APPROVED BY

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PLAN FOR DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION IN AGRICULTURE SECTORS OF SALAM-ALIK AIYL AIMAK

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INRODUCTION

The Plan on disaster risk reduction and climate change adaptation for Aiyl aimak was developed by the Salam-Alik Aiyl okmot in compliance with requirements of legislation of Kyrgyz Republic, that regulates the activities of state bodies and local governments in the field of disaster risk reduction and adaptation to climate change in cooperation with the regional state administration, territorial structural divisions of ministries, state committees, administrative departments and other state bodies¹.

Main goals of the Plan for disaster risk reduction and climate change adaptation are:

- ♦ Identification of priority measures for disaster risk reduction and adaptation to climate change and its integration with strategy socio-economic development of Aiyl Aimak;
- Definition of objectives and time frame of activities;
- ◆ Determination of required resources for implementation including allocations from various budgets.
- ♦ Determination of implementation indicators of Plan and its implementation monitoring mechanism.

Activities for disaster risk reduction and adaptation to climate change and determined, based on:

- -; analysis of climatic conditions of exposure of the agricultural sector of Salam-Alik Aiyl aimak to hazardous natural phenomena and consequences of emergency situations;
 - analysis of agriculture condition;
 - development objectives identified by the community, state authorities and Salam-Alik Aiyl Okmot,
- assessment of the allocated own financial resources, the republican budget and transfers from external financial sources.

The Plan for Disaster Risk Reduction and Climate Change Adaptation (DRR and CCA) is a detailed version of section III of the civil protection plan of Aiyl l Aimak "Measures to prevent emergency situations and increase preparedness", approved by the head of Aiyl okmotu - chief of civil protection of Salam-Alik Aiyl aimak January 10, 2018, focused on agricultural sectors (crop production, forestry, livestock, fish farming, poultry farming, etc.) complementing the Strategy of Socio-Economic Development of Aiyl Aimak for 2018-2023, approved by the decision of the local Kenesh of the Salam-Alik Aiyl Aimak, Resolution No. 78 of March 1, 2018.²

The content and structure of the plan were discussed at the meetings of the steering committee and the technical working group, between national stakeholders (Ministry of agriculture, MES, SAEPF, National Statistical Committee, State Agency for Local Government and Interethnic Relations) and approved by the Project Steering Committee under TCP / KR /

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¹ Annex 1. Legislation in the field of DRR and CCA in agriculture

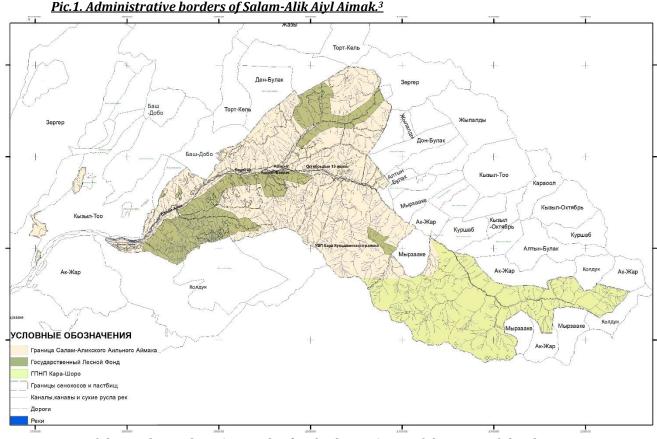
² <u>Annex 2. Strategy of socio-economic development of Ayil aimak for 2019-2023</u>

3702 " Strengthening capacity for disaster risk reduction and disaster preparedness in the agricultural sector of the Kyrgyz Republic."

CHAPTER I. REVIEW OF AGRICULTURE SECTORS OF SALAM-ALIK AIYL AIMAK

Salam-Alik Aiyl aimak was established in 1996 and is part of Uzgen district of Osh region. The capital is Salam-Alik village, located 34 km from the district center of Uzgen and 95 km from the regional center - Osh.

According to the administrative borders (pic.1) the terroriry of Aiyl aimak is located in valley of Zhazy river, surrounded by maintain ranges Suu-Dobo and Torgoi.



Area of the Aiyl aimak is 538.01 km^2 , which is 15.8% of the area of the district.

The Aiyl aimak includes seven villages: Kyzyl-Charba, Salam-Alik, Ak-Terek, Kosh-Eter, Kyzyl-Bayrak, Aragol, 15-zhash. The resident population according to the National Statistical Committee of the Kyrgyz Republic as of January 1, 2019 is **8269** people. Full demographic data, disaggregated by age and sex of the population, are shown in the Civil Protection Plan of the Aiyl Aimak, approved by the head of the Aiyl Okmotu - the Head of the Civil Protection of the Salam-Alik Aiyl Aimak on 19.01.2019.

³ https://drive.google.com/drive/folders/1z2vFIRW4jmKO3ECLfqAt4Mc9IZMc7yXD

Table 1. Demographic indicators (distribution of the population of the Salam-Alik Aiyl aimag by individual age groups)

| | | | Child | lren | Able-b | odied | Pensi | oners | 100 | |
|----|---------------------|-------|-------|------|--------------------------|------------------------|-------|-------|------------|-------|
| № | Names of localities | Years | Girls | Boys | Women 16-62 years old | Men 16-62 years old | Women | Men | Households | Total |
| | | 2017 | 206 | 245 | 366 | 364 | 24 | 15 | 210 | 1220 |
| 1. | Kyzyl-Charba | 2018 | 188 | 232 | 431 | 411 | 61 | 26 | 245 | 1349 |
| | | 2019 | 236 | 286 | 402 | 391 | 36 | 25 | 248 | 1376 |
| | | 2017 | 302 | 276 | 504 | 525 | 41 | 25 | 340 | 1673 |
| 2. | Salam-Alik | 2018 | 293 | 289 | 558 | 576 | 45 | 30 | 302 | 1791 |
| | | 2019 | 383 | 347 | 485 | 504 | 51 | 33 | 358 | 1803 |
| | | 2017 | 231 | 245 | 361 | 376 | 18 | 16 | 243 | 1247 |
| 3. | Ak-Terek | 2018 | 218 | 217 | 382 | 395 | 26 | 22 | 237 | 1260 |
| | | 2019 | 254 | 279 | 354 | 339 | 24 | 29 | 245 | 1279 |
| | | 2017 | 200 | 180 | 283 | 322 | 36 | 20 | 189 | 1041 |
| 4. | Kosh-Eter | 2018 | 171 | 167 | 319 | 353 | 48 | 23 | 193 | 1081 |
| | | 2019 | 222 | 254 | 277 | 305 | 22 | 20 | 216 | 1100 |
| | | 2017 | 171 | 188 | 249 | 259 | 24 | 10 | 166 | 901 |
| 5. | Kyzyl-Bairak | 2018 | 152 | 173 | 302 | 314 | 38 | 10 | 172 | 989 |
| | | 2019 | 186 | 218 | 271 | 260 | 23 | 12 | 183 | 970 |
| | | 2017 | 147 | 174 | 345 | 341 | 14 | 23 | 193 | 1044 |
| 6. | Ara-Kol | 2018 | 159 | 169 | 326 | 362 | 50 | 29 | 202 | 1095 |
| | | 2019 | 189 | 218 | 279 | 311 | 29 | 25 | 203 | 1051 |
| | | 2017 | 113 | 121 | 188 | 214 | 13 | 9 | 127 | 658 |
| 7. | 15-Zhash | 2018 | 94 | 98 | 205 | 238 | 24 | 15 | 131 | 674 |
| | | 2019 | 115 | 143 | 191 | 227 | 11 | 5 | 140 | 692 |
| | | 2017 | 1199 | 1241 | 2047 | 2142 | 146 | 108 | 1468 | 6883 |
| | Total | 2018 | 1275 | 1345 | 2523 | 2649 | 292 | 155 | 1482 | 8239 |
| | | 2019 | 1585 | 1745 | 2259 | 2337 | 196 | 149 | 1593 | 8271 |

According to Table 1. the birth rate increases annually by 3-4%. Over the last 2019, their number increased by 111 households due to the allocation of land plots.

