

# Pico Hydropower and Mini-grids under the IWRM Context

## Water energy nexus and private Developers Participation



Presented at the Rwanda  
national IWRM Conference  
“Leaving no-one Behind”  
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21/03/2019

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# Outline

- Policy framework
- Regulatory framework
- PHP Potential
- Off grid areas
- Some PHP Projects
- Water energy nexus
- Low scale multiple use projects
- Range of equipment to specific sites
- Partnerships

## Policy framework

- The energy sector target is to achieve 100% electricity access by 2024
- The Rural Electrification Strategy (RES) that was approved in June 2016 and the Government of Rwanda's seven (7) years electrification plan will be implemented using both on grid and off grid connections at 52% and 48% respectively.

# Regulatory requirements for development of PHP Plants <50 kW

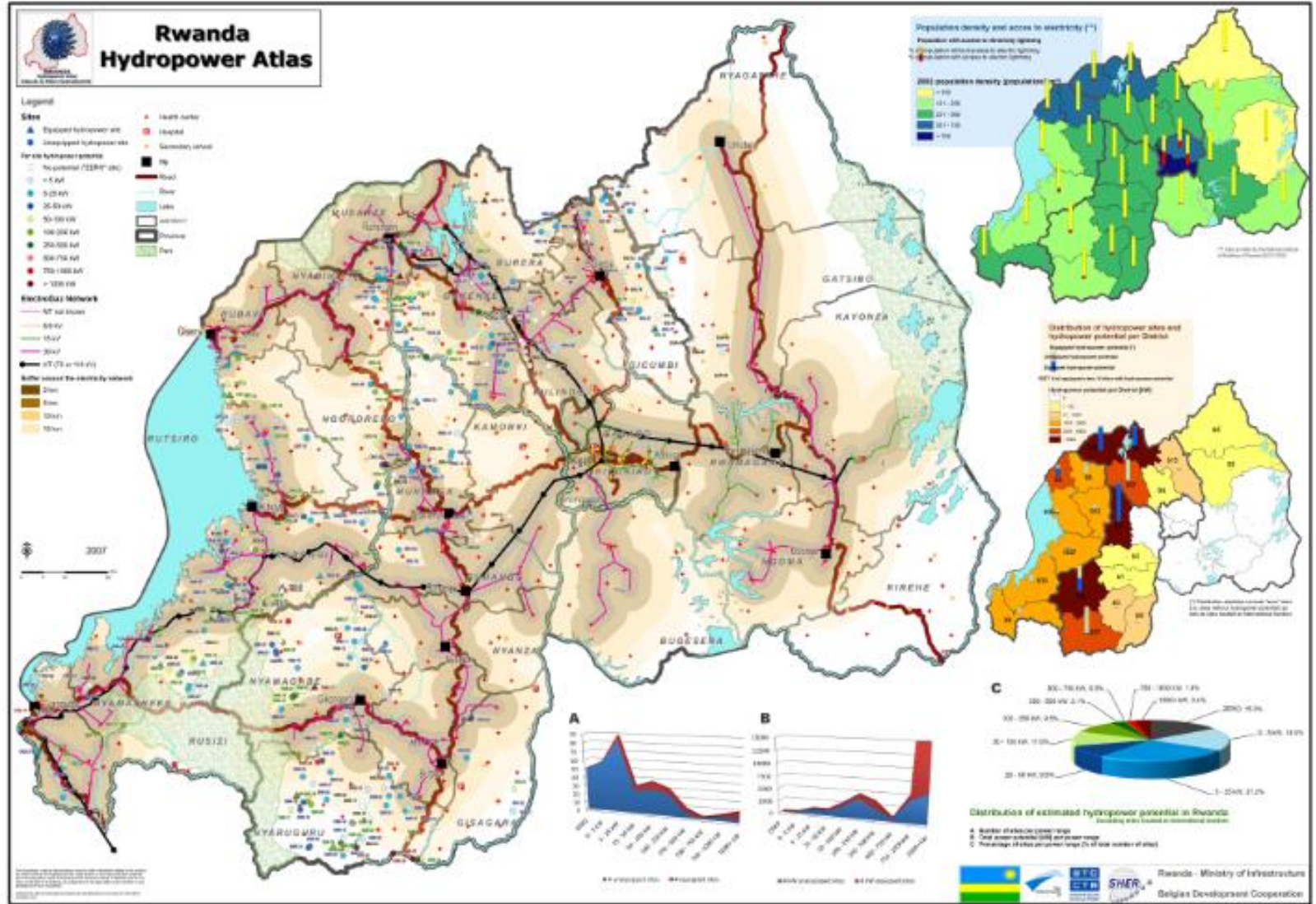
- District recommendation letter
- REG/EDCL non-objection for Off-grid Areas
- RURA exemption to the license
- EIA Certificate from RDB
- Surface water abstraction permit from RWFA

