

FROM THE EDITOR...



Energy has been the attached human civilization ever since written history began. From sacred fire wells in Baku of the Caspian sea shore to rich oil fields in Middle East Asia, it has been the driving force of human civilizations from one stage to the another. In Sri Lanka, national level power generation started by the end of 1940's with the inspirational work of the Eng. D.J. Wimalasurendra; first president of the Institution of Engineers Sri Lanka in the Kelani valley basin. Ever since, several large scale multi-purposed dams were constructed for the power generation to address the growing energy demand of the country. It culminated with the construction of 150 MW Kotmalle (1985) 210 MW Victoria (1986), and 120 MW Randenigala (1987) power plants with generous financial assistances from Sweden, Great Brittan and Germen Federal Government, respectively. The momentum of hydro power dam construction went with constructions of Kukuleganga, Upper Kotmale and finally Broadlands. By now, with few available potential places to build such large dams and their environmental impact on nature, new ways of power generation is essential to achieve the island's "self-sufficiency on energy demands".

Minihydro plays a significant role towards this issue and it is definitely one better option available with comparison to thermal power plants owing to the high power generation cost of the latter. First mini-hydro plant construction began in the early 1990's and at present there are over 150 Mini hydro power plants (MHPP) across the southern, south western, and western and central hill country of the Sri Lanka. By definition, generation capacity which is higher than 1 MW and lower than 10 MW is defined to be a MHPP. There are over another 150 potential places available, therefore, it can play a significant role in supplying countries power need. Although, its contribution to the national grid is 330 MW, its impact is increasing ever since 1990's. Without causing much damage to environment, reducing fossil fuel demand and global warming, it is a perfect option for power generation than thermal power. In this context, the knowledge base of MHPP is purely Sri Lankan. And there exists, perfect combination of different disciplines of Engineering; Civil, Mechanical and Electrical and Electronics. Most power plants have higher capacity to be extracted than their rated energy output and this nature energy has not been fully extracted due to reasons such improper design, not having reliable machineries and so on. Further, in depth knowledge of all stages of MHPP is essential in extracting full potential power. It is to mention here that the prime duty of engineers is to make peoples to have more comfortable life with ensuring the environmental sustainability. Towards this objective, more research, developments and innovations should be oriented towards identifying sustainable environmental friendly energy sources and extracting nature hidden power without damaging to the environment. Further, engineering entrepreneurship should sufficiently engage with new trends of energy sources such as bio mass, solar, wind and ocean currents and tides, geo thermal and so on. If these sources are correctly harnessed, self sufficiency of power generation can be achieved and dependence on thermal power plants can be reduced. If so, our engineering foot print on general public would be more visible in developing arena of the country.

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