Volume-2 | Issue-11 Available online @
https://procedia.online/index.php/philosophy

Procedia
of Philosophical and Pedagogical Sciences

Use Possibilieties Small Water Sources

To'xtasinov Shoxrux
Andijan institute of agricultury and agrotechnology, student

Abstract. This work highlights the possibilieties of using small water sources in the Bulokbashi district of the Andijan region to provide electricity using small hydropower plants in remote areas. Also provides an analysis of information useful for the use of some types of small hydropower plants.

Key words: small hydropower plants, gutter, water intake area, collector.

Crisis phenomena are observed throughout, but despite this, the main area of investment is the alternative energy sector, primarily in the field of generating electricity using renewable energy sources [1,8-11].

Regions differ in per capita consumption levels:

the lowest - the Republic of Karakalpakistan (below 149 kW/h),

medium – Namangan, Samarkand, Khorezm, Bukhara regions (from 149 kW/h to 200 kW/h),

above average – Andijan, Fergana, Kashkadarya, Surkhandarya, Jizzakh regions (from 213 kW/ h to 242 kW/h),

the highest is the city of Tashkent (571 kW/h). [2]

The development of the state's infrastructure and economy is directly related to the constant expansion of energy capabilities. To solve this problem, a lot of attention has been attracted from government agencies, and the best specialists in the field of energy have also been attracted. Additionally, attention is paid to the use of renewable types of electricity [1,8,10]. In particular, there are developments in the field of wind energy [2,3]. On the other hand, increasing the capacity of hydraulic structures [1,4,9] using various models for generating electricity using water resources in remote areas.

The territory of the Andijan region is saturated with water resources to varying degrees. There are areas with very good levels of water supply, as well as areas with poor water supply.

Bulakbashi district of Andijan region borders with Kyrgyzstan , Jalakuduk and Khujabad districts. Water volumes in collectors located in this area depend on the level of inflow to this area. For example, if there is a low level of drainage in the Jalabad district, then in the Bulakbashi district the situation will be even worse. Therefore, when choosing sites for use

as small hydroelectric power stations, this factor will have to be taken into account. On the other hand, in recent years there has been an increase in the population with a constant decrease in free areas suitable for the construction of small hydraulic structures [7-9].

There are 46 collectors located on the territory of Bulakbashi district.

The level of drainage suitable for the use of small hydraulic structures in terms of the volume of collector throughput is approximately 87-95% relative to the total volume of sewer drainage to the entire area.

The given territories of the Andijan region have their own characteristics and are interconnected by an irrigation network. The network of collectors here can be used to generate electricity using small hydroelectric power plants from water sources supplied throughout the year, and the power can reach up to 5-7 kW in the form of a cascade or single hydraulic structures.

From the information obtained above, the following conclusions can be drawn:

- the ratio of the entire length of the collectors is 1.5 times (139.84 km and 89.47 km, respectively),

In relation to the drainage, it is 3.4 - 4.5 times less (9.58 - 13.40 m^3 / s and 33.05 - 62.20 m^3 / s, respectively).

when compared with the corresponding data for the Khuzhabad district:

- 7 times less length,
- 4-4.5 times more in terms of drainage volume (9.68 - 13.55 m 3 /sec and 2.33 - 5.80 m 3 /sec, respectively) [4].

To reduce the overall load on the energy network and partially replenish the electricity consumption of remote areas, it is advisable to attract water resources of large drainage volumes. In the case of the Bulakbashi district, it is better to use a cascade of 3-4 pico hydroelectric power stations. In this case, the resulting power can reach 5-7 kW, which will reduce the load on the energy network of a given territory and has a self-sufficiency period for the project within 5-6 years. Additionally, renewable types of energy, especially wind and solar energy, can be located in almost many areas, regardless of the type of farm activity.

