BALJUVAN DISTRICT.

Chapter VIII. Preparedness to Emergency Situations, Prevention and Reduction of Risks

Baljuvan district is situated in the northern part of Khatlon region. District size is 1,326 km². Population size is 25,870 people, 897 of them live in the district centre. The population density is 19, 5 people per km^2. The district has 5 jamoats: Baljuvan, Tojikiston, Dekur, Satalmush, and Sari Hisor. Basically, population is involved in agricultural works such as grain growing, gardening, potato growing and cattle breeding. The common available land is used by 84,5 %. District has 2 industrial factories specialized on production and processing of oil and gas.

Table 1.

Land resources	
	Total, hectare
Total available fund	132,662
Agricultural lands	86,786
Arable	4,489
Gardens	454
including: orchards	386
Homestead land	1,764
Pastures	81,724
Hayfields	81
Presidential fund	229
Industrial estate	23,550

From 2006 to 2008, 6 emergency situations have been registered in Baljuvan district: one earthquake, two mudflows, two strong winds, one strong frost.

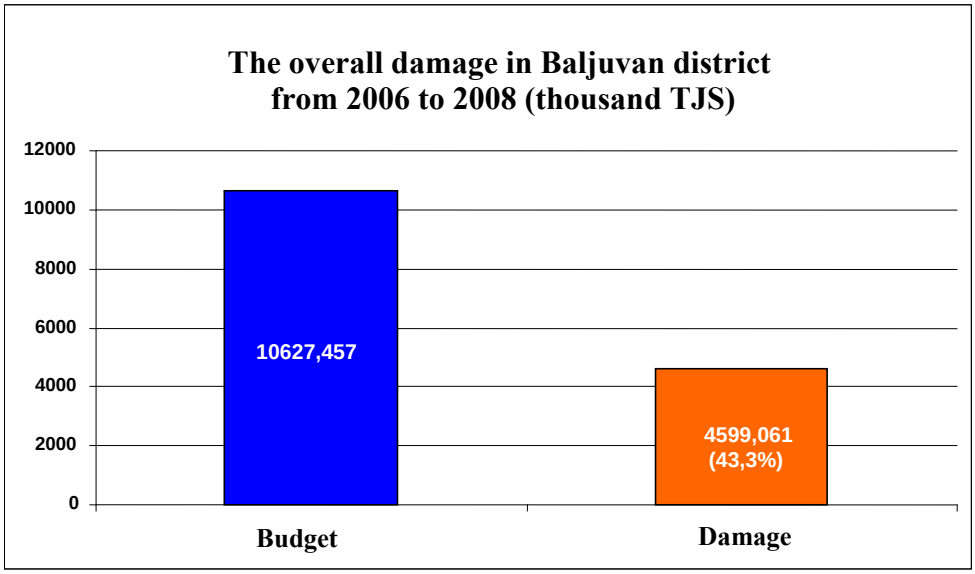
The amount of damage caused by disasters for three year period made up 4,599,100 Tajik somonies (TJS), that is equal to 43,3 % of the total budget for the same period. The attached table and diagram contains both the ratio of the damage to the annual budget per years, and their percentage measurement

The diagram 1 shows the ratio of the district budget and damage caused by disasters from 2006 to 2008.

Table 2.

The ratio of district budget and the damage caused by disasters				
	2006	2007	2008	Total
Budget (TJS)	3161,642	3062,056	4403,759	10627,457
Damage caused by disasters (TJS)	3019,2	486,3	1093,56	4599,061
Damage caused by disasters (%)	95.5	15.9	24.8	43.3

Diagram 1.



The dynamics of damage change as a result of disasters shows that the greatest damage has been caused to the economy of district in 2006 (Diagram 2). The amount of damage exceeds the common damage for the last two years and equals to 3,019,200 TJS that corresponds to 95.5% of the annual district budget expenses.

Diagram 2.

