

5. Conclusion

This study summarizes a general series of common strength tests carried out on rock aggregates from quarries in surroundings of northern Gondar, Ethiopia. The overall results indicates that the moisture content varies about 0.2% to 0.72%, with specific gravity value of about 0.41 to 2.94, aggregate crushed value is of 9.5% to 28.3%, which is generally below 29% is regarded adequate for road materials. Water absorption is of about 0.54% to 1.82% and Los Angeles abrasion is of about 8.8% to 11.4%. Los Angeles values below 15 % are regarded as good and values above 25% are regarded as poor resistance with respect to disintegration. Python is a simple and powerful programming language, it does not need any pre programming knowledge. An attempt has been made with new approach for creating a base map and spatial data by using an open source python programming. For plotting these data python based modules are used. Based on the results, the study concluded that the available quarry materials are suitable for use as coarse aggregate for road pavement and concrete. The study indicates that good quality coarse aggregate resources are available in enormous quantity within in the study area. These rich sources of aggregate can be widely used as engineering material for development purpose. The quarry sites around Gondar town are not systematically selected for engineering activities. The quarry sites are also not properly rehabilitated after mining; therefore a clear balance and careful environmental management is also needed for future development. The study also recommends a need for periodic environmental auditing and monitoring of quarry sites and also should encourage sustainable use of resources.

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