## Regulatory framework challenges

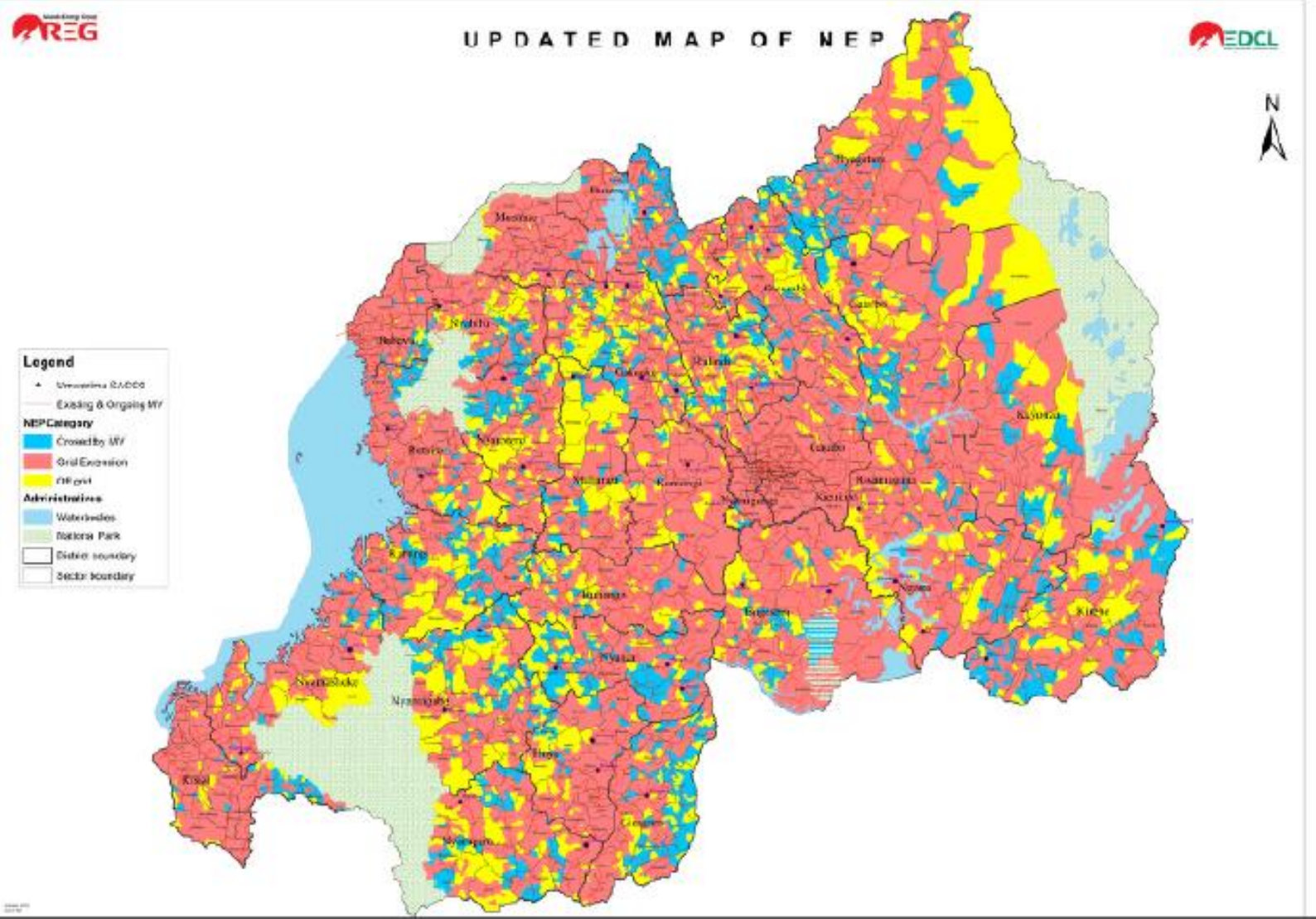
- National Electrification plan
- Protection of investment when grid arrives
- Tariff issues
- Water permits

=> Need for a one stop center for all water related projects for effectiveness

# PHP potential



# Off grid areas



# Some PHP by Private Developers Projects

## Implemented projects

- Nyakiramba/Muhanga 11kW, (Operational received Endev RBF)
- Mukungu/Karongi 20kW (Operational under PPP received funding from SNV)
- Mudasomwa/Nyaruguru 34kW (Civil works completed and equipment imported received funding from Energy for Impact)
- Nyamporogoma/Kirehe District 30 kW (Works completed and tests done received funding from Energy for Impact)