According to demographic indicators, the group of the most vulnerable part of the population of the Salam-Alik Aiyl aimag is about 72% of the total population, that is, 5934 people (children under 16, women and pensioners).

1.1. Land resources

According to the official data (1988), received from State Agency of land management under the Government of Kyrgyz Republic (Kyrgyzgiprozem) the analysis by categories of lands on the territory of Salam-Alik Aiyl aimak has been carried out. For the analysis, quantitative indicators were determined for each category of land and a conditional degree of land value was assigned ⁴, Table 2.

⁴ Determinations are taken from conventional gradation with most economic damages and are not constant

Quantities (area of objects) were calculated using the Geometry Calculator tool in ArcGIS Desktop software, and a percentage was derived from the geometry calculation.⁵.

Table 2. Data of land categories of Salam-Alik Aiyl aimak

| Distribution of land category by purpose | Area ha | % From total area | land worth |
|---|----------|-------------------------|------------|
| Land of agriculture, total | 27293,90 | 50,73 | |
| Irrigated arable land | 549,93 | 1,02 | 3 |
| Pastures | 22387,83 | 41,61 | 2 |
| Pastures with irrigation network | 13,81 | 0,03 | 3 |
| Bushes | 3100,28 | 5,76 | 2 |
| Gardens | 36,66 | 0,07 | 3 |
| Forests | 353,81 | 0,66 | 3 |
| Woodland | 86,05 | 0,16 | 2 |
| Forest belt | 2,66 | 0,005 | 1 |
| Semi-shrubs | 762,87 | 1,42 | 2 |
| Lands for industrial, transport, energy supply, defense purposes, total | 30,95 | 0,06 | 3 |
| Land of settlements | 272,72 | 0,51 | 3 |
| Water management lands | 121,32 | 0,23 | 3 |
| Forestry lands | 9 326,37 | 17,33 | 3 |
| Lands of specially protected natural areas (National Park "Kara-Shoro") | 15637,46 | 29,07 | 3 |
| Other lands | 1118,64 | 2,08 | 1 |
| Total across Aiyl aimak | 53801,36 | | |

According to table 2, according to the state registration of the Aiyl aimak, agricultural land is 27,293.9 hectares, which is 50.73% of the total area of the Aiyl aimak. The main part of agricultural land is pasture - 24 932 hectares, that is, 91% of the total area of agricultural land.

A small part of agricultural land is irrigated arable land - 549.93 hectares, that is, about 2% of the total area of agricultural land, which are mainly located in the valley part of the Aiyl aimak and are subject to the risk of mudflows.

According to statistical data for 2019, there are 14 hectares of unused arable land in the Salam-Alik Aiyl aimak, of which 2 hectares of irrigated arable land in the village. Salam-Alik, washed away as a result of erosion processes in the period 2010-2011, since they were not written off from the accounting of agricultural lands. The remaining 12 hectares of rainfed arable land are not used due to remoteness from settlements⁶.

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⁵ Annex 9. Report on risks on the terrotiry of Salam-Alik Aiyl aimak and exposures to natural disasters

⁶ Annex 8. Informational data of Salam-Alik AA

Table 3. Area of agriculture lands as of 01.01.2020 z. (according to the working group on the development of a plan for disaster risk reduction and adaptation to climate change in the agricultural sector of Salam-Alik AA annex 8)

| | uster risk reduction | | | Area of agriculture lands | | | | | Area of agriculture lands | | | | |
|-----------|----------------------|----------------------|------------|---------------------------|-------|------------------|-------|-----------------|---------------------------|----------------------|-------|-----------------|----------|
| | splo | | Irrigative | | dı | dry Hay pastures | | Gardens | | Vegetable gardens | | | |
| № п.п. | Settlements title | Amount of households | Total | Per 1 household | Total | Per 1 household | Total | Per 1 household | Total | Per 1 household | Total | Per 1 household | Total |
| 1. | Kyzyl-Charba | 248 | 93 | 0,4 | 27 | 0,1 | 136 | 0,5 | 3,9 | 0,02 | 43 | 0,17 | 302,9 |
| 2. | Salam-Alik | 358 | 72 | 0,2 | 36 | 0,1 | 171 | 0,5 | 5,8 | 0,02 | 58 | 0,16 | 342,8 |
| 3. | Ak-Terek | 245 | 53 | 0,2 | 45 | 0,2 | 125 | 0,5 | 4,8 | 0,02 | 35 | 0,14 | 262,8 |
| 4. | Kosh-Eter | 216 | 44 | 0,2 | 36 | 0,2 | 143 | 0,7 | 4,4 | 0,02 | 35 | 0,16 | 262,4 |
| 5. | Kyzyl-Bairak | 183 | 39 | 0,2 | 29 | 0,2 | 95 | 0,5 | 3,9 | 0,02 | 35 | 0,19 | 201,9 |
| 6. | Ara-Kol | 203 | 51,9 | 0,3 | 32 | 0,2 | 180 | 0,9 | 4,5 | 0,02 | 29 | 0,14 | 297,43 |
| 7. | 15-zhash | 140 | 47 | 0,3 | 24 | 0,2 | 77 | 0,6 | 3 | 0,02 | 30 | 0,21 | 181 |
| 8. | FPZ | | 150 | | 43 | | 172 | | 6,36 | | | | 371,36 |
| | Total | 1593 | 549 | | 272 | | 1 099 | | 36,6 | | 265 | | 2 222,59 |

Table 3 shows that each household has 20-30 ares of irrigated land. Small area of irrigated area allows residents of Salam-Alik Aiyl aimak to grow mainly vegetable crops. Due to the small area of irrigated plots, vegetable gardens, orchards), care for them (watering, weeding) is mainly entrusted to older children and women.

1.2. Crop and Livestock

Aiyl aimak has developed crop and livestock production. In the Aiyl aimak in the field of agriculture there are no state, collective and cooperative farms (seed, pedigree farms, experimental stations and others), **1572** private peasant households function. All peasant farms have shared land plots and livestock. Many are tenants of the Uzgen forestry enterprise.

In the Salam-Alik Aiyl Aimak, there are production facilities and the provision of services in the agricultural sector:

- two electric mills (in the village of Kyzyl-Charba and the village of Ak-Terek) for the processing of corn;
- veterinary service in the village. Salam-Alik;
- mini-shop for the production of jam in the village Salam-Alik;
- greenhouse for growing tomatoes and cucumbers in the village Ak-Terek;
- fruit processing shop in the village Aragol.

1.2.1. Crop production

Since the region is more livestock breeding, crop production is mainly aimed at providing a fodder base for animal husbandry.

