- Japan SDGs Innovation Challenge for UNDP Accelerator Labs -
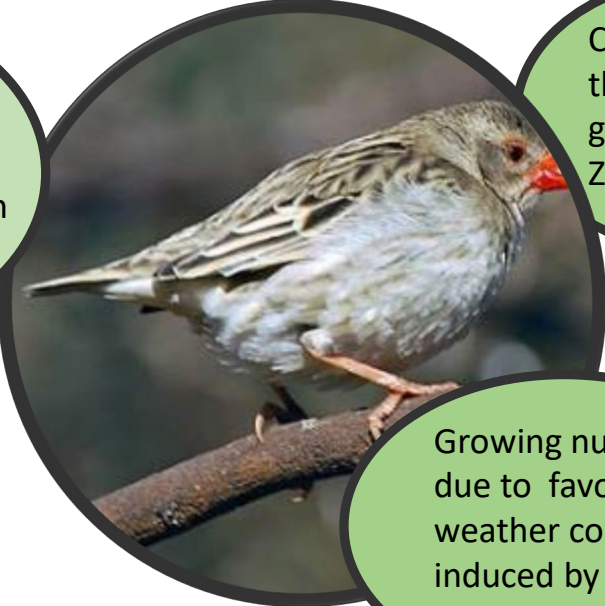
Identified SDGs issues and expertise/technologies expected from Japanese private sector partners

UNDP Accelerator Lab Zimbabwe

Identified SDGs issues by UNDP Accelerator Lab

Most common bird in the world with an estimated 1.5 Billion in Sub Saharan Africa

Consume up to than 30% of the grains farmed in Zimbabwe

Growing numbers due to favourable weather conditions induced by climate change

Small grains are a climate resilient alternative to maize. Government launched the small grains initiative

Quelea impact the most vulnerable communities in Zimbabwe located in dry arid regions

Currently all effective control mechanisms have adverse environmental impact

AccLab will test Quelea control solution in the Save and Zambezi Valley, which are the worst affected

1 Ton of grain can be easily destroyed by a **quelea swarm** in a day. Enough to feed a **family of 6** for a year.

7.7 Million Zimbabweans are **food insecure** due **to climate change** related yield losses

UNDP accelerator labs

Intended value addition by the Lab

Healthy source of Protein:
Presently beneficiaries bir Fenthion sprayed birds. The Acclab solution will ensure the controlled quelea are for consumption

Increased Productivity: 90% reduction in time spent by communities scaring quelea from fields. Currently this is a 12 hour routine

Improved Food Security: The Acclab solution will control quelea at scale and enable vulnerable communities to increase small grains production

Vibrant Ecosystems: Fenthion and dynamites are the most common control methods. Both disturb the ecosystem. The solution will spare non-target organisms

The new value addition described above will be achieved through the Lab exploring alternative control of quelea birds that replace existing methods

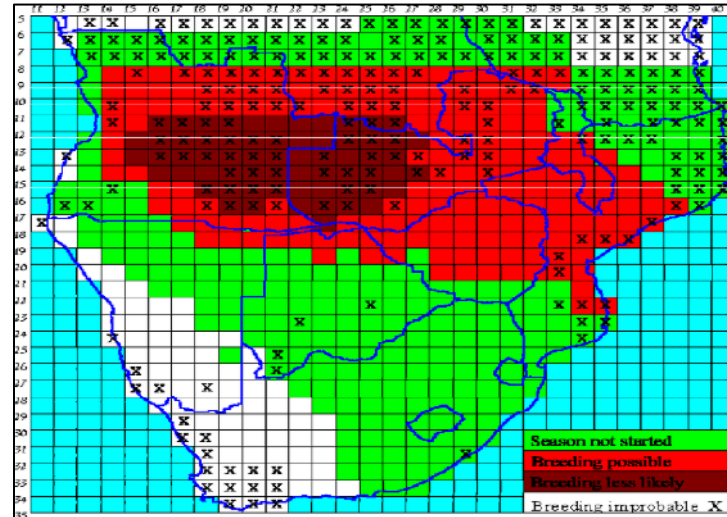# Expertise/technologies expected from Japanese partners

The AccLab has a bold ambition of a leap frog technology driven solution that combines the ideas below.

Swarming drones with deterrence/kill payload.
Expertise required: *drone technology, and design and deployment. Image processing and automation algorithms.*

AI powered quelea modelling driven by remote sensing and human reporting.
Expertise required: *forecasting software, ML, low bandwidth connectivity, satellite data, GIS*

Mobile AI powered cameras and "iron dome"
Expertise required: *Machine learning, image processing, projectile interceptor designing, tracking/navigation*

Resources the Accelerator Lab can provide

On the grounds expertise: The Acclab with support from the Ministry of Agriculture has the capacity to visit the project sites through the project lifecycle, to test and engage local communities for increased solution ownership and sustainability/continuity.

Digital Skills: The Acclab in Zimbabwe enjoy close working relations with the UNDP Chief Digital Office who provide expert support on the Lab's digital projects

Matching funds: The Acclab will provide an additional $20,000 towards the solution development. These funds are dedicated to project sustainability through capacity building of local tertiary institutions in R&D working with Japanese firms

Monitoring and Evaluation: The Acclab works closely with the Green Climate Fund (GCF) and the Global Environmental (GEF) in experimentation. Both have a robust M&E framework which optimise learning outcomes and resource utilisation

Stakeholders of the project

Stakeholder	Key Decision Maker	Status
Ministry of Agriculture, THE Migratory Pests and Biosecurity Control Department (MPBCD)	Director	Stakeholder engaged on multiple occasions and strong buy-in obtained at Director level.
Food and Agriculture Organisation (FAO)	Pesticide Risk Reduction Officer for Southern and East Africa	Multiple project planning meetings at officer level followed by discussions at High Level which led to authorisation to partner
University of Zimbabwe, Centre for Research and Innovation	Head of Innovation Hub	MOU on research and innovation partnership under preparation
National University of Science and Technology, Innovation Hub	Head of Innovation and Research Hub	Multiple visits and meetings. Exploration of MOU
Green Climate Fund – Zimbabwe	Project Manager	Multiple meetings and field visits to affected areas. Buy-in obtained and ready to start
Save Valley Communities	Chiefs and village headsmen	Communities engaged during field missions. Eager to have the project started

Expected outcomes and follow-up activities to the project

Post project Activities

- **Scaling up** of solution by showcasing results to development partners beyond Zimbabwe as this challenge affects many African countries. Target include World bank, African Development Bank and the Gates Foundation

- Continued **capacity building** at local tertiary institutions to improve the design of the solution and lower production costs

- Lasting **beneficiary engagement** using the Ministry of Agriculture social media reporting/engagement platforms

- Listing of solution as a **public good** within the Digital Public Goods Alliance so that it benefits the rest of the continent

Showcasing of Outcomes

- **Learning sessions** to discuss key outcomes from the project with stakeholders and potential investors

- Working out loud via a **blogging and vlogging** series written in collaboration with key stakeholders

- Official visit and presentation to the **Embassy of Japan** in Zimbabwe, with major media outlets invited

- Production of short **project video** in Japanese targeting the **Japanese audience** to showcase to them the impact of the Japanese Innovation Network