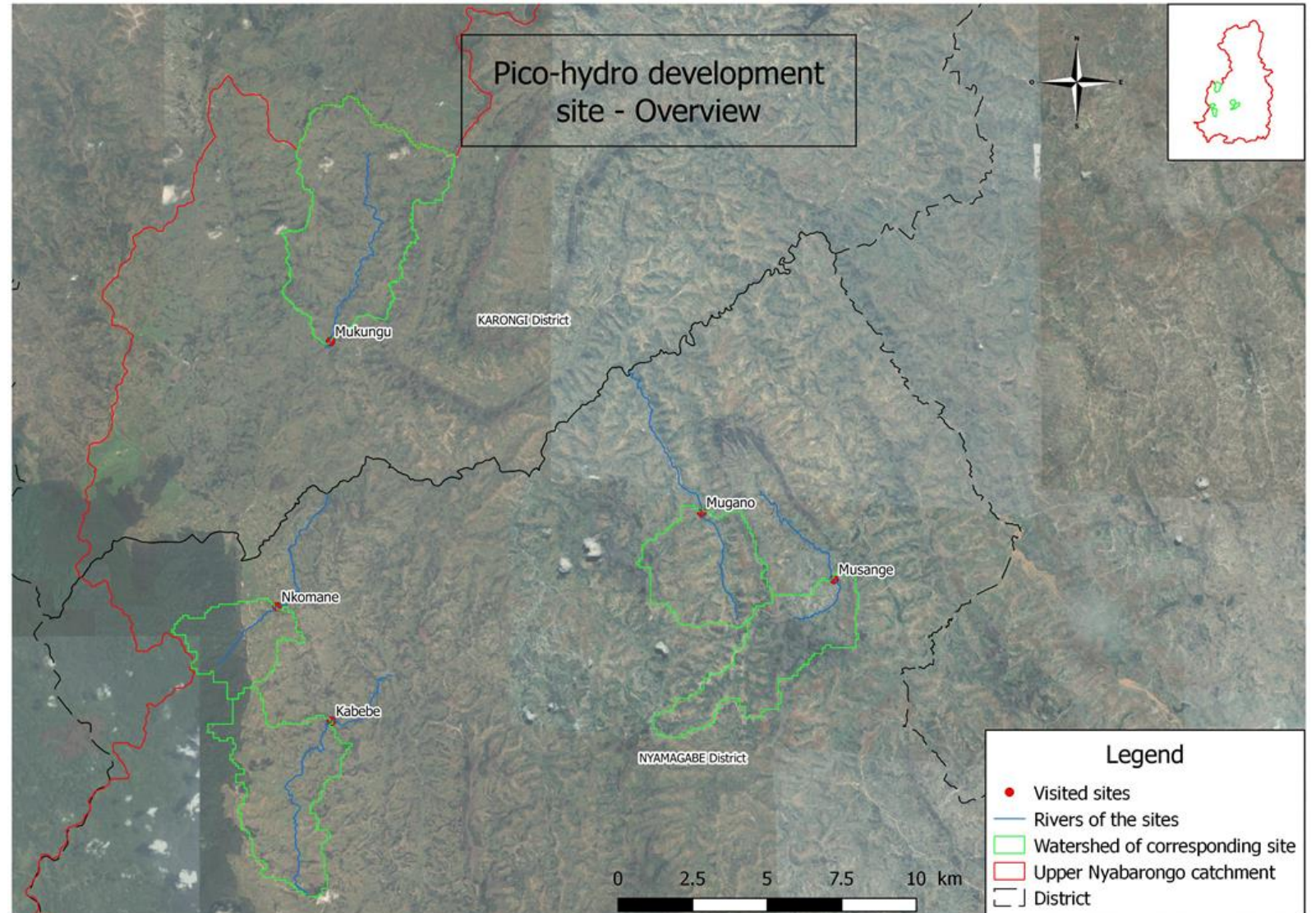
## In pipeline...(Permit,financing...)