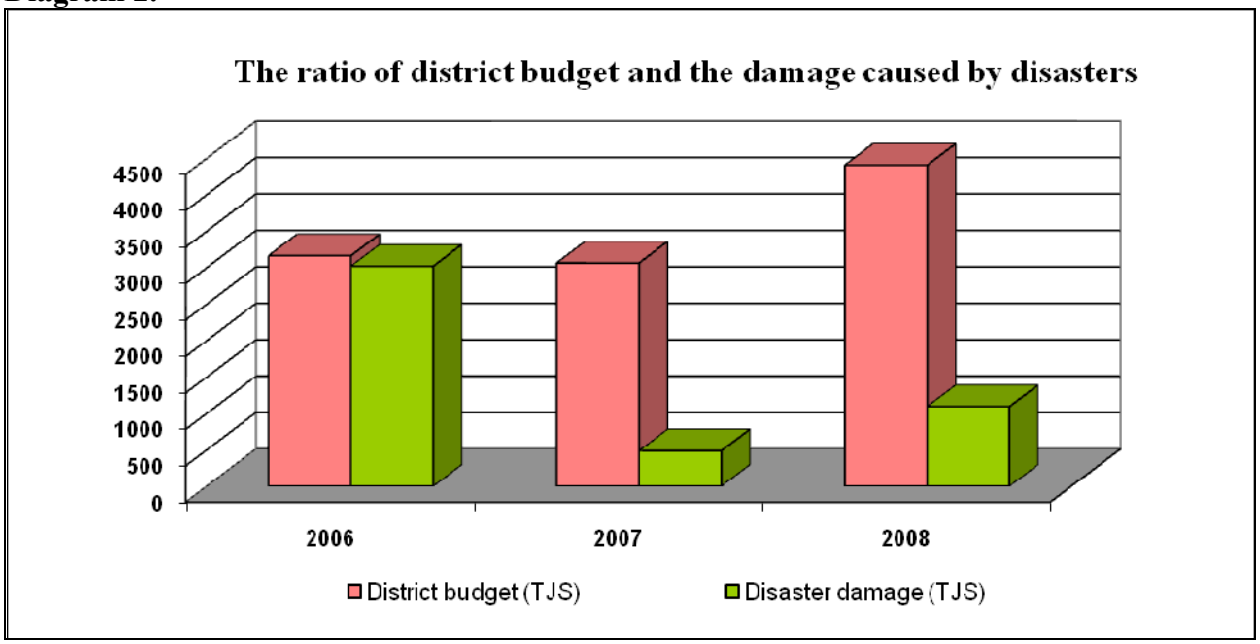


Diagram 3 shows the course of damage change in percentage in relation to the budget.

Diagram 3.