Table 4. Structure of sowing areas in 2020 7

| Nº п.п | Crops title | Sowing area (ha) | yield (c\ha) | Expected harvest (t) |
|-----------|------------------------|------------------|--------------|----------------------|
| 1. | Wheat | 50 | 19 | 95 |
| 2. | Barley | 30 | 18 | 540 |
| 3. | Corn | 198 | 60 | 1188 |
| 4. | Rice | 2 | 30 | 6 |
| 5. | Sunflower | 10 | 10 | 10 |
| 6. | Potatoes | 20 | 150 | 300 |
| 7. | Vegetables | 15 | 200 | 300 |
| 8. | Fruit | Fruit 72 | | 108 |
| 9. | Perennial forage crops | 223 | 36,4 | 8117,2 |
| 10. | Haymaking | 1099 | 20 | 2198 |

As can be seen from Table 4, the main sown area is devoted to forage crops. Agricultural crops intended to provide food to the population are grown on small plots and are aimed at satisfying their own needs, the surplus is sold in the bazaars of the cities of Uzgen, Osh and Karasu (more often in the city of Uzgen).

<u>Table 5.</u> Crop production (according to the working group on the development of a plan for disaster risk reduction and adaptation to climate change in the agricultural sector of Salam-Alik AA)

| Nº | Products by type | unit | 2017 | 2018 | 2019 |
|----|------------------|------|------|------|------|
| 1 | Wheat | ton | 80 | 90 | 95 |
| 2 | Corn | ton | 850 | 900 | 912 |
| 3 | Potatoes | ton | 150 | 150 | 150 |
| 4 | Barley | ton | 500 | 500 | 500 |
| 5 | Rice | ton | 5 | 6 | 6 |
| 6 | Sunflower | ton | 9 | 9 | 10 |
| 7 | Vegetables | ton | 300 | 300 | 300 |
| 8 | Fruit | ton | 123 | 123 | 110 |
| 9 | Perennial forage | ton | 5500 | 6000 | 6000 |
| 10 | Нау | ton | 2198 | 2198 | 2198 |

An additional income part of the residents of the AO is the lease of areas of walnut trees from forestry, where, on average, tenants are allocated areas from 1 to 2 hectares. The average harvest of nuts is 500 to 1000 kg of nuts. The prices for nuts vary from 30 to 50 som per kg.

1.2.2. Livestock

The geographical location of Salam-Alik Aiyl aimak creates a favorable environment for the development of animal husbandry.

Livestock raising in agriculture and in the life of the Aiyl aimak has been and continues to be of exceptional importance. The role and importance of animal husbandry is determined by the following objective factors:

 the presence of natural high-mountain pastures and hayfields on the territory of the Aiyl aimak;

⁷ Annex 8. Information on Salam-Alik AA

• stable demand for livestock products in the region.

<u>Table 6.</u> The number of registered agricultural animals in the AA as of 01.01.2020 (according to the data of the working group on the development of a plan for disaster risk reduction and adaptation to climate change in the agricultural sector of the Salam-Alik AA.)⁸

| Nº п.п. | Settlements title | Cattle | Horses | small ruminants | Birds | Beehives |
|------------|-------------------|--------|--------|--------------------|-------|----------|
| 1. | Kyzyl-Charba | 395 | 159 | 907 | 1 120 | 211 |
| 2. | Salam-Alik | 512 | 135 | 1 092 | 1 400 | 354 |
| 3. | Ak-Terek | 671 | 265 | 1 196 | 1 200 | 858 |
| 4. | Kosh-Eter | 478 | 145 | 1 034 | 1 256 | 325 |
| 5. | Kyzyl-Bayrak | 380 | 164 | 1 002 | 1 120 | 330 |
| 6. | Ara-Kol | 377 | 173 | 765 | 1 000 | 845 |
| 7. | 15-zhash | 283 | 154 | 648 | 560 | 405 |
| | Total | 3 096 | 1 195 | 6644 | 7 656 | 3328 |

According to the information of Salam-Alik okmotu and Zhayit committee the total area of pastures as of 01.01.2020 is 24 932 ha, including using pastures – 5 570 ha.⁹

The total area of unused pasture land is 19,362 hectares:

- pastures Kara-Tash, Zhaltyrak-Tash, Kotur-Bash, with a total area of 9,762 hectares, are not used due to the rocky relief and the density of shrub plants;
- pastures Bash-Terek and Oytal, with a total area of 9,600 hectares, were transferred to the Kara-Kuldzhinsky region for long-term temporary use.

Table 7. Distribution of livestock by pasture for 2020 (according to the association of pasture users of the Salam-Alik Aiyl aimak) 10

| Nº | Names of settlements | Number of households Name of pastures | | Number of livestock |
|----|----------------------|---------------------------------------|-------------------------------------|--|
| 1. | Kyzyl-Charba | 248 | Shore | Cattle – 280, Little cattle – 475, horses – 177 |
| 2. | Salam-Alik | 358 | Jyrgal-Saz, May-Bulak | Cattle – 255, Little cattle – 725, horses – 224 |
| 3. | Ak-Terek | 245 | Torgoy,Tash-Bashat, Tash- Mechet | Cattle – 289, Little cattle – 952, horses – 158 |
| 4. | Kosh-Eter | 216 | Chiymel-Tash, Kamyr | Cattle - 433, Little cattle - 1237, horses - 55 |
| 5. | Kyzyl-Bayrak | 183 | Complaints, Zhurok | Cattle – 418, Little cattle – 2060, horses – 149 |
| 6. | Ara-Kol | 203 | Goal, Supa, Tuyuk-Suu, Tuura-Suu | Cattle – 591, M Little cattle – 700, Horses – 131 |
| 7. | 15-zhash | 140 | Zhurok, Kyrk-Zhon | Cattle – 354, Little cattle – 400, horses - 91 |

10 Annex 10. Pasture data

⁸ Annex 8 Informational data of Salam-Alik AA

⁹ Annex 10. Pastures information

At the same time, a comparative analysis of Tables 6 and 7 shows that in order to meet daily needs for food (milk), the population leaves up to 15% of cows (CATTLE) on nearby pastures and up to 17% of horses as draft means.

According to table 7, the produced livestock products mainly cover the needs of the population for food and a small part is sold on the market in the Uzgen city.

Table 8. Produced livestock products in Salam-Alik Aiyl aimak (according to the working group on the development of a plan for disaster risk reduction and adaptation to climate change in the agricultural sector of Salam-Alik AA)

| Nº | Products by type: | Measure | 2017 | 2018 | 2019 |
|----|-------------------|---------|-------|-------|-------|
| 1 | Meat | Tons | 763 | 780 | 795 |
| 2 | Milk | Liter | 3300 | 3400 | 3450 |
| 3 | Wool | Tons | 15,6 | 15,7 | 15,7 |
| 4 | Eggs | ріесеы | 39800 | 36800 | 37200 |
| 5 | Honey | Tons | 52,3 | 53,7 | 54,4 |

Average consumer prices for livestock products in December 2019 in the city of Uzgen were on average: fresh milk - 36.47 soms; lamb - 298.05 soms; beef - 324.83 soms.

1.3. Forestry.

Forests on the territory of the Salam-Alik Aiyl aimak are represented by mountain plantations and are quite diverse. Mostly forests are located at an altitude of 1300 to 3000 meters above sea level.

1.3.1. Salam-Alik Aiyl Aimak forests.

As of January 1, 2018, the forested area of the Salam-Alik Aiyl aimak is $13\,185$ ha, or 24.5% of the total area of the Aiyl Aimak .

The main forest-forming species are walnut, apple, hawthorn, juniper.

Walnut forests are located in the Ak-Terek Kolot, Kepeli, Shar and Konurbay areas.

From the side of the Aiyl Okmotu, deforestation to provide the population with firewood is not provided, the population is provided with firewood through the forestry enterprise.