When calculating and forecasting the indicators of water sources, one should take into account the constant level during the annual period, since all water sources available in the Khujabad region tend to change the water level depending on the period of the year and the amount of precipitation in the winter and spring months. The data obtained show that the use of renewable types of energy in the electricity supply network in the form of a combined design makes a positive contribution to the development of economic activity in this territory of the Andijan region. At the same time, dependence on external energy supplies is reduced, that is, financial resources are saved, and they can be redirected to other needs or made as investments for the development of this area [1-3,5]. Based on this, we can conclude that the energy reserves of small rivers with a provided level of at least 1 m with a throughput capacity of 0.15 m^3 /sec or more have the opportunity to provide electricity with a capacity of 5 kW or more to the needs of remote representatives of various economic

entities (farms, small production workshops, fattening bases, etc.) with the rational use of renewable types of electricity [7]. The combined use of renewable types of electricity significantly increases the territory's supply of electricity while reducing dependence on external supply. And this, from an economic point of view, means lower costs for supplying electricity to remote areas, which means they can be used for new similar energy projects.

In conclusion, it should be noted that energy resources for each territory differ from each other and when choosing a source of production using renewable types of electricity, it is necessary to take into account the geographical location, as well as other parameters that influence the choice of a particular type of electricity source. As a result, we obtain an economically profitable electricity supply network, which will be aimed at improving the well-being of our people and the growth of the country's economy.

Bibliography:

1. R.A.Zakhidov, S.L.Lutpullaev. Global trends in the development of alternative energy and the challenges of Uzbekistan in the development of renewable energy sources. //"Solar technology", 2015. No. 1. P.55-69. (in Russian)
2. R.A.Zakhidov, U.A.Tadzhiev , U.I.Kiseleva, M.U.Tadzhiev , G.S.Saliev , S.I.Gorobtsov. Experience and prospects for the use of low-power solar-wind energy complexes in power supply systems for remote facilities. // "Solar technology", 2015. No. 2. P.75-81. (in Russian)
3. U.A.Tadzhiev , E.I.Kiseleva, M.U.Tadzhiev , R.A.Zakhidov. Possibilities for increasing the energy efficiency of the Andijan hydroelectric power station using wind turbines . Part 1. //"Solar technology". 2014. No. 3. P.12-18. (in Russian)
4. U.A.Tadzhiev , E.I.Kiselev, M.U.Tadzhiev , R.A.Zakhidov. Possibilities for increasing the energy efficiency of the Andijan hydroelectric power station using wind power plants . Part 1. //"Solar technology". 2014. N 3. P. 12-18. (in Russian)
5. Kiryigitov B., Usmanova S. Possibilities of modern information technologies in the energy sector /"Ilm-fanvatalimning rivozhlanish istiqbollari" mavzusidagi ilmiy conference to'plami. 1-kism. Tashkent, 2020. No. 3. 373-375-betlar. (in Russian)
6. Zahidov R.A. Increasing the role of alternative and renewable energy sources in the US energy strategy //Solar engineering, 2008. - No. 1-P.84-85. (in Russian)
7. B. Kiryigitov, O. Bozarov. About the provision of electricity on the basis of small hydroelectric power stations in the Andijan region (using the example of the Khuzhabod district). /" Yoshlarning innovative faolligini oshirish , manaviyatini yuksaltirish va ilm-fan yutuqlari ." 3-Sonli Republic of Ilmiy-online conference. Farg'ona . 2020. 402-405-betlar. (in Russian)
8. Bozarov O., Kiryigitov B. Possibilities for developing the infrastructure of territories using renewable sources of electricity //"Science and Innovation in the XXI Century". Materials of the International Scientific and Practical Conference. Andijan, 2021, June 29. P.308-311. (in Russian)
9. Kiryigitov B.A. Prospects for the use of renewable types of electricity //Oriental Renaissance: Innovative, educational, natural and social sciencs.-2021.-V.1.-I.7.-

PP.41-45. (in Russian)

10. Bozarov O., Usarov Kh., Kiryigitov B. Prospects for providing decentralized territories with renewable types of electricity //Scientific journal "Internauka". 2021. No. 30(206).-P.51-53. (in Russian)
11. Kiryigitov B., Kodirov R. Use of alternative types of electricity sources in agriculture //Scientific progress .-2021- V .2.- I .7. P.150-154 (in Russian)