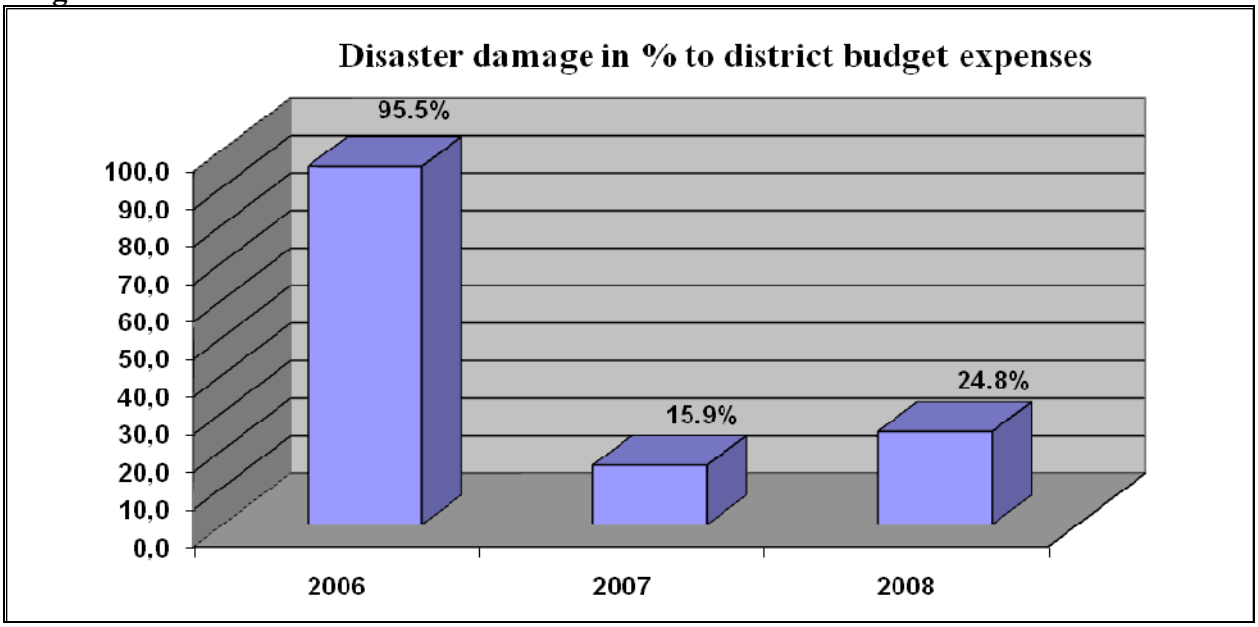


Table 3 shows that the damage caused by disasters exceeds the local income on budget more than 2 times (in 2006 damage exceeded the income 5,4 times). In relation to a republican share of financing in the budget, the damage is equal to 65.7 % (in 2006 the damage was equal to 136.7 % of subsides).

Table 3.

The ratio of budget parameters and damage				
	2006	**2007**	**2008**	**Total**
Total district budget (thousands TJS)	3161642	3062056	4403759	10627457
Local income	556342	656632	957100	2170074
Republican financing (thousands TJS)	2208600	1813000	2973522	6995122
% of republican share in the budget	69.9	59.2	67.5	65.8
% of local income in the budget	30.1	40.8	32.5	34.2
Damage caused by disasters	3019200	486300	1093561	4599061
Damage in % to republican subsidies	136.7	26.8	36,8	65.7
Damage in % to local income	542.7	74.1	114.3	211.9

While comparing the supply side of the district budget by economic sectors from 2006 to 2008 (Table 4, diagrams 4 & 5) with damage for the same period, it was found out, that the greatest damage fell on housing–and–communal and agriculture spheres (1,903,300 TJS and 896,700 TJS). The damage in percentage ratio looks as follows agriculture 3239, 6 % and housing-and-communal sphere 625.1 %.

Table 4.

The ratio of budget expenditures and the damage by economic sectors						
	Education	Health	Housing-and-communal	Culture	Agriculture	Total
Budget for 2006-2008	5,885,300	1,656,600	308,800	305,000	27,700	10,627,500
Disaster damage for 2006-2008	596,400	0,0	1,930,300	294,800	896,700	4,599,100
Disaster damage (%)	10.1	0.0	625.1	96.7	3239.6	43.3

Diagram 4.