In turn, the Salam-Alik Aiyl Okmotu, in order to reduce the impact of floods, landslides and droughts on livestock and crop production, with material and financial assistance from international organizations, takes measures to restore natural ecosystems.

For example, the National Association of Pasture Users of Kyrgyzstan "Kyrgyz Zhaiyty" with the support of the Food and Agriculture Organization of the United Nations (FAO UNDP) within the framework of the project "Strengthening Disaster Risk Reduction and Disaster Preparedness in the Agricultural Sector of the Kyrgyz Republic" has been implementing activities since December 2019 to create a multi-storey agroforestry system¹¹.

The creation of a multi-storey agroforestry system in the future will ensure the best combined use of agricultural crops in order to reduce the impact of floods, landslides and droughts.

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¹¹ Annex 16. Data on the project of the National Association "Kyrgyz Zhaiyty"

A multi-storey agroforestry system also ensures a more equitable distribution of income and employment for the local population, taking into account the control of land degradation, increasing the productivity of the system and meeting domestic needs for food, fuel and feed.

The creation of a demonstration site for developing a multi-storey agroforestry system began on the Ak-Terek site in March 2020 on 0.96 hectares of land allocated to the Salam-Alik ayil okmot from municipal lands.

At the demonstration site, planting of elm seedlings was organized (to create a buffer zone in one section of the river to prevent the risks of floods and coastal erosion), fruit trees (in particular, apple trees to meet household needs for food), alfalfa (to prepare feed for livestock). Due to the lack of an irrigation system on the site, an irrigation pump was installed.

Fig. 2. Implementation of the multi-storey agroforestry system project









As you can see in Figure 2, during the implementation of the project, all the main work was completed to create a multi-storey agroforestry system:

- cleaning the area from large stones and preparing the area in accordance with the planting plan;
- planting seedlings;
- watering and caring for seedlings.

This event is one of the practical steps towards the disaster risk reduction and adaptation to climate change in the Salam-Alik Aiyl aimak.

1.3.2. Forestry of Uzgen state forestry enterprise.

According to the Uzgen forestry enterprise¹², on territory of Aiyl aimak located forestries of Uzgen national forestry enterprice.

- A. Forestry Zhazy. Total area 5119 hectares, of which:
 - forest 3230 ha, including walnut forests 737 ha;
 - pastures 1743 ha;
 - 93 tenants work on 453 ha of forests.
- B. Ak-Terek forestry. Total area 8974 ha, of which:
 - forest 4514 ha, including walnut forests 754 ha;
 - pastures 4284 ha;

¹² Annex 11. Data on Uzgen forestry enterprice

- 114 tenants work on 339 ha of forests.
- C. Forestry Kara-Shoro. Total area 13504 hectares, of which:
 - forest 5441 ha, including walnut forests 126 ha;
 - pastures 6920 ha;
 - 51 tenants work on 194 ha of forests.

The total number of tenants is 258 families with a total of 1293 people. At the same time, the main part is made up of women and children - 872 people, those. about 68%.

According to the plan for sanitary felling for each forestry, 100 cubic meters of forest are provided.

In each forestry, seedlings are planted annually on an average of 5 hectares and a school for 0.02 hectares, and nurseries for 0.06 hectares are created.

Data for chapter I "Overview of agricultural sectors in Salam-Alik Aiyl Aimak" is compiled according to the data of the agricultural development department of the Uzgen region, Uzgen forestry enterprise, Salam-Alik aiyl okmotu and the working group on the development of a plan for disaster risk reduction and adaptation to climate change in the agricultural sector Salam-Alik A.A.

CHAPTER II. CHARACTERISTICS OF HAZARDS

The territory of the Salam-Alik Aiyl aimak is characterized by the intensive development of dangerous natural processes associated with geological and structural features, relief, climatic and hydrogeological conditions, seismic activity, technogenic factors, etc.

2.1. Information about the natural disasters that have occurred on the territory of the Salam-Alik Aiyl aimak .

Many settlements of the Salam-Alik Aiyl aimak are located along the banks of rivers, in mountainous areas. Depending on the structure of the adjoining slopes and the water content of the rivers, the inhabitants of the villages of the Aiylny aimak are threatened by natural disasters.

In the catalog of emergency situations of the Ministry of Emergencies of the Kyrgyz Republic for 2000-2018, 8 facts are registered on the territory of the Salam-Alik Aiyl aimak:

| Table 9. Emeraen | cv Situations (| Cataloa | 2000-2018 |
|-------------------------|-----------------|---------|-----------|
|-------------------------|-----------------|---------|-----------|

| Nº | Emergency type | Date | Settlements |
|----|----------------|-------------|-------------|
| 1 | Mudflow | 24.04.2003 | Salam-Alik |
| 2 | Snow avalanche | 31.01.2004 | Ak-Terek |
| 3 | Snow avalanche | 02.02.2005 | Ara-Kol |
| 4 | Landslide | 06.05.2005 | Ak-Terek |
| 5 | Mudflow | 14.05.2009 | Kosh-Eter |
| 6 | Mudflow | 14.05.2009. | Chengent |
| 7 | Mudflow | 13.04.2010 | Ak-Terek |
| 8 | Earthquake | 13.12.2012 | |

Thus, according to Table 8, in the territory of the Aiyl aimak happened:

- 4 Mudflow;
- 2 avalanches;
- 1 landslide;
- 1 Earthquake.

This catalog includes only emergencies that resulted in damage to settlements and infrastructure, while natural disasters that did not cause damage were not taken into account.

${\bf 2.2.}\ Dangerous\ processes\ and\ possible\ disasters\ on\ the\ territory\ of\ the\ Salam-Alik\ Aiyl\ aimak$

According to the data of the Department of Monitoring, Forecasting of Emergency Situations of the Ministry of Emergency Situations of the Kyrgyz Republic, a list of objects where there are threats of disasters in the territory of the Salam-Alik Aiyl aimak has been determined.

Table 10. List of Potential Disasters on the Territory of Salam-Alik Aiyl Aimak

| Nº | Threat type | Settlements | Objects of potential damage |
|-----|----------------------------|---|--|
| 1. | Floods on the Yassy river | from. Ak-Terek, above the a / bridge to the Torgoy Komur quarry | dwelling houses, domestic road, bridge, protective dam. |
| 2. | Floods on the Zyndan river | | domestic road, bridge. |
| 3. | Mudflows | Ara-Kel village | dwelling houses, vegetable gardens, farmland. |
| 4. | Floods on the Yassy river | uch. Ainike | Schools, residential buildings, motorway. |
| 5. | Floods on the Yassy river | Dubitel village | dwelling houses, vegetable gardens, road, farmland. |
| 6. | Mudflows | Kosh-Eter village | 13 residential buildings, vegetable gardens, farmland. |
| 7. | Floods on the Yassy river | Kyzyl-Bayrak village | 11 residential buildings, vegetable gardens, farmland. |
| 8. | Floods on the Yassy river | Kyzyl-Charba village | 15 household plots, 4 residential buildings, domestic canal highway Myrza-Ake-Salam-Alik - 700 m (DEP- 5) |
| 9. | Floods on the Yassy river | Salam-Alik village | hospital grounds, residential buildings |
| 10. | Mudflows sai Kok-Tonduu | | 35 residential buildings, cemetery domestic channel |
| 11. | Mudflows | 15-zhash village | 8 residential buildings, vegetable gardens, farmland. |
| 12. | Landslide | Ak-Terek village | residential houses, vegetable gardens |
| 13. | Landslide | Ara-Kol village left side of the river Yassy | 14 residential buildings, a bridge, a road |
| 14. | Landslide | Kosh-Eter village | 10 residential buildings |
| 15. | Landslide | Kyzyl-Bayrak village | 11 residential buildings |
| 16. | Landslide | Kyzyl-Charba village | |
| 17. | Landslide | Salam-Alik village uch. Tosh | 12 houses, a kindergarten, household plots, aryk network. |
| | | uch. Tektir uch. Kagyn | 6 residential buildings 4 residential buildings |
| 18. | | uch. Sasyk-Bulak | highway Myrza-Ake-Kara-Shoro |
| 19. | | 15-zhash village uch. Chon- Chunkur | residential houses |
| 20. | Landslide | Ak-Terek village | residential houses |

Table 10 shows social and cultural facilities and infrastructure for which there are threats of natural disasters, at the same time, there are potential dangers in the sectors of agriculture, forestry and water management, which will hinder the socio-economic development of the Aiyl aimak.

