7. Conclusion

Cyanobacteria are ubiquitous in aquatic and terrestrial environments. They have highly adaptive abilities to survive under environmental and evolutionary pressure over time. Beyond this, their biotechnological potentials in agriculture, pharmaceuticals, bioremediation, bioenergy and as in food supplement made us to focus on them, avoiding other microbes. This study focused on exploring the efficiency of cyanobacteria in agriculture and bioremediation. In India, considerable progress has been made in the development of cyanobacteria based biofertilizer technology. Bio-fertilizers improve root proliferation due to the release of growth promoting hormones. They help in increasing the crop yield by 10-25%. It has also been demonstrated that this technology can be a powerful means of enriching the soil fertility and improving crop yields. The successful results obtained on testing its potentials confirmed the efficiency of cyanobacteria in agriculture. Its eco-friendly character including, soil fertility, promoting plant growth, creating a pollution free environment made it to be unique. Pollution control through bioremediation is the most economical and eco friendly approach. Using cyanobacteria in particular, would be advantageous in many ways. Secondly, bioremediation as concerned, the most promising species should help in self purification and remediation of polluted and contaminated effluents before discharging into surface aquatic systems, providing a low-cost and naturally renewable technology. In this context, the cyanobacterial species investigated in this study are highly recommended for beneficial bioremediation applications both in-situ and off-site removal of pollutants. Efficient removal of Cr (VI) by processes of bioaccumulation and biosorption by different test isolates have been demonstrated as a model process. The innovative nature in use of cyanobacteria was that, all benefits are got at very low cost, highly efficiency, easy to handle and no need of any additional nutrient requirements. Hence, utilizing the potentials of cyanobacteria to the extreme of our need have become essential.