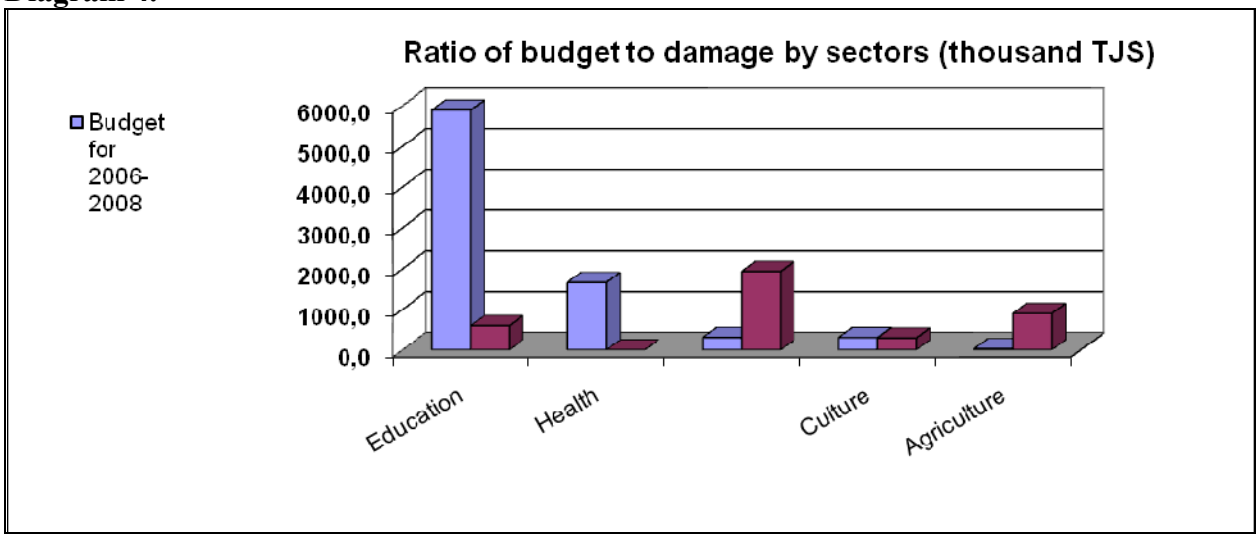
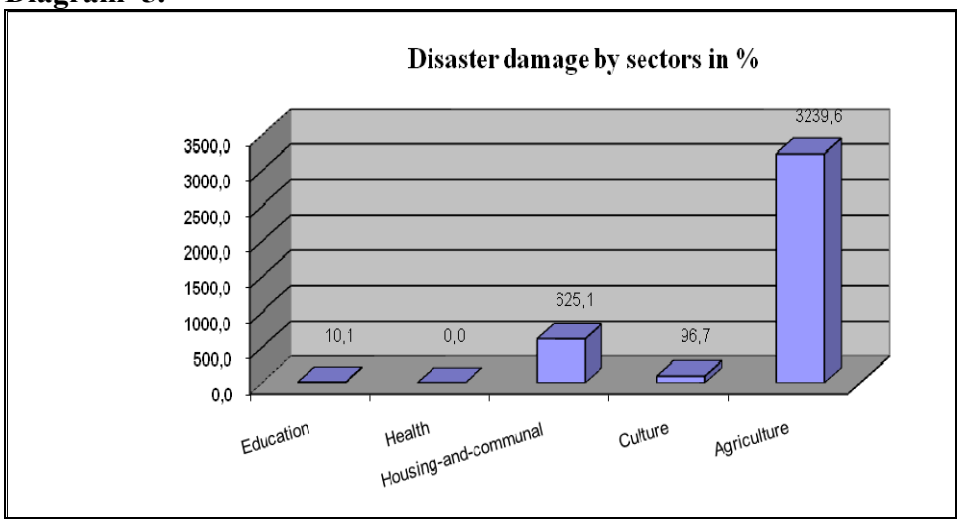


Diagram 5.



Out of 5 jamoats of Baljuvan district, 4 jamoats have villages with hazardous areas: in 2 jamoats there is 1 village in each with hazardous areas, another jamoat has 2 villages with dangerous

areas, and the last one (Jamoat Sari Hisor) has 3 villages with dangerous areas. Moreover, Afradi village (Jamoat Sari Hisor) faces two 2 hazardous processes – mudflows and landslides. 4,351 people live in the settlements with hazardous processes which is 16.8 % of the total district population.

Table 5.

№	Jamoat	Number of settlements	Number of settlements in hazardous zones	Percentage of settlements in hazardous zones
1	**Baljuvan**	21	1	4.8
2	**Tojikiston**	6	2	33.3
3	**Dektur**	18	0	0.0
4	**Satalmush**	24	1	4.2
5	**Sari Hisor**	35	3	8.6
	Total	104	7	6.7

Diagram 6.