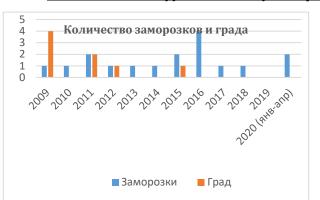
2.2.1. Dangerous meteorological phenomena.

The territory of the Aiyl aimak is characterized by a sufficient amount of precipitation (on average 1090 mm per year), moderately hot summers (average monthly temperature in July +20.5 degrees), mild winters (average monthly temperature in January -3.1 degrees).

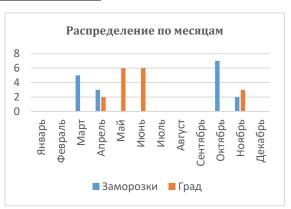
Based on the analysis of the data of "Kyrgyzhydromet" (Figure 2), the degree of danger of frost and hail for crop production was determined.¹³

Freezing. During the period from 2009 to April 2020, 17 cases of frost were observed on the territory of Uzgen district, of which 4 cases of freezing in the air and 13 cases in the soil. When viewed in the context of months, frosts are observed in early spring (March) or late autumn (October), which poses little danger to flowering fruit trees and other agricultural crops.

Hail. During the period from 2009 to April 2020, 8 cases of hail were registered on the territory of Uzgen district, of which light hail - 3, moderate hail - 3 and strong hail 1 time (05/30/2015). The duration of the hail is mainly 1-2 minutes.



Pic. 2. The number of frosts and hail for the period from 2009 to 2019



Based on the data of the Department of Agrarian Development of the Uzgen region on the phenological phases of development of fruit trees and vegetables, and taking into account the period of hail falling, their number and duration, the degree of danger of hail was determined as low.

Drought. Due to the lack of hydrometeorological observation stations on the territory of the Uzgen region, only global datasets of time frequency are available for drought hazard analysis. At the same time, the Uzgen district is considered as a whole, and not in the context of Aiyl aimak s..

According to the reported data of the national expert agrometeorologist within the framework of the FAO project "Strengthening the capacity for disaster risk reduction and disaster preparedness in the agricultural sector of the Kyrgyz Republic", a moderate drought in the territory of Uzgen district was observed in the period July-September 2014 and from July to September 2018.

¹³ Annex 12. Data from «Kyrgyzhydromet»

Considering that due to climate change and intense melting of glaciers, the danger of drought in the future remains.

2.2.2. The spread of crop diseases ¹⁴.

According to the Department of Agrarian Development of the Uzgen District, no cases of the spread of diseases of agricultural crops or an increase in the activity of plant pests were registered in the territory of the Salam-Alik Aiyl aimak in the period from 2015 to 2019. The phytosanitary situation is stable, the degree of threat is low.

2.2.3. Infectious diseases among farm animals 15.

According to the Uzgen District Department of the State Inspection for Veterinary and Phytosanitary Safety under the Government of the Kyrgyz Republic, the epizootic situation is favorable on the territory of the Salam-Alik Aiyl Aimak . Veterinary treatment of animals is regularly carried out, including diagnostic tests (except for laboratory tests), preventive vaccinations and other therapeutic and prophylactic treatments of farm animals.

On the territory of the Kaindy plot of the Kyzyl-Bayrak village, there is one cattle burial ground, which is currently not operating. The cattle burial ground is officially registered, fenced and treated with chlorine twice a year.

2.2.4. Geomorphological hazards¹⁶.

For the first time, based on the data obtained using the FAO «Collect Earth and Earth Map» tools for identifying geomorphological hazards for the territory of the Uzgen district with a grid of 200 meters, the hazards within the territory of the Salam-Alik Aiyl aimak were selected and visualized, as well as a quantitative and percentage analysis was prepared. distribution of geomorphological hazards on the territory of the Salam-Alik Aiyl aimak (Tab. 11).

Table 11. Quantitative and percentage indicators of the distribution of geomorphological hazards.

| Analyzed hazards | Total number | Percent,% |
|--|--------------|-----------|
| Collapse caused by lateral erosion | 23 | 7,47 |
| Floods in dry (valley) channels | 8 | 2,60 |
| Floods along the channels of a permanent watercourse | 45 | 14,61 |
| Landslides | 12 | 3,90 |
| Ravines and gullies | 1 | 0,32 |
| Stone glaciers | 1 | 0,32 |
| Slope mudflows | 37 | 12,01 |
| Avalanches | 132 | 42,86 |
| Solifluction | 1 | 0,32 |
| Debris | 12 | 3,90 |
| Valley mudflows | 36 | 11,69 |

The geomorphological hazards analyzed for the area under study are divided into three levels of danger: high, low, medium (Tab.12). ¹⁷

¹⁴ Annex 3. Data of the regional administration of veterinary and phytosanitary inspection and the administration of agrarian development of the Uzgen region.

¹⁵ Annex 3. Data of the regional administration of veterinary and phytosanitary inspection and the administration of agrarian development of the Uzgen region.

¹⁶ Annex 9. Report on risks in the territory of the Salam-Alik Aiyl aimak and exposure to natural disasters.

Table 12. Geomorphological hazards

| Analyzed geo-hazards | Total | High risk gradation | Average risk gradation | Low risk gradation |
|----------------------------------|-------|------------------------|---------------------------|--------------------|
| Collapses caused by side erosion | 23 | 7 | 13 | 3 |
| Flash floods in dry valleys | 8 | 5 | 1 | 2 |
| Flash floods in constant streams | 45 | 10 | 32 | 3 |
| Landslides | 12 | 5 | 7 | 0 |
| Ravines and gullies | 1 | 0 | 1 | 0 |
| Mountain glaciers | 1 | 0 | 1 | 0 |
| Solifluction | 1 | 0 | 1 | 0 |
| Slope mudflows | 37 | 5 | 28 | 4 |
| Avalanches | 132 | 70 | 54 | 8 |
| Scree | 12 | 3 | 8 | 1 |
| Valleys of mud streams | 36 | 6 | 26 | 4 |

2.3. Possible potential losses from identified natural hazards in the agriculture, forestry and water sectors .

Based on the analysis of geomorphological hazards for the study area of Salaam-Alik Aiyl Aimak, the area of agricultural land has been identified, prone to natural hazards (Tab. 13)¹⁸.

