

Microbes for the Next Green Technology and Sustainable Development: Soil Revolution

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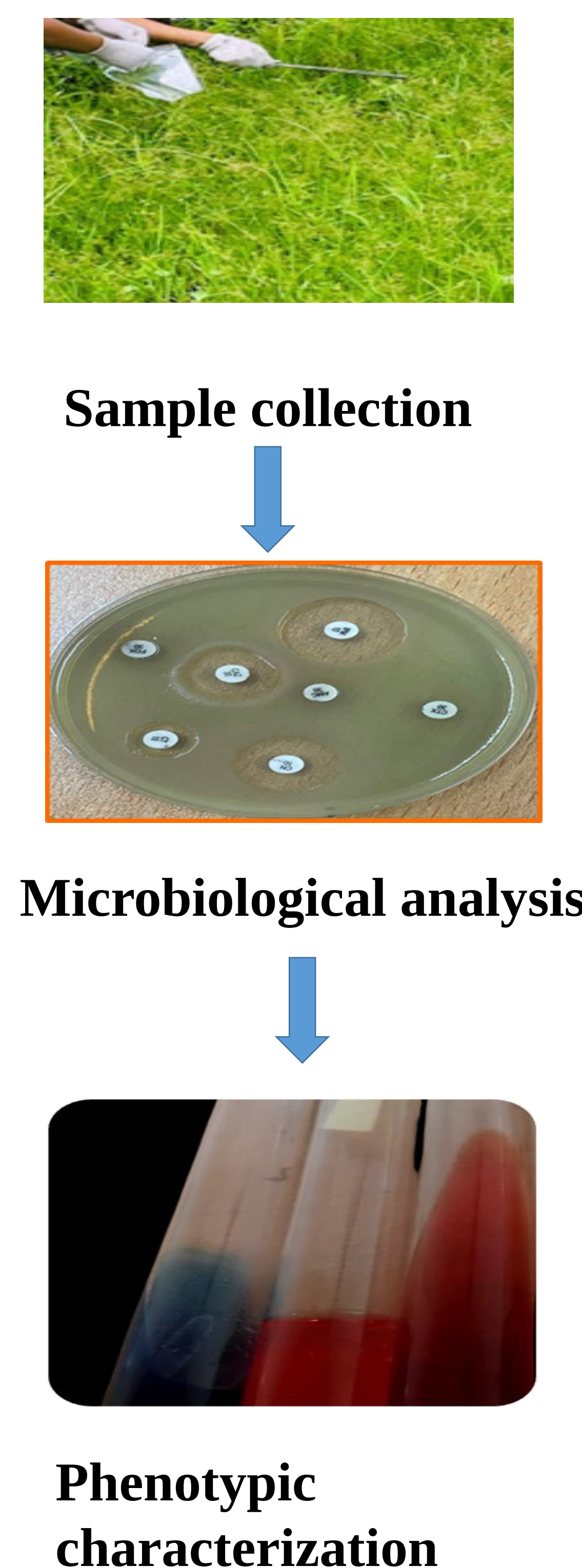
Introduction