- Nkomane/Nyamagabe District 49.5 kW
- Kabebe/Nyamagabe 48kW
- Ntaruko/Nyamagabe District 8 kW
- Musange/Nyamagabe District 26.6 kW
- Ntaruko/Rutsiro District 42 kW
- Mugeni/Muhanga District 30kW
- Kigusa/Nyabihu District 21 kW



# Water energy nexus

- Mukungu PHP (20 kW)
- Nkomane PHP (49.5 kW)
- Kabebe PHP (48 kW)
- Mugano PHP (8kW)
- Musange PHP (26.6 kW)



## Low scale multiple use projects

- Hill side irrigation and hydropower
- Pumping station for water supply schemes
- Water treatment plants
- Metrological stations

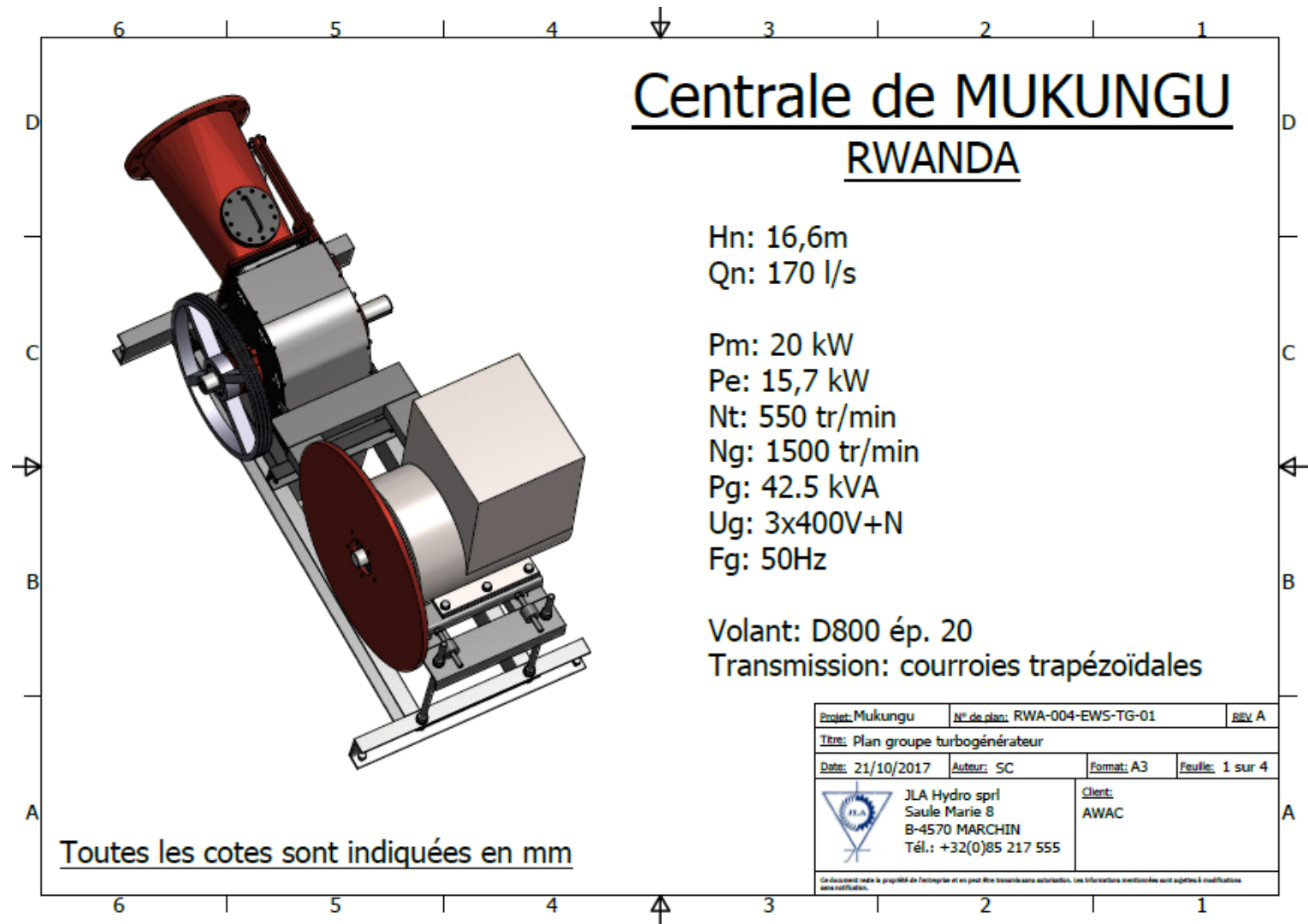
=>Introduce single measurement station

