

30 Years Badakhshan Electrification Project and local communities concerns

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Clean or renewable energy refers to those sources and categories of energies that produce less pollution to the environment and are the cheapest type of available energy so far. This valuable category of energy is generated from water, wind, sun, biomass, geothermal and other sources.

Each of these types has unique benefits, advantages, and specifications. At present, around one Gigawatt of hydropower is produced in the world, most of this is coming from China, Brazil, and the United States.

Given the current population and population growth trend, Afghanistan needs at least 5,000 Megawatts of electricity to meet the personal/family and commercial needs of both rural and urban communities. But Currently, the country's accessible electricity for consumption purposes is about 1,100 Megawatts. More than 80 percent of that is imported and comes from foreign countries, including Iran, Turkmenistan, Uzbekistan, and Tajikistan.

Based on the latest feasibility studies conducted by GIZ and Government of Afghanistan, the country has more than 398,170-Megawatt energy production potential from Hydropower, Solar, Wind, and biomass/biogas sources.

This includes 23,310 Megawatt from Hydropower,147,563 Megawatt from Wind,222,852 Megawatt from Solar, and 4445 Megawatts more from Biomass sources. Most of the potential hydropower (86%) is coming from Badakhshan Province and most particularly from Panj Sufla, Panj Ulya, and Kookcha river basin.

Badakhshan is one of the most deprived provinces in the country, and even the capital of the province, Faizabad, access less than 5 hours of electricity a day just for lighting. The price which is paid in this city is 5 times higher than the normal electricity tariff paid in big cities like Kabul and Balkh.

The small and beautiful city has been divided into two parts by Kookcha river, one of the biggest rivers of the country with great potential for electricity production but the city's available electricity is generated by large diesel generators that lie next to this beautiful and roaring river, producing the electricity with a high level of environmental pollution and noise.

On the other hand, according to the Ministry of Energy's and GIZ survey and estimates, the province alone has more than 53% of all water resources across the country and has the potential for production of 20,087 Megawatts out of 23,310 Megawatt of the total country hydropower potential.

To be clearer and more straightforward, during the last 18 years despite 100 Billion international community donations and assistance, enough efforts and work were not done in the Energy sector and most particularly in energy infrastructure development inside the country.

This caused the country to be fully dependent on imported energy from neighboring countries and that is why even the country capital city, Kabul does not have access to 24 Hours electricity in all four seasons of the year.

During February 2020, Afghanistan Electricity regulatory and distribution Company “DABS” and the Ministry of Finance of Afghanistan with a lot of noises and month- watering advertisements and formalities, signed a long term 30 years contract with Aga Khan development network to Electrify Badakhshan province.

Based on the statement released, the project's purpose is to establish Hydropower plant and expand the electricity grid and network all over Badakhshan province. The AKDN has many different branches, affiliates, agencies, and is operational in Afghanistan for the last 24 years.

The project has a total electricity production capacity of 91 Megawatt with a total project contract value of USD 631 Million. The contract covers both power plant establishment as well as expanding the power network across Badakhshan. Based on the media release published by the government, the project will be implemented and managed by Pamir energy for 30 years with four different phases of 7.5 years each. The contractor is required to electrify 50% of Badakhshan in the first quarter and fully electrify Badakhshan in the first 15 years. But on the other hand, there is no clarification about the next 15 years as well as the profits generated out of the sale of electricity to the residents of Badakhshan province during the project lifespan of 30 years.

Based on the shreds of evidence Badakhshan Energy management affairs are already handed over to Pamir Energy and even the Kookcha Hydropower dam is going to be handed over to this company right after the immigration.

The ministry of the finance of Afghanistan has announced this contract part of the government public-private partnership strategy and involvement of the private sector in implantation of the big national projects in Afghanistan.

In General, the residents of Badakhshan consider such projects very vital and extremely useful for the deprived communities of the province. Such initiatives are welcomed by everybody and still, there are many other economic development potentials in this province that needs to be touched and used effectively.

Despite all these, still, there are concerns and questions raised by the residents of Badakhshan including the content of the contract, term, and conditions, duration as well as the cost of the

project which requires, clear, detailed and rational explanations of the relevant stakeholders including the government and the Aga Khan development network.

Public-Private partnership:

In the press-release which was shared with media and public through the Afghanistan electricity company "DABS" right after the contract signing ceremony, they have talked about the implementation of the project by AKDN through public-private partnership mechanism. But from financing sources of the project, only the Asian Development bank was named. It means that they did not say anything from the contribution of the AKD in the project and it means that the financing can be totally from the government and Asian development bank side.

It is because usually in Public-private partnership mechanisms the amount of investment, shares as well as profit-sharing mechanisms are clearly explained, and each parties' rights and claims are clearly defined in advance. This means that they did not total considered this here and if assume that they have such things in writing, but still they did not share with the public. What I mean here is that if the AKDN is only the implementing contractor then it should be clear in the contract as wells the content and detail of such a contract should be shared with the public for transparency and awareness purposes.

