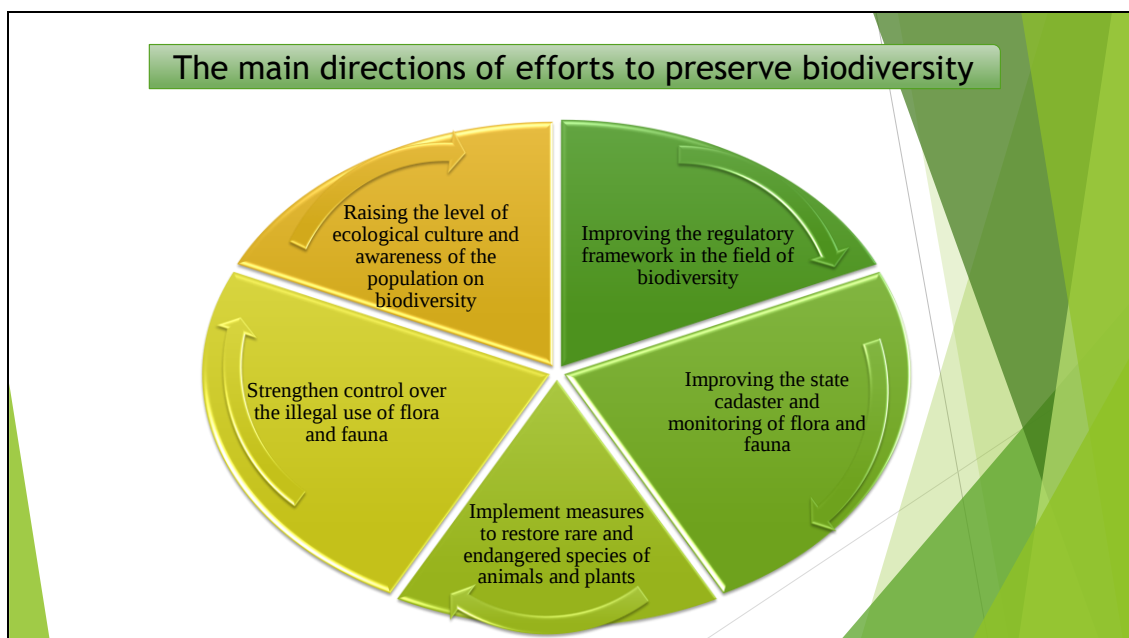
LAW “ON THE PROTECTION AND USE OF PLANTS”



スライド 7



スライド 8



Intellectual property in the field of seed production

The diagram consists of two green rounded rectangular boxes. The top box is preceded by a small cluster of five green dots. The bottom box is preceded by a small cluster of three green dots. To the left of each box is a light green circle.

- Any legal entity or individual can grow and use seeds of varieties and hybrids that are not protected by a patent or certificate.
- Patent holders, as well as licensed legal entities and individuals, have the right to grow and use seeds of varieties and hybrids protected by the patent.

Import and export of seeds

law on “seed breeding”

The diagram features two large green arrows: one pointing upwards and one pointing downwards, positioned to the left of the text. The text is organized into two paragraphs, one above the other.

Seeds imported and exported for **scientific purposes** and for **testing** are **not subject to customs duties and are not subject to quotas or licensing**.

Seeds to be exported from the territory of the Republic of Uzbekistan shall be accompanied by a phytosanitary certificate issued by the State Inspectorate for Plant Quarantine of the Republic of Karakalpakstan, regions and the city of Tashkent.

<https://lex.uz/docs/4202692>

Article 28. Import and export of seeds

law on "seed breeding"

Import of seeds to the territory of the Republic of Uzbekistan is allowed provided that:

- ▶ the seeds of cotton, cereal crops and potatoes belong to the variety and hybrid, which are included in the State Register of agricultural crops recommended for sowing on the territory of the Republic of Uzbekistan;
- ▶ there is a certificate of conformity and a phytosanitary certificate for seeds, as well as a quarantine permit;
- ▶ seeds are intended for selection and research work, display.
- ▶ When importing seeds (with the exception of cotton seeds, grain crops and potatoes), the results of tests carried out by foreign laboratories accredited by international accreditation organizations are recognized, in cases where the requirements applied during testing are not inferior to similar requirements in force in the Republic of Uzbekistan.

Article 32. Intellectual property in the field of seed production

law on "seed breeding"

- ▶ The right to produce and use seeds of varieties and hybrids protected by a patent is held by patent owners, as well as legal entities and individuals who have a license.
- ▶ Seeds of varieties and hybrids that are not protected by a patent or certificate can be produced and used by any legal entities and individuals.

Thank you very much