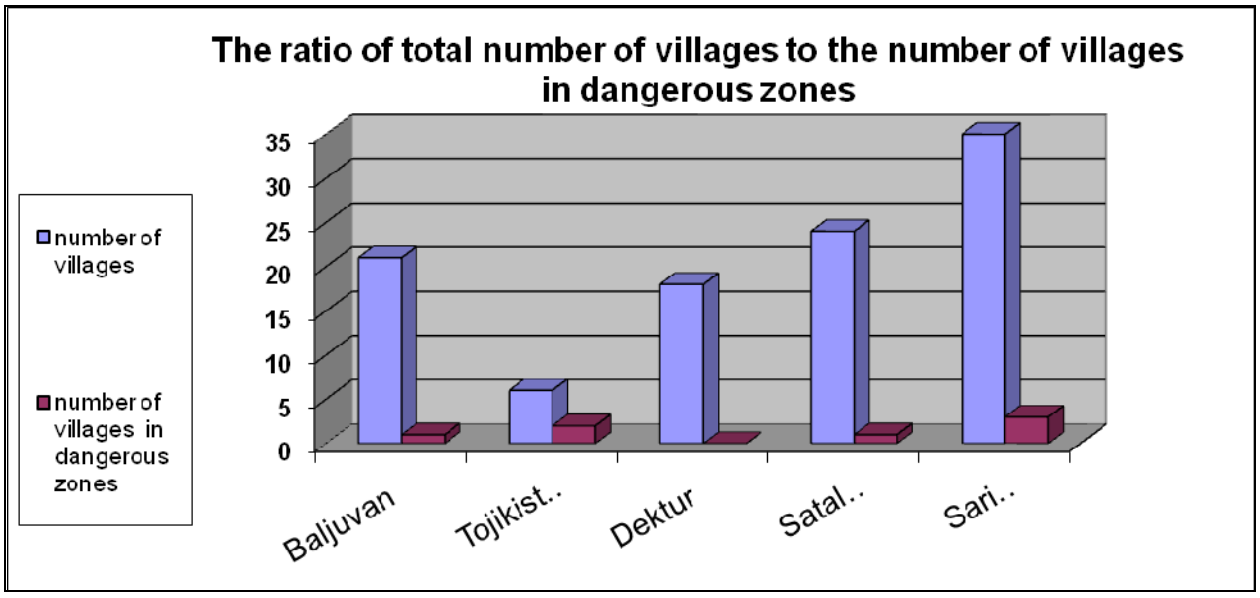
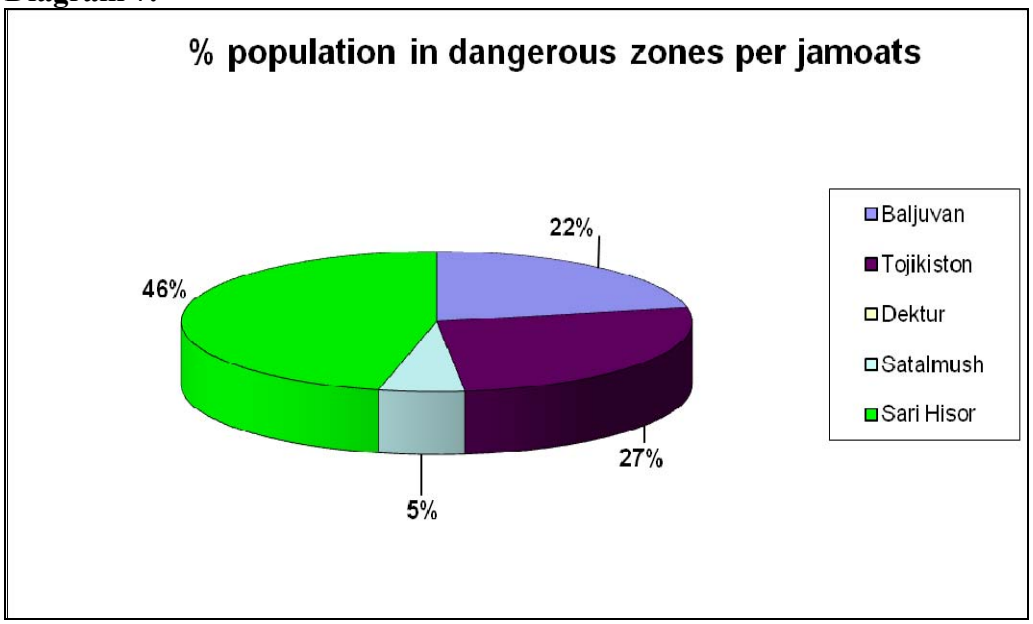


Diagram 7.



Mudflows are the main disasters that threaten population. Besides, there is a risk of landslides. Rains and winds frequently cause damage. In 2008 strong and long-lasting frost the caused large damage to agriculture.
Table 6 shows the list of the processes which threaten villages.

