

Table of Contents

Table of Contents	2
Introduction	3
Background	3
Rainwater Harvesting Technology	4
Traditional Systems	4
Modern Technologies	4
Integration into Home-Based Smart Farms	5
Rainwater Energy Conversion Technology	5
Existing Technologies	5
Recent Research	6
Applications of Rainwater Energy Conversion Technology	7
Integration of Water Management and Energy Generation Technologies	7
Case Studies of Integrated Systems	7
Potential Applications in Home-based Smart Farms	9
Application in Home Smart Farms	9
Integration of Sustainable Technologies in Home Farming	9
Patent	11
Exterior Design	11
AI and Hardware IoT Management System	12
Future Aspects	13
A. Detailed Components and its function	17