Business Model Canvas

Team: AgriGuard

Key Partners

Arab Organization for Industrialization (AOI): Local mechanical part fabrication & chassis assembly.

Metanoia, WAVE Academy, Pyramid Electronics (Egypt): PCB design, rapid prototyping & local electronics support.

Future Electronics, Arrow, Avnet: Global distributors for sensors, microcontrollers, and critical components.

Ministry of Agriculture, NGOs: Pilot deployments, rural outreach, and farmer training partnerships.

Agricultural Research Center (ARC, Egypt): Field validation, agronomic data, and research-based calibration.

Foxconn (or similar Chinese OEM): High-volume electronics manufacturing (future scale-up).

Seeed Studio, JLCPCB (China): Scalable PCB manufacturing, assembly, and prototyping at global standards.

Key Activities

Improve AI – Learn from real-time sensor data to boost accuracy.

Remote Updates – Send fixes and upgrades via FireWire, anytime.

Smart Adaptation – Tailor advice to local soil and weather using AI.

Farmer Feedback – Use app input to enhance usability.

Data Collection – Build a soil & crop database to improve models.

System Sync – Ensure app, robot, and cloud work as one.

Key Resources

Smart Sensors – Collect real-time soil and crop health data for AI processing.

Prototyping Tools – CAD design, 3D printing, and in-house electronics lab for robot development.

Field Testing Facilities – Used for live trials, tuning of AI models, and product validation.

Specialized Team – Engineers and agronomists in AI, robotics, and precision agriculture.

Value Propositions

Cost Optimization – Lowers operational costs through automated monitoring and precision treatment, while increasing yield per hectare.

Sustainable Agriculture – Promotes environmentally responsible farming practices, aligned with ESG and national sustainability targets.

Inclusive Design – Intuitive Flutter-based mobile interface ensures ease of use for farmers regardless of education or tech exposure.

Scalable Architecture – Modular hardware and adaptive software allow seamless deployment across both smallholder and commercial-scale farms.

Data-Driven Efficiency – AI-powered recommendations optimize input use, reducing water, fertilizer, and pesticide waste by up to 50%.

Customer Relationships

Collect feedback via WhatsApp to improve user experience.

Train farmers through workshops, videos and fields demos.

Provide ongoing support for maintenance and spare parts via WhatsApp.

Partner with Local NGOs like Haya Karima for rural outreach.

Channels

Influencer Marketing – Collaborate with tech/farming influencers (e.g., Ahmed Abu Zaid, Al-Dahih) for wide exposure.

Targeted Ads – Facebook, Instagram & Google Ads to attract farmers and agri-entrepreneurs.

Email Campaigns – Share case studies and updates to engage leads.

NGO & Field Partners – Reach rural communities via "Haya Karima" and local agri associations.

Customer Segments

Small & Medium Farmers:
Seeking affordable, easy-to-use technology to reduce input costs and improve yields.

Large-Scale Farm Owners & Agri-Investors:
Interested in automating operations to cut labor costs and boost operational efficiency.

Agricultural Cooperatives & Associations:
That provide shared services to member farmers and can adopt Agribot as a rentable asset.

Government Programs & NGOs:
Focused on rural development, food security, or sustainable farming (e.g., "Haya Karima" in Egypt).

Research Institutions & Agricultural Universities:
For field trials, precision farming research, and student training in agri-robotics and AI.

Cost Structure

- Mechanical Structure - 65,000 EGP (Chassis, wheels, frame).
- Electronics & Sensors - 96,000 EGP (Microcontrollers, power units, drivers, sensor suite).
- Software Development - Up to 11,000 EGP (Mobile app, AI system).
- Assembly & Packaging - 4,000 EGP (Integeration, testing, packaging materials).

Revenue Streams

- Robot Sales – One-time purchase of autonomous farming units.
- Subscription Model – Monthly/annual fees for AI updates & analytics.
- Maintenance Services – Paid repairs, sensor calibration & upgrades.
- Data Licensing – Selling soil & crop insights to research institutions.