## Stakeholders

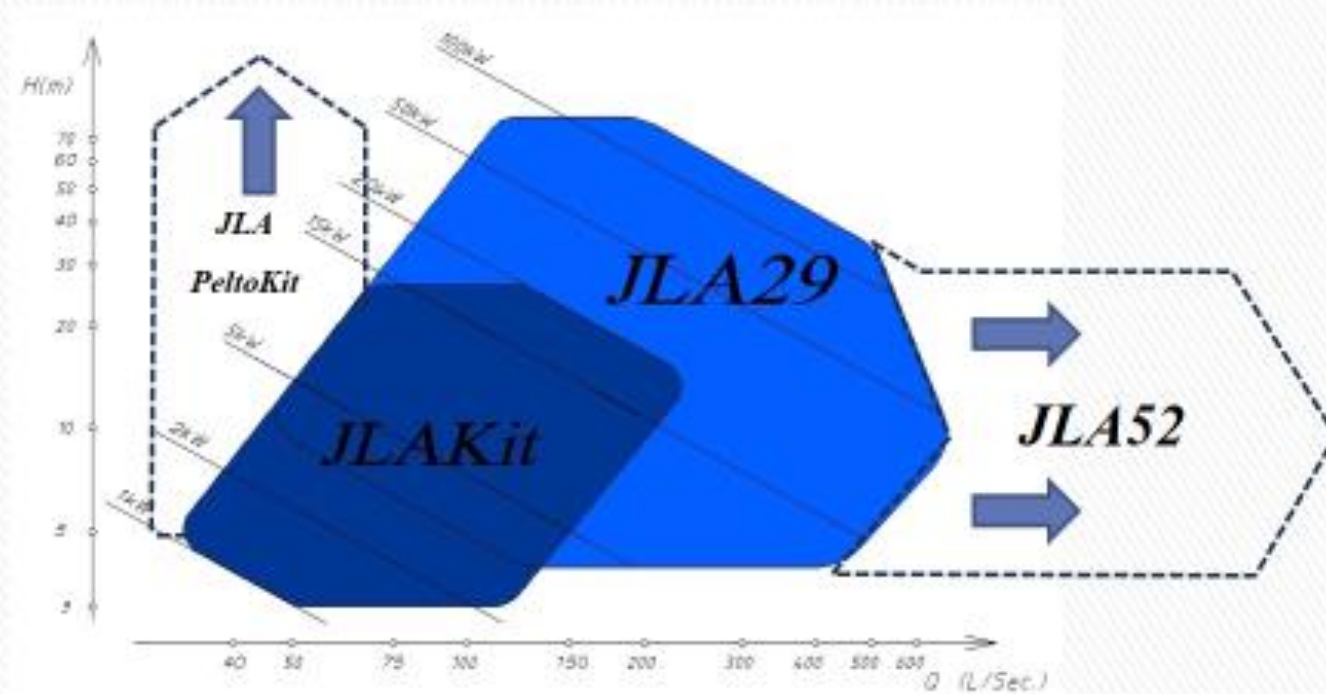
- Private Sector: Private Developers, EPD
- Government institutions: RURA, REG, RWFA, REMA, Districts
- Funding supports: GIZ Endev, E4I, Enabel
- Technical support: SNV, JLA Hydro, SHER
- Financial Institutions: BRD, FONERWA...

=> Synergy required

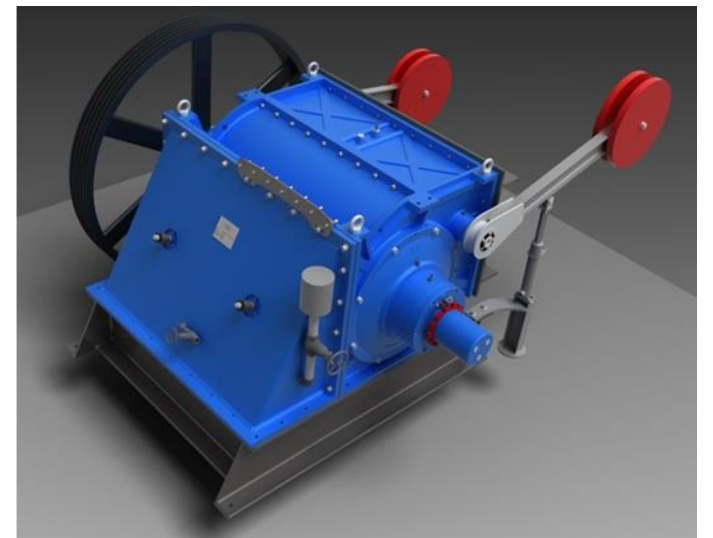
Partnerships  
for Site  
development  
and Local  
manufacturing  
of PHP  
equipment



Range of small to medium scale equipment depending on site specifications



Range of small to medium scale equipment depending on site specifications



Thank You

