Analysis & Redesigning of Watermills for
Sustainable Development of Rural Areas of Uttarakhand

LIST OF GRAPHS

List of Curves / Graphs
Capacity Addition Target V/s Achieved in MW
Demand and Supply gap (MW)
Districtwise Population of Traditional Watermill
Overall status of Upgraded and Traditional Watermill
Districtwise Population of Upgraded Watermill
Overall Status of Watermills in Uttarakhand
Districtwise Status of Watermills in Uttarakhand
Current Usage of Watermills
Districtwise Usage Pattern of Watermills
Working condition of watermills
Districtwise working condition of watermills
Working Duration of Watermills
Districtwise Working condition of watermill
Potential for Up Gradation of Watermills
Districtwise Potential for Up Gradation of Watermills
Distance of Watermills from Village
Districtwise Status for ‘Distance of Watermills from Village’
Distance of Watermills from Road Head
Districtwise Status for ‘Distance of Watermills from Road Head’
Districtwise Status of Village Electrification in Uttarakhand
Districtwise Status of Electrification in Uttarakhand
Cumulative Average Annual Discharge
Average Annual Discharge from 0 to 0.2 Cumec
Average Annual Discharge from 0.2 to 0.4 Cumec
Average Annual Discharge from 0.4 to 0.6 Cumec
Cumulative Status of Available Head
Districtwise Status of Available Head
Districtwise Status for ‘Distance of water Mills from Nearest Village’

Districtwise Status for ‘No of Households Within 500 m’

Cumulative Status of Reasons for Non Functioning of Watermill

Efficiency V/s Discharge Curve’ - Crossflow turbine testing
‘Efficiency V/s Loading Curve’ - Crossflow turbine testing

Efficiency V/s Discharge Curve’ - Axialflow turbine testing
‘Efficiency V/s Loading Curve’ – Axialflow turbine testing

‘Efficiency V/s Discharge Curve’ - Peltonwheel turbine testing
‘Efficiency V/s Loading Curve’ - Peltonwheel turbine testing

‘Penstock Diameter v/s Discharge Curve for 3m Head’
‘Penstock Wall thickness v/s Discharge Curve for 3m Head’

‘Diameter of Shaft v/s Head Curve’ for different Heads

‘Specific Speed v/s Jet Ratio’ Curve
‘Efficiency of Turbine v/s Head’ Curve
‘Efficiency of turbine v/s No of blade’ Curve

Comparison curves for Efficiency of Watermill

Efficiency of Improved and our Watermill for different discharge conditions

Efficiency Curve with & without Jet control