

Evaluation of farming activities supported by climate sub-loans

Shukhrat Mukhamedjanov
 Scientific Information Center of the Interstate
 Commission for Water Coordination
 of Central Asia, Uzbekistan



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Climate conditions

•The composition of the region determined its climatic conditions: - very arid, with little rainfall, hot summers, in the steppe and desert zones and heavy rainfall, high humidity, low temperatures in the mountains;

•Climatic conditions in the spring, autumn and winter periods have the character of a sharp change;

•Years have large differences in both temperature and rainfall;

•In such conditions, farming is accompanied by climatic risks at all times of the year;

•Years are abnormally dry and hot or abnormally wet with heavy rainfall (winter and spring)



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Climate change and impacts on agriculture

•Climate change in the last 20-30 years has exacerbated the already difficult situation of agricultural production:

• Winter became warm, and spring became bring heavy and destructive precipitation with sharp changing high and low temperatures, summer became hotter;

•The absence of frost and precipitation in winter leads to a shortage of water in summer;

•Warm winters, heavy rainfall in the spring, and heat in the summer lead to various damage to the vegetation.

•High temperatures lead to heat stress and loss of yields;



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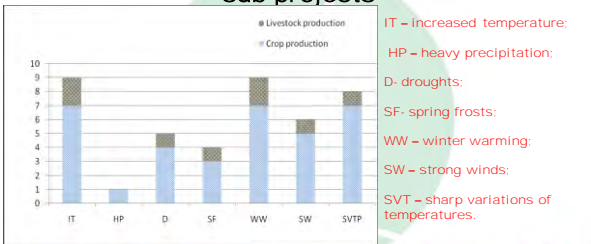
Need for investment in agriculture under climate change

- Climate risks in agriculture and water sector will require separate investments.
- In this context, it should be clear, what specific problems need to be financed.
- It is also essential to understand that these investments should be targeted, with the use of existing high tech tools to solve specific tasks.
- In this case, several questions arise:
 1. Who should receive climate investments
 2. How to assess the effectiveness of investments.
 3. Do lenders and the borrowers understand the goals of climate investments



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Assessment of climate anomalies in the area of sub-projects

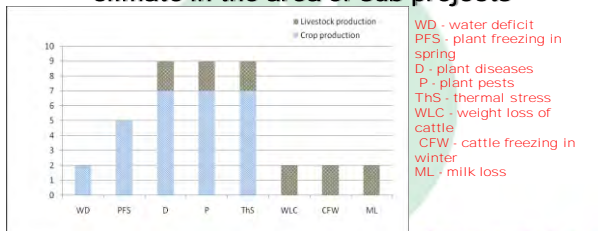


- IT - increased temperature;
- HP - heavy precipitation;
- D - droughts;
- SF - spring frosts;
- WW - winter warming;
- SW - strong winds;
- SVTP - sharp variations of temperatures.



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Assessment of negative impacts of the climate in the area of sub-projects

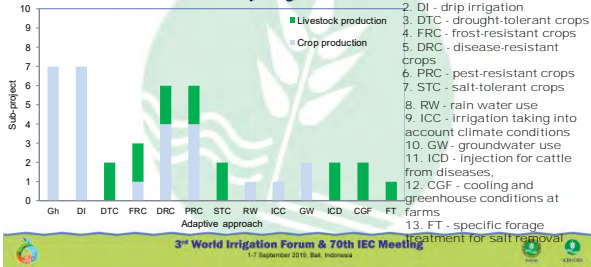


- WD - water deficit
- PFS - plant freezing in spring
- D - plant diseases
- P - plant pests
- ThS - thermal stress
- WLC - weight loss of cattle
- CFW - cattle freezing in winter
- ML - milk loss



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Assessment of adaptive measures in sub-projects



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Collection and use of rainwater for animal and greenhouses



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Greenhouses favorable conditions for plants



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Lessons learned

1. In the studied regions of Tajikistan and Uzbekistan, there are real climatic risks and negative impacts on agricultural production.
2. There is need territorial zoning of existing climate risks in agriculture.
3. A catalog of adaptive approaches and climate-related technologies in agriculture is needed;
4. An assessment of the economic damage to agriculture from climate anomalies is needed;
5. There is need a capacity building of all parties, involved in the climate investments process of the, on climate change issues .
6. It is necessary to develop requirements for issuing climate investments

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