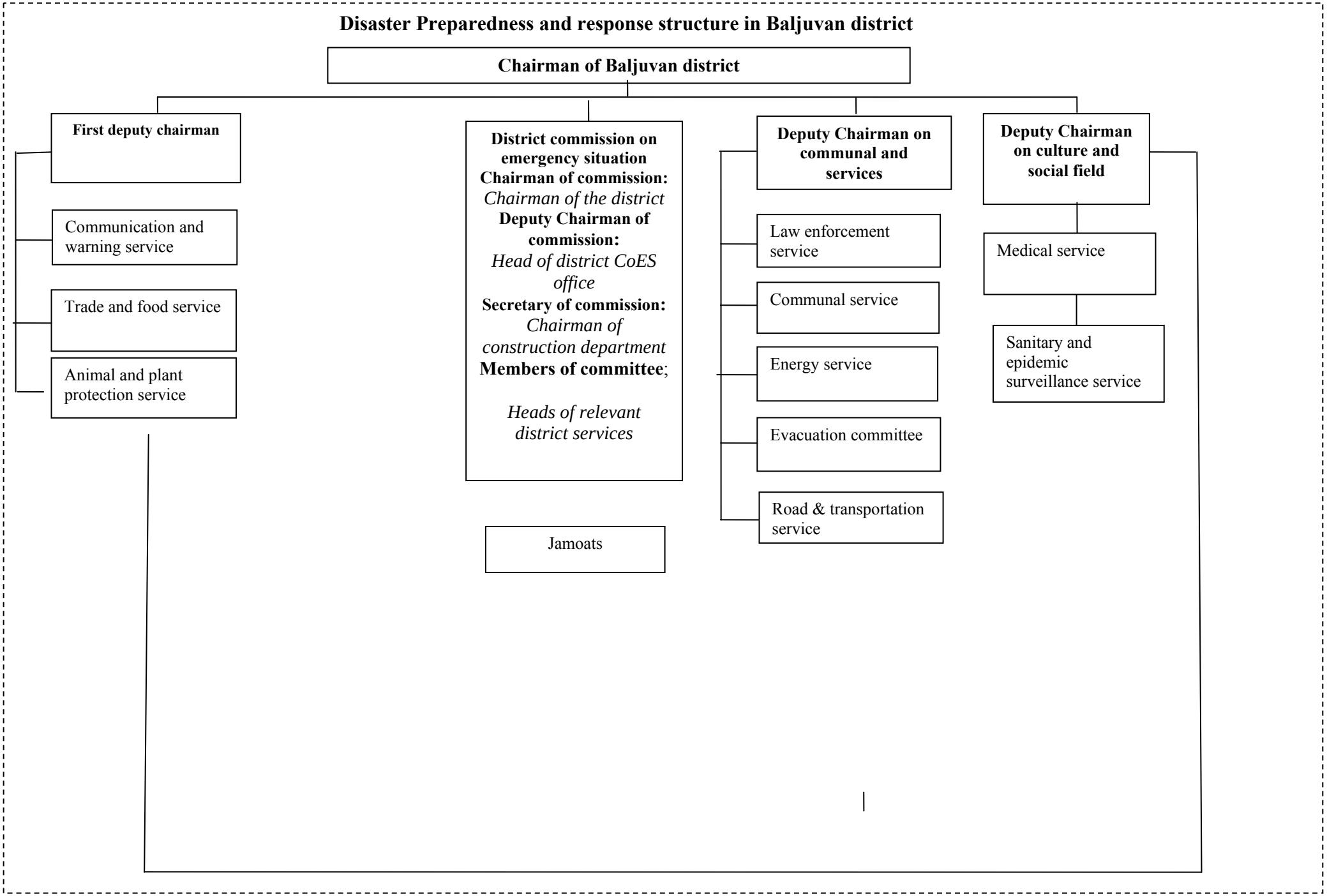
Satalmush

Table 6.

Jamoats	Villages	Угрожающие процессы	Jamoats	Towns and villages	Menacing proceses
Baljuvan	Baljuvan	Mudflows	**Satalmush**	Sari Mazor	Mudflows
Tojikiston	Shahidi Bobohon	Mudflows	**Sari Hisor**	Shahidon	Mudflows
				Bogi zanon	Mudflows
	Kaltachinor	Mudflows		Afradi	Mudflows, landslides

In case of emergency, Disaster preparedness and response structure of Baljuvan district looks as follows:

Disaster Preparedness and response structure in Baljuvan district



At present, Baljuvan district has 9 services that are directly involved disaster response. Below you there is a list of given services with indication of the available forces and assets, reserves and needs:

Warning and Communication Service (OJSC Tojiktelekom)		
Available forces and assets	**Available reserves**	**Needs**
1. Communication and warning center – 1 2. Siren – 1 unit 3. Generator – 1 unit.	Cable P-274 5 км	• Communication and warning center – 1 unit. • Copper cable- 47 км • Cable differently paired - 20км • Generators (2.5) – 1 unit. • Truck– 1 unit. • Fuel - 3 tons • Posts – 940 units.
Medical Service (Central hospital)		
Available forces and assets	**Available reserves**	**Needs**
Total number of cars – 1 unit. Disinfection chamber 1 unit.	20% of medicine (from needs)	Photofluorography apparatus 1 unit. Ambulance car– 2 units. Gynecological instruments – 3 sets. Mobile surgery – 1 unit. Disinfection chamber - 1 unit. Set of surgery tools – 3 sets Tents – 10 units. Fuel and lubricants - 5 tons Medicines 20%
Law Enforcement Service (Department of Interiors)		
Available forces and assets	**Available reserves**	**Needs**
Personnel - 54 people. Light vehicles - 2 units Trick – 1 unit.	None	Radio Station – 1 set Spare parts: Tires -2 sets. Accumulator – 1 unit. Starter- 1 unit. Carburetor- 1 unit.
Road and transportation service		
Available forces and assets	**Available reserves**	**Needs**
Autograder -1 unit. Excavator UMZ-1 unit. Bulldozer T170-1 unit. «Niva» vehicle -1 unit. Autoloader -1 unit.	Fuel and lubricants - 500 liters	Reserves of sand and salt. «Samosval» truck -1 unit. Auto park Fuel Storehouse
Communal Service		
Available forces and assets	**Available reserves**	**Needs**
Sprinkler - 1 unit .(not working) Truck – 1 unit. Tractor T-28 – 1 unit.		Sprinkler – 1unit. Truck – 1unit. Cesspoolage truck - 1 unit.

Light car-1 unit.	None	Tractor MTZ-80 – 1 unit. Pump - 2 units. Pipeline- 3км. Fuel and lubricants 3 tons
Energy service		
Available forces and assets	**Available reserves**	**Needs**
Personnel-22 people. Truck GAZ-53 – 1 unit. Substation 35/10 kilovolt -1 unit. Substation 10/0, 4 kilovolt-54 units. VL 10kW-194km. VL0,4kW-154km. Ttractor T-40 – 1 unit .	Line Transformer -1 unit. Aluminum wire-189kg.(1km) Insulator SHF 10 kilovolt-20 units. Insulator TF-20- 25 units. Insulator IPT 160/0,4 kilovolt – 4 units. Insulator IPTV 1/400-3 units. Safety device PN - 250 Ampere-20 units. Safety device PN-400 Ampere -9units. Studs 1/160-4 units. Insulator IP 10 kilovolt-6 units.	Aluminum wire -15 km. Transformer 160 kilovar -1 unit. Transformer 250 kilovar-1 unit. Wood pile – 125 units. Wire APV35, 50, 70 millimeters - 500metres. Transformer fluid -1ton Disconnector RLND 10 kilovolt-3 units. Rod d-8millimetres -200kg. Armature d-16millimetres-300kg. Nook 63x63millimetres-500kg. Cupboard KTP-160/10 kilovolt- 1 unit. Cupboard KTP-250/10 kilovolt-1 unit. Low-voltage automates 100Ampere-10 units. Low-voltage automates 250 Ampere-5 units Electordes-15kg. Electrical rubber-20kg. Cable AVVG 3x25+ 1x10millimetres-100metres. Cable AVVG 3x50+1x25millimetres-150metres. Electrical cordon – 15kg. Transformers: TM 630 – 2 units. TM 400 – 2 units. TM 250 – 2 units.
Sanitary and epidemiological surveillance service		
Available forces and assets	**Available reserves**	**Needs**
Personnel -14people. (Passenger) company car-1. Computer -1. Laboratory means Automax for medicine keeping	None	Mobile disinfection chamber -1 unit. Chemical and biological reagents Fuel and lubricants - 1,5 tons. Motor oil -200 liters Chlorine-2 tons. Building for the lab