Table 13. Lands at risk of natural disasters.

| Lands at risk of natural disasters | Areas in hectares falling into a low- gradation risk zone | | The area hectares fa the zone average risk | lling into with the | The area in the hectares falling into the zone with high risk gradation | | |
|---|---|-------|---|------------------------|---|-------|--|
| | Total | % | Total | % | Total | % | |
| Agricultural land | 16 892,92 | 61,9 | 4 102,76 | 15 | 256,87 | 0,9 | |
| Irrigated arable land | 45,00 | 8,18 | 97,22 | 17,68 | 25,86 | 4,7 | |
| Pasture | 14 535,50 | 64,93 | 3 278,16 | 14,69 | 189,40 | 0,84 | |
| Shrubs | 1 571,00 | 50,67 | 493,32 | 15,91 | 14,90 | 0,48 | |
| Gardens | 9,58 | 26,13 | 9,10 | 24,82 | 5,70 | 15,55 | |
| The woods | 245,44 | 55,46 | 174,79 | 39,49 | 8,12 | 1,83 | |
| Semi-shrubs | 189,00 | 24,77 | 50,17 | 6,58 | 8,12 | 1,69 | |
| Water fund lands; | 40,80 | 33,66 | 67,51 | 55,65 | 22,52 | 18,56 | |
| Forest lands; | 3 911,30 | 41,94 | 806,44 | 8,65 | 22,23 | 0,24 | |
| Lands of specially protected natural areas; | 7960,12 | 50,9 | 2916,88 | 18,65 | 1103,82 | 7,06 | |

<u>Annex 6. Analysis of the distribution density and density of the weighted average sums of hazard gradation for the Salam-Alik Aiyl aimak .</u>

¹⁸ Annex 4. Cartographic analysis of impact zones and land categories at risk

As indicated in Table 13, agricultural lands are mainly at risk of natural disasters. According to the analysis of the data in Tables 2 and 13, the area of land falling within the zone with medium and high gradation of natural disaster risk is:

- 1. 22.3% of irrigated arable land;
- 2. 40.3% of gardens;
- 3. 15.2% of pastures;
- 4. About 40% of the Salam-Alik Aiyl aimak.
- 5. Up to 9% of the forest of the Uzgen forestry enterprise.

In cases of destruction of irrigation canals, as a result of the activation of mudflows, landslides, problems may arise in watering vegetable gardens and orchards. Given the importance of household plots and gardens in ensuring daily life, the population will take all possible measures to preserve the future harvest, including organizing manual irrigation. In this case, the main burden of manual irrigation will mainly fall on the shoulders of women and children.

In case of activation of landslide and mudflow processes, their consequences will significantly affect the life support of the population of the Salam-Alik Aiyl aimak.

CHAPTER III. AGRICULTURAL DISASTER RISK REDUCTION ACTIVITIES

Salam-Alik Aiyl Okmotu is subsidized, and a significant part of budget revenues comes from the republican budget. The dynamics of local incomes over the course of 5 years is projected at approximately the same level.

3.1. Financial resources of the Aiyl aimak

The revenue side of the local budget is formed from tax and non-tax revenues, as well as from grants from the republican budget. That is, the solution to the problems of the Aiyl aimak largely depends on the receipts from the republican budget.

Table 14. Forecast of local budget revenues for 2019-2023 (thousand soms) (according to the data of Salam-Alik avil okmotu)

| Nº | Types of income | 2020 y. plan | 2021 y. plan | 2022 y. plan | 2023 y. plan |
|-----|----------------------------------|-----------------|-----------------|-----------------|-----------------|
| 1. | Tax revenues | 3625,2 | 3632,2 | 3637,2 | 3637,2 |
| 2. | Non-Tax income | 2979,3 | 2979,3 | 2979,3 | 2979,3 |
| | Total income | 6604,5 | 6611,5 | 6616,5 | 6616,5 |
| 15. | Equalizing grants | 5245,6 | 5245,6 | 5245,6 | 5245,6 |
| | Total for Salam-Alik ayil okmotu | 11850,1 | 11857,1 | 11862,1 | 11862,1 |

In the forecast plan for 2020-2023. it is planned to increase revenues to the local budget, excluding categorical and equalizing grants from 5416.6 thousand soms to 6604.5 thousand. som in 2020 (Table 14.)

<u>Table 15.</u> Forecast of local budget expenditures for 2019-2023 (thousand soms) (according to the data of Salam-Alik ayil okmotu)

| Nº | Types of expenses | 2019 y. approved expenses | 2020 y. orient. costs | 2021 y. orient. costs | 2022 y. orient. costs | 2023 y. orient. costs |
|----|---------------------------------------|---------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1. | Administrative | 5837,4 | 5905,1 | 5905,1 | 5905,1 | 5905,1 |
| | Other expenses, including: | 2770,8 | 3921,1 | 3921,1 | 3921,1 | 3921,1 |
| 2. | - expenses for emergency situations - | 50,0 | 150,0 | 200,0 | 300,0 | 300,0 |
| 3. | Other expenses | 2770,8 | 3921,1 | 3921,1 | 3921,1 | 3921,1 |
| | Total budget | 11894,5 | 11850,1 | 11857,1 | 11862,1 | 11862,1 |

In the forecast plan for 2019-2023, it is planned to increase local budget expenditures for emergency situations and DRR from 50.0 thousand soms to 300.0 thousand soms in 2023 (Table 15.)

3.2. Disaster risk reduction activities on the territory of the Salam-Alik Aiyl aimak 19.

Based on the quantitative and percentage analysis of the types of hazards and the frequency of their spread (Table 8) on the territory of the Salam-Alik Aiyl aimak and taking into account the forecast of revenues and expenditures of the local budget for 2019-2023, a plan for the implementation of the main measures was drawn up, taking into account three scenarios:

- emergency situations on the territory of the Aiyl aimak may not occur during the implementation of the measures;
- one or two emergencies may occur during the implementation of measures;
- emergency situations will occur regularly during the period of implementation of measures. In order to implement these activities, it is planned to:

1. Non-structural activities:

- ◆ Informing the population about possible emergency situations. This event has a great importance for the protection of the population. At the same time, it is necessary to take into account the part of the population outside the areas of mobile communication and in remote areas (livestock breeders on summer pastures, leshoz tenants), including women and children.
- ◆ Education of the population in preparation and response to emergencies. At the same time, it is necessary to pay attention to the issues of active participation of women, children and pensioners, since they make up about 70% of the total population.
- ◆ Trainings on notification of possible emergencies. When organizing trainings, it is necessary to take measures to widen coverage of the population, including the most vulnerable parts women, children and pensioners, especially those located far from their permanent place of residence (summer pastures, forestry enterprises).

2. Structural measures:

- ♦ Construction of dams:
- ♦ Construction of spurs;
- ♦ Cleaning of channels.
- ♦ Strengthening dangerous landslide slopes.

¹⁹ Annex 16. Measures to prevent, mitigate the consequences of emergency situations

The structural measures will be financed from the state and local budgets, donor funds, in accordance with the socio-economic development plan for 2018-2023.

Scenario 1. There may be no emergency situations on the territory of the Aiyl aimak during the period of implementation of the measures.

This section provides descriptions of the planned structural measures to prevent, mitigate the consequences of emergencies within the framework of the Strategic Plan for Social and Economic Development of the Salam-Alik Aiyl District for 2018-2023.

The list of measures is determined on the basis of the list of possible disasters on the territory of the Salam-Alik Aiyl aimak (Table 14), according to priority, taking into account the danger posed to the population, economic and infrastructure facilities and the budgetary possibilities of the Salam-Alik Aiyl aimak .

Scenario 2. One or two emergencies may occur during the implementation period.

If the process develops according to this scenario, funds from the local budget will be used to eliminate the consequences of disasters, but the implementation of the planned activities will continue in a truncated version, which are highlighted in blue in Table 14.

Scenario 3. During the implementation period, emergency situations will occur regularly.