Objective

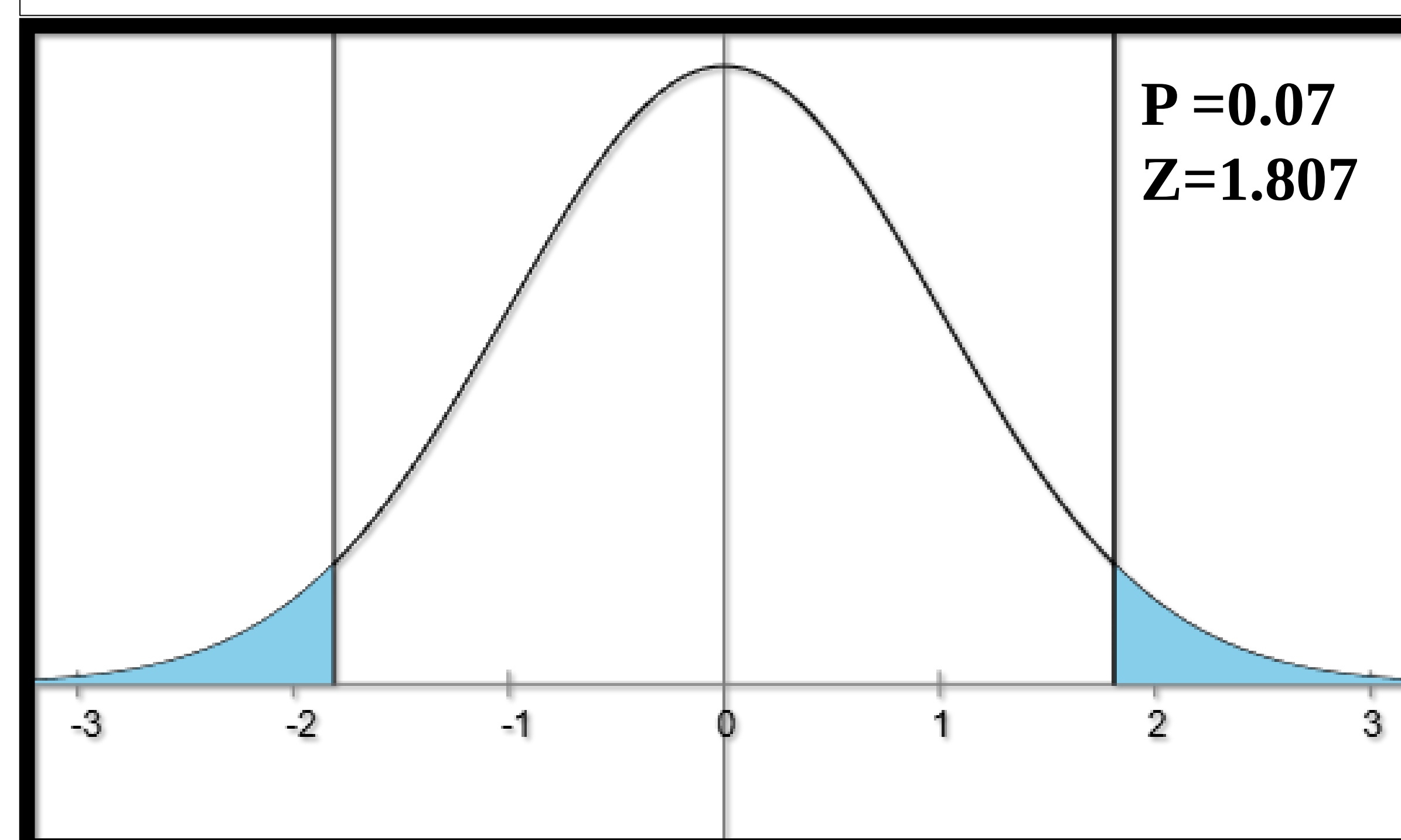
The present study explored the potential of soil as a readily available natural source of beneficial Burkholderia strains that can support sustainable farming practices in line with the UN's Sustainable Development Goals (SDGs).

Methods



Results

- Bacterial community diversity analysis revealed four different Burkholderia species with moderate Shannon-Weiner index (H) in Ghazipur, Dhaka, Bangladesh.
- Several strain tested positive for the formation of indole, indicating the possibility of IAA biosynthesis.
- The observed percentage was 64.86% (95% CI, 48% to 78%). The p value was above the significance level of 0.05 ($p = 0.0706$) and no significant difference was observed.



Conclusions

- Physiognomies of IAA synthesis promoting plant growth may be used as eco-friendly substitutes to synthetic fertilizers.
- Biofertilizer application of innovative bacterial strains has the potential to improve the sustainable crop production, reduce the utilization of chemical fertilizers, reduce greenhouse gases emissions and improve the environment to achieve SDG goals 2 (Zero Hunger), 13 (Climate Action) and 15 (Life on Earth).
- Future research should be aimed at developing and deploying biologics using these strains for supporting national and international SDG goal.

References

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