Animal and plant protection service		
Available forces and assets	**Available reserves**	**Needs**
Agro machines – 198 units. Operating -153 units. Tractors- 165 units. Operating -124 units. Vehicles – 38 units. Operating -18 units.	None	Bulldozer -2 units. Excavator - 2 units. Fuel and lubricants Spare parts
Trade and food services (Central market)		
Available forces and assets	**Available reserves**	**Needs**
Personnel -9 people.	None	Truck – 4 units. Fuel and lubricants - 2tons. Motor oil -200 liters. Different balances -10 units. Chlorine-500кg.

Despite the fact, that significant damage is caused to the district economy by mudflows, landslides, frosts and winds, the special attention should be paid to annual (March-June) washouts of roads due to overflow of Obi Mazor, Tira and Surhob rivers. During the floods, Tojikiston, Dektur, Satalmush and Sari Hisor settlements are isolated from the district centre. Therefore, there is an urgent need to build pedestrian overpass over the Obi Mazor River and to implement river bank strengthening at Tira river. Jamoat Sari Hisor is located 35 km away from the district center and during the floods about 5 thousand people are isolated from the centre. In this case, it is necessary to build the footbridge over the river to connect Bogi-Zogon and Afardi villages.

There are two oil and production enterprises in the district. However, none of these enterprises has the Search and Rescue services. Committee of Emergency Situations and Civil Defense should immediately consider this issue. Overall there is a need to establish public search and rescue service in the district.

Due to the fact that Baljuvan district is a subsidized district meaning that the amount of subsidies from the republican budget is 70%, there are no any kind of revenues to direct on various mitigation works.

It is important to mention that reduction of the emergency risks should be considered as complex, intersected aspect affecting all the areas of infrastructure since all the sectors suffer from the disasters. Therefore, the main goal is to integrate activities on damage reduction from disasters into the plans of district's development by realizing plans on readiness and response on disasters and emergencies and also, to distribute concrete means from all budgets of development.

Basic main disaster risk reduction problems of the district:

- Lack of budgetary funds and inefficient disaster warning system, including absence of zoning of territories with under exogenous geologic processes to determine the most vulnerable areas;
- Absence of maps with district dangerous zones;
- Non-operable disaster prevention, response and mitigation mechanisms;
- Absence of financial resources for implementation of the whole range of mitigation works, with the special attention to roads that connect settlements isolated during the floods.

Disasters reduction goals and strategy.

The main objective is the development and integration of disaster risk mitigation measures through implementation of structural and non-structural mitigation measures[1], aimed at preparedness and response to disasters and allocation of funds from all development budgets.
Local population should be actively involved into disaster risk reduction. It is necessary to make detailed examination of all layers of population and to analyze the degree of their poverty, to determine factors which influence the vulnerability of these layers, and to define measures in order to improve the situation; to develop and to analyze the existing legislation, instructions, bylaws, norms and procedures related to disaster reduction in order to the sphere of emergencies in order to develop a coherent action plan in case of emergency situation.

General recommendations:

1. Policy development on protection and preservation of the agricultural lands;
2. Purposeful utilization of resources (both local and subsidies) for the protection of the existing arable lands, as the main source of livelihood in the district;
3. Development of maps of exogenous geological processes of the district with indication of their influence on the settlements;
4. Definition of priority mitigation works at the district level;
5. Development of the district disaster preparedness and response plan;
6. Improvement of organization of civil defense forces and means for disaster liquidation;
7. Determination of safe places for evacuation of people from disaster zones;
8. Conduction of planned exercises and trainings with civil defense services at the district local (jamoat) levels in order to maintain their constant preparedness.

[1] Structural mitigation includes the construction of new buildings, roads, canals, dams and other infrastructure and strengthening and updating of old structures.
Non-structural mitigation is the education, trainings, placing the mark signs and warning signs, development of regulations, land use plans, etc.