Under this scenario, all funds of the Aiyl aimak will be directed to liquidation of the consequences of emergencies. It is assumed that the construction of facilities financed from the republican budget will be temporarily suspended, material and financial resources will be redirected to ensure measures to restore the damaged facilities.

<u>Table 15. Measures to prevent, mitigate the consequences of emergency situations (according to the data of the working group on the development of a plan for disaster risk reduction and adaptation to climate change in the agricultural sector of the Salam-Alik Aiyl aimak.</u>

| Nº | Object name | total | Source of | Allocated | Implementation period | | | | |
|----|---|--------------|-------------------------|---|-----------------------|------|---------|---------|---------|
| | o bject manie | cost | financing | funds | 2020 | 2021 | 2022 | 2023 | 2024 |
| | | | Local budget | Labor Contribution of AO | | | | 60 000 | 60 000 |
| 1. | Construction of a 200 m dam on the Zhazy River in the village of Kyzyl-Charba | 2 420 000 | Rep. budget (MES KR) | Gabion nets, fuels and lubricants. | | | 100 000 | 700 000 | 700 000 |
| | | | Investments, grants | Money / products for work | | | | 400 000 | 400 000 |
| 2. | Construction of a herring at the Dubitel site in the village of Kyzyl-Charba | 530 000 | Local budget | AO's contribution in the form of labor, machinery, fuels and lubricants | | | 150 000 | | |
| | | | Investment grants | Construction Materials | | | 450 000 | | |
| 3. | | 1 622 300 | Local budget | Fuels | | | 22 300 | | |

| | Construction of a 100 | | Rep. budget (MES KR) | Gabion nets. | | | 1 200 000 | | |
|-----|---|--------------|--|--|--------------|---------|--------------|---------|--|
| | m. Dam in the village. Salam-Alik | | Investments, grants | Money / products for work | | | 400 000 | | |
| | Planting forest | | Local budget | Money / products for work | | 80 000 | | | |
| 4. | plantations on the 4. landslide-prone area of Kygyn in the village. Salam-Alik | 350 000 | Rep. budget (MES KR) | Fencing materials | | 120 000 | | | |
| | 8 | | Leskhoz | Saplings | | 250 000 | | | |
| 5. | Planting forests on a landslide-prone area in the village. Ak- | 265 650 | National Association of Pasture Users of Kyrgyzstan "Kyrgyz Zhaiyty" | Arrangement of fencing and irrigation systems, purchase of seedlings | 199 250 | | | | |
| | Terek | | Local community | AO contribution in the form of a working | 65 400 | | | | |
| 6. | Fur. cleaning of the Olzhobai river bed in | 180 000 | Local budget | Fuels | | | | 30 000 | |
| 0. | the village. Kosh-Eter | 180 000 | Rep. budget (MES KR) | Engineering technology | | | | 150 000 | |
| | Construction of spurs | | Local budget | Fuels | | | | 45 000 | |
| 7. | on the river. Zhazy in the village. Kyzyl- Bayrak | 250 000 | Rep. budget (MES KR) | Engineering technology | | | | 205 000 | |
| 8. | Mechanic cleaning of the Tuyuk canal in the village of Aragol | 130 000 | Local budget | Technique, fuels | | | 130 000 | | |
| | | | Local budget | AO's contribution to labor power | 20 000 | | | | |
| 9. | Construction of a 100 m. Dam at uch. Ainike, s. Aragol | 1 622 300 | Rep. budget (MES KR) | Gabion nets. | 1 200 000 | | | | |
| | | | Investments, grants | Money / products for work | 400 000 | | | | |
| 9. | Construction of spurs at the Shurgum site in with. 15- Zhash | 120 000 | Local budget | Technique, fuels | | 120 000 | | | |
| 10. | Repair 1.5 km. roads to Kol pasture | 300 000 | Grazing users association budget | Technique, fuels | | 300 000 | | | |
| 11. | Construction of a bridge on the Tuyuk river along the road to the Shor pasture | 200 000 | Grazing users association budget | Building materials, fuels | 200 000 | | | | |

The implementation of measures to prevent, mitigate the consequences of emergencies will allow the protection of residential buildings, irrigation canals, household plots, bridges and highways and, in turn, has the ability to ensure the sustainability of measures to introduce innovative agricultural methods, including drip irrigation, which are aimed at reducing burden on women and older children.

CHAPTER IV.

CONTROL OF MEASURES AND ADJUSTMENT OF THE RISK REDUCTION PLAN DISASTER AND ADAPTATION TO CLIMATE CHANGE IN AIYL AYMAK

4.1. Monitoring the implementation of the activities of the DRR and AkIK plan.

Control over the implementation of the activities of the DRR and AkIK plan is carried out through authorized representatives of the leadership of the Aiyl Okmotu, the local Kenesh, the Ministry of Emergencies of the Kyrgyz Republic

Control is carried out through practical inspections, requesting reports or hearing the responsible persons at a meeting of the Aiyl Okmotu, local Kenesh, during scheduled inspections, in preparation for the spring-summer period or during the Civil Protection exercise.

The control objectives are:

- identification of achievements and gaps in the implementation of activities;
- ensuring the timely implementation of activities;
- providing practical support in the implementation of activities.

Outcome indicators are quantitative and / or qualitative criteria that provide a simple and reliable means of measuring achievement or reflecting changes associated with stated outcomes.

The main indicators of the implementation of the activities of the DRR and AKIK plan are:

- 1. **Terms of activities.** Control over compliance with the deadlines for the implementation of measures is carried out through periodic checks at the most significant moments of work at the beginning of work, in the middle and at the stage of completion of the construction of the facility. The results of this indicator are progress reports at the time of the audit, indicating, if any, deficiencies.
- 2. **The quality of the work performed.** This indicator is important in the implementation of the activities of the DRR and AKIK plan. Control over this indicator is carried out through periodic checks during construction and other works. The results are acts of completion.

Written results. Control over this indicator is carried out by checking the reports of the performers. The results are acts or protocols of inspections with conclusions and recommendations. Based on the results of control measures for the implementation of the plan, an act is drawn up and transferred to the relevant managers for taking measures to eliminate the identified deficiencies.

4.2. The DRR and CCA plan revision.

The plan revision carries out from time to time, but at least once a year. The action plan revision based on the results:

- ◆ Changes and additions to the regulatory legal acts determining the life of the Aiyl aimak (administrative division, land resources, etc.);
- implementation of planned activities;
- changes and additions to the budget of the Aiyl aimak;
- surveys by specialists from competent institutions and organizations;
- exercises and trainings;
- in case of a threat and directly in the process of emergency response.

In this case, an entry is made in the revision sheet about the date and the official who carried out the correction; subsequently, all the corrections made must be approved by the decision of the local Kenesh.

APPENDICES (list is not exhaustive)

Annex 1. Regulatory Framework for Disaster Risk Reduction and Climate Change Adaptation in the Agriculture Sector.

https://drive.google.com/drive/folders/1pcbfXEYRVrAE2Bj-

bcB56YGF_upSm-Dn?usp=sharing

This appendix presents the legislative acts of the Kyrgyz Republic that regulate the activities of authorized state and local authorities, the population on disaster risk reduction and adaptation to climate change in the agricultural sector.

Annex 2. Strategic plan for social and economic development of the Salam-Alik Aiyl District for 2018-2023

 $\underline{https://drive.google.com/drive/folders/1QXokL-1pstj8jdqw-}$

btWe5YRkofutCmd?usp=sharing

The strategic plan for the development of the Salam-Alik Aiyl aimak is a document that reflects the main directions and nature of the development of the district for the period 2018-2023. The plan is a complex system of target guidelines for the development of the social sphere, economy, and natural environment, public institutions of the district, as well as a system of effective ways, methods of achieving them, interconnected with the main resources.