Project cost

Renewable energy and most particularly the hydropower is one of the cleanest and cheapest types of energy in the world. Nowadays there are many big dams and power plants with a total capacity of over 1000 Gigawatt around the globe. If we carefully look at the medium size hydropower dams' cost, it shows that such dams can be constructed within a budget limit of USD 500,000 to USD 6 million per Megawatt depending on the different costing factors. The cost will be higher in American, European, and other developed countries depending on the technology, quality, human resources cost as well as other factors. But comparatively the costs will be lower in Developing countries including the south and central Asian countries which Afghanistan is located. Based on the available data One Megawatt hydropower deepening the small, medium, or large hydropower plant size, it costs From USD 250,000 to 1.6 Million in neighboring countries. In case the power plant is in a small category the cost will be lower than the bigger sizes. If we consider our neighboring countries, one Megawatt electricity production from hydro source can cost from USD 250,000 onward in Iran, around USD 500,000 in Pakistan and if we compare this with Tajikistan it cost around 1.1 Million US Dollar per Megawatt only.

As a concrete example, Ragoon Hydropower plant has a capacity of 3,600 Megawatt cost around 3,9 Billion US dollars. If we simply calculate this, per Megawatt cost will be 1.1 only. Tajikistan has the same mountainous and difficult environment as Badakhshan has and the Ragoon dam is located around 250 KM far from the planned power plant in Badakhshan Afghanistan.

The question is that if one Megawatt Hydropower generated electricity on the other side of the OXUS (Amoo) river cost 1.1 Million US Dollars, then why it should cost 7 Million per Megawatt in this side of the river with the same climate and geographical condition?!

On the other hand, based on the cost analysis done by International Renewable Energy Agency (IREA), the average cost per megawatt of hydropower considering the different factors including the cost of human resource, quality, and technology used will be around 1-6 Million. According to their estimation, the electrical grid expansion, network, and transition line development depending on the voltage and capacity will cost between USD 35,00 and USD 20,000 per Kilometer

In this project, considering all these factors still one Megawatt electricity will cost us 7 Million USD. This is still around 7 times more expensive in comparison to Ragoon of Tajikistan and 14 times more expensive than the same projects in Iran and 10 times more expensive than such projects in Pakistan, the neighboring countries.

Possibly there would this justification that, system and transition line development is part of this contract which can contribute to a big portion of the project cost.

But in case we go back to the cost analysis, we see that one KM of the grid line and system development cost something between USD 3,500 to USD 20,000 depending on the geographical condition and voltage capacity. And in case we project the development and expansion of 3000 KM transitional power line with the highest cost of USD 20,000 per KM still it will not exceed even USD 60 Million. And still, around 571 Million is there to take the advantage.

If we consider lots of other overheads and junctions development cost still system and transmission line development cost across Badakhshan will not reach a hundred million out of 631 Million.

Considering all the above data and analysis, the project budget is afloat 4 times more expensive in comparison to other projects in Afghanistan, 7 times more expensive than the same projects in neighboring countries, and can be considered as of the more expensive hydropower projects in the globe.

Project Duration

The duration of the project is 30 years, which is time taking, tedious, and deceptive. The general Purpose can be that the official will feed the public that such a project has been inaugurated in Badakhshan province and such and such a budget has been allocated to this province. But on the other hand, a big part of the people of Badakhshan will have to wait at least another 15 to 30 years to access electricity, and they will be in the dark until this contract is finalized. Realistically 5 to 10 years was a reasonable project duration for this.

Project income

Each project has a lifespan, and the average lifespan of a large hydropower project is about 80 years. The production of Per Kilowatt hydropower usually costs between 1 and 2 afghanis including all operational, maintenance, undegrading, and return on investment. In this project, it should be made clear that wither the post-production revenues from this project is going to be given to the government or a contractual party ?!

At the same time, as can be seen in the other contract The electricity management of Badakhshan is granted to Pamir Energy, the company belongs to the Aga Khan Investment Fund and according to the available information, Pamir Energy is intended to manage and own Badakhshan energy production and distribution resources for many years.

But to what extent Pamir Energy has invested in this major national energy project, which taking advantage of the ownership or profit-sharing, the vast majority of the people of Badakhshan are certainly unaware of it. Every year, but if Pamir Energy has not invested in this project and has no share in the revenues generated by this project. Will it still benefit from the net profit of this project or not? And if the answer is yes, why and what will be the percentage Pamir energy company enjoys?

To conclude, the project's high cost, extremely long duration, unclear profit, and revenue sharing mechanism are among the biggest concerns of the local communities which need to be clarified by the relevant authorities. Maintaining the highest level of integrity and Transparency are some other areas of concern that need to be taken care of during the project implementation.