Table 3 summarizes the daily total power output produced by the control (cleaned) and dirty (soiled) solar modules and the daily percentage power losses.

Table 3: Daily power output and percentage loss.

Days	Daily total output power (Control)/Watts	Daily total output power (Dirty)/Watts	Percent Power Loss (%)
Day 1	2383.016	1407.255	40.95
Day 2	3539.326	2051.732	42.03
Day 3	1611.075	1087.175	32.52
Day 4	774.993	539.386	30.40
Day 5	1758.487	1286.813	26.82
Day 6	2130.025	1505.048	29.34

The daily output power loss due to the accumulation of solid dirt (mixture of Algae, sand, dust and moist air) over-time on the surface of solar module as compared with cleaned solar module ranges between **26%** and **42%** in this geographical location. Averaging these values amount to **34.0% ± 8.0 %** output power loss. This is a huge loss to the output power as a result of accumulated solid dirt on the surface of installed solar module.

5. Conclusion

The impact of cumulative accumulation of solid dirt (Algae, sand, dust and moist air) was investigated by collecting data from solar panels exposed to sunlight in condition that mimic their real life application. The output performance of the solar panels were evaluated using the testing parameters that include open circuit voltage and short circuit current, I-V characteristics and the soiling losses. The output power losses due to dirt accumulation on the surface of the solar module range between **26%** and **42%.** Averagely, dirty solar module loses **34.0% ± 8.0 %** output power daily. Hence, regular cleaning of the surface of the solar module should be adopted for optimum power yield.

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