Annex 3. Data of the regional administration of veterinary and phytosanitary inspection and the administration of agrarian development of the Uzgen region.

 $\underline{https://drive.google.com/drive/folders/1nyU4Z0K-}$

Cbke6j2DLWo1lIz7vYstYGgK?usp=sharing

This document reflects the veterinary and phytosanitary situation in the territory of the Uzgen region, including the Salam-Alik Aiyl aimak and the measures taken to prevent diseases of livestock and protect against the spread of harmful organisms for plants and plant products, and to improve the environment.

Annex 4. Cartographic analysis of the prevalence of hazardous natural processes and by land categories for the Salam-Alik Aiyl aimak.

https://drive.google.com/file/d/1dCCqzQ8bhGc7NksusCCUm2t2TASArxsc/view?usp=sharing

This appendix reflects the results of a quantitative and percentage analysis of the distribution of geomorphological hazards on the territory of the Salam-Alik Aiyl aimak, which was first carried out by the GIS specialists of the project based on the data obtained using the FAO Collect Earth and Earth Map tools to identify geomorphological hazards for the territory of the Uzgen region with a grid of 200 meters.

Annex 5. A cartographic analysis of the risk of natural disasters with calculated impact zones and land categories at risk.

https://drive.google.com/file/d/1P-

EMVALAQFXsGcFs2HAjS2MvpdJvspMM/view?usp=sharing;

This document presents the results of a spatial analysis of the risk of natural disasters with an indication of the impact zones, calculated on the basis of the carried out mathematical analysis and the category of lands in accordance

with the data of Kyrgyzgiprozem, located in the risk zone in the territory of the Salam-Alik Aiyl aimak.

Annex 6. Analysis of the distribution density and the density of the weighted average sums of hazard gradation according to the Salam-Alik Aiyl aimak https://drive.google.com/file/d/1tzoBFuFjOvRZFoRnTIo-VX76aP6WOKBb/view?usp=sharing

In this appendix, the areas of agricultural land are indicated, divided into three levels of risk: high, low, medium. These levels were determined based on the analysis of geomorphological hazards for the study area of the Salam-Alik Aiyl aimak, taking into account the type of geological hazards, their distribution zone, age / activity status and distance to the nearest infrastructure / housing facility.

Annex 7. Emergency catalog for 2000-2018.

https://drive.google.com/drive/folders/15OZnnGNJwShPr-

4MHiBqI5lTHvpWtcur?usp=sharing

The catalog contains emergency situations that occurred on the territory of the Salam-Alik Aiyl aimak for 2000-2018, indicating the data on the scene, characteristics of the disaster and those affected by the disaster.

Annex 8. Reference data on Salam-Alik Aiyl aimak.

https://drive.google.com/drive/folders/1buD3wftM_MqUOeKf9hfDrUrUKt5 0I_bZ?usp=sharing

This appendix contains reference data prepared by the DRR plan development team and the AkIK of the Salam-Alik Aiyl aimak, which include: demographic data, information on the area of agricultural land, the structure of cultivated areas, crop and livestock production.

Annex 9. Report on risks in the territory of the Salam-Alik Aiyl aimak and exposure to natural disasters

https://drive.google.com/drive/folders/1XgMqQl5AcZyVdFDYKfNanXLxT JFNMY6m?usp=sharing

Annex 10. Data on the pastures of the Salam-Alik Aiyl aimak.

https://drive.google.com/drive/folders/1mbPbPPh18h0JfVARo3ODEV7WRemYXBe5?usp=sharing

The document was prepared by the Salam-Alik aiyl okmotu together with the committee of pasture users and contains information on pastures, the number of farm animals in pastures.

Annex 11. Data on Uzgen forestry farm.

https://drive.google.com/drive/folders/1Ugl5mWzfXQwhctojj32XS7XCZL0 R8h_v?usp=sharing

The data were prepared by the Uzgen forestry enterprise and contain information on the area of forestry located on the administrative border of the Salam-Alik Aiyl aimak, the characteristics of the forest, data on the number of tenants of forest areas.

Annex 12. Data from Kyrgyzhydromet.

 $\frac{https://drive.google.com/drive/folders/15moX4jrX0nhgdWLKsiwJSQl3w18r}{HPAf?usp=sharing}$

This appendix "Kyrgyzhydromet" reflects information on the time of manifestation and the number of frosts and hail for the period from 2009 to 2020 in the territory of Uzgen region.

Annex 13. Data of the Department of Agrarian Development of the Uzgen region.

https://drive.google.com/drive/folders/10qLBhyAukiSyC6RZEvorR0tN1Hv
https://erwise.google.com/drive/folders/10qLBhyAukiSyC6RZEvorR0tN1Hv
<a href="https://erwise.google.com/drive/folders/

The Department of Agrarian Development of the Uzgen District prepared data on phenological phases for fruit trees and vegetables. These data allow you to determine the degree of danger of frost and hail.

Annex 14. Report of the National Expert-Agrometeorologist.

https://drive.google.com/drive/folders/10pGyxDr4t-HbZw8-wYYlbL7Wa9gjOhlt?usp=sharing

The report of the national agrometeorological expert of the Food and Agriculture Organization of the United Nations in Kyrgyzstan analyzed the existing hydrometeorological hazards in the agricultural sector and the system for collecting, transferring, analyzing and presenting data on hydrometeorological hazards for the agricultural sectors of the Kyrgyz Republic, including the Uzgen district.

Due to the absence of hydrometeorological stations on the territory of the Salam-Alik Aiyl aimak, when determining the degree of drought danger, data on the Uzgen region were used.

Annex 15. Measures to prevent, mitigate the consequences of emergency situations.

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This appendix defines measures to prevent and mitigate the consequences of emergencies for the period from 2020 to 2024, indicating the priority of implementation and sources of funding for measures for three possible scenarios for the development of emergency situations on the territory of the Salam-Alik Aiyl aimak.

Annex 16. Activities of the National Association "Kyrgyz Zhaiyty" in the framework of the "Strengthening capacity for disaster risk reduction and disaster preparedness in the agricultural sector" project.

This appendix reflects the activities of the National Association "Kyrgyz Zhaiyty", within the framework of the "Strengthening the capacity for disaster risk reduction and disaster preparedness in the agricultural sector" project, to create a demonstration site for testing a multi-storey agroforestry system.

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Emergency Situations officer

Satybaldyev R.

Sheet on adjusting the plan for disaster risk reduction and adaptation to climate change in the agricultural sectors of Salam - Alik Aiyl aimak.

| Date | FULL NAME. who proceeds the adjusting | Sections where the adjustment was made | Signature |
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Sheet

agreeing a draft plan for disaster risk reduction and adaptation to climate change in agricultural sectors of Salam-Alik Aiyl Aimak with members of the Steering Committee of the FAO project on capacity building in disaster risk reduction and preparedness in the agricultural sector of the Kyrgyz Republic

| 1. From the Ministry of Emergency Situations of the Kyrgyz Republic: |
|--|
| 2. From the Ministry of Agriculture, Food Industry and Land Reclamation: |
| |
| 3. From the State Agency for Environmental Protection and Forestry under the Governmental Protection and Forestry under |
| 4. From the State Agency for Local Self-Government and Interethnic Relations under the Government of the Kyrgyz Republic: |
| 5. From the National Statistical Committee of the Kyrgyz Republic: |