

Solar-powered irrigation for climate-resilient agriculture in Desa Bumi Wangunharja, West Bandung

INDONESIA · West Java · Wangunharja

CATEGORY **AGRI-FOOD SYSTEMS** **CROP PRODUCTION**PRIMARY HAZARDS
Heat stress · Water stressMOBILITY DIMENSION
Avoided displacement

RICD RISK TIER

 High

GRANT RECIPIENT

Society of Renewable Energy (SRE) Indonesia

PARTNERS

Desabumi

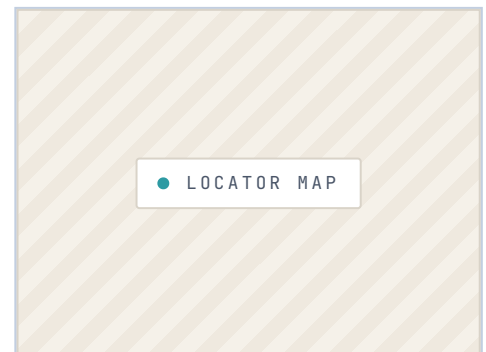
TOTAL PROJECT VALUE

43,722 USD 5 months**50% CCF GRANT 21,861 USD****50% MATCHING FUNDS 21,861 USD**
SRE Indonesia

Context and approach

Prolonged dry seasons and erratic rainfall leave farmland in Wangunharja idle for up to five months a year. Without income, smallholder farmers migrate temporarily to nearby towns for work, a pattern confirmed by RICD findings in Bandung.

SRE Indonesia is installing a 15 kWp solar PV system with battery storage to power an automated pump lifting river water to a hilltop reservoir, delivering year-round irrigation to 40 hectares, backed by IoT-based smart farming training and a cooperative-run maintenance model.



Project outputs

- Install 15 kWp solar PV with 20 kWh battery storage and automated pump
- Build a 70 m² hilltop reservoir irrigating 40 hectares of farmland
- Train farmers in IoT-based smart farming and irrigation management
- Set up a cooperative-managed operation and maintenance model
- Farmers move from two to three cropping cycles per year with reliable dry-season water
- Seasonal out-migration for work declines as farm incomes stabilise
- Local institutions run and maintain the system beyond the grant period

Reach & deliverables

9,156
ESTIMATED
POPULATION
IMPACTED
Desa Bumi
Wangunharja**40 ha**
FARMLAND
IRRIGATED
year-round,
solar-powered**3**
CROP
CYCLES A
YEAR
up from two

Milestones

5 MONTHS TOTAL

M.01
2 weeksFeasibility study and site
validationM.02
3 weeksProcurement and
equipment deliveryM.03
2 monthsInfrastructure
developmentM.04
3 weeksCapacity building and
trainingM.05
2 weeks

Monitoring and evaluation

Co-funded by
the European Union