

## **Blossoming in Adversity: Kashmir's Organic Farming Amid Climate Change**

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### **Abstract:**

The captivating Kashmir Valley, known for its natural beauty and agricultural success, encounters mounting challenges due to the effects of climate change, significantly altering the region's agricultural landscape. With traditional practices gradually yielding to chemical-intensive methods, the valley grapples with declining soil health, unpredictable weather patterns, and reduced crop yields. Organic farming emerges as a beacon of hope, offering a holistic approach that nurtures agroecosystems, biodiversity, and soil health. By prioritizing natural techniques over synthetic inputs, organic farming fosters climate resilience and addresses the triad of challenges: food security, climate change adaptation, and resource sustainability. This article underscores the pivotal role of organic farming, elucidating its strategies, benefits, and its potential to elevate farmers' livelihoods. Government initiatives and the burgeoning demand for organic produce signal a promising trajectory, urging a comprehensive and scientific transition toward sustainable agriculture in the Kashmir Valley.

### **Organic Farming: A Climate-Resilient Approach in Kashmir**

The scenic Vale of Kashmir, nestled in the Himalayan region, is celebrated for its stunning beauty and abundant landscapes. Its economic backbone relies heavily on agriculture, contributing a significant 65% to the region's revenue and engaging approximately 70% of the population, directly or indirectly. However, this paradise has encountered mounting challenges posed by climate change in recent times. Agriculture, while significantly impacting the environment, climate, biodiversity, and landscapes, is equally susceptible to changes in these elements.

The region's agriculture faces imminent threats from unpredictable weather patterns, diminishing snow cover, and shifting growing seasons. Escalating temperatures have disrupted the fragile balance within ecosystems like apple orchards, leading to diminished yields and compromised quality. Erratic rainfall further exacerbates concerns, alternating between



droughts and floods, posing risks to rice and vegetable crops. Concurrently, declining profitability, environmental degradation, and ecological instability compound the challenges. The Environment Sustainability Index of Jammu and Kashmir is rapidly deteriorating, primarily due to extensive utilization of fertilizers and agrochemicals, which have severely impacted soil health.

Farmers are compelled to adapt to these adversities through sustainable practices to safeguard their livelihoods. Organic farming emerges as a viable pathway towards climate resilience for the Kashmir valley. Codex Alimentarius, in partnership with the International Federation of Organic Agriculture Movements (IFOAM) and the Food and Agriculture Organization of the United Nations (FAO), defines organic agriculture as a holistic approach that fosters and enhances agro-ecosystem health, emphasizing management practices over off-farm inputs. This method, relying on agronomic, biological, and mechanical techniques instead of synthetic materials, champions crop rotations, organic manures, and other natural strategies for nutrient and pest management.

While the farming community in the state has historically embraced organic methods, the gradual infiltration of chemical fertilizers and pesticides over time has eroded this practice, gradually displacing it in certain crops.

### **Challenges of Modern Agriculture**

Despite embracing modern agricultural technologies, Jammu and Kashmir grapples with low crop productivity. While modern farming augments food production, it adversely impacts the environment and human health, contributing to global warming. The disproportionate use of agrochemicals damages soil organisms and exacerbates problems like pest resistance. This dependency on external inputs such as fertilizers and pesticides has perpetuated rural debt and reliance. Prioritizing sustainable, enduring solutions over quick-yielding approaches that deteriorate ecology and the environment is imperative. Agriculture faces a convergence of three paramount challenges in the 21st century: ensuring food security and nutrition, tackling climate change through adaptation and mitigation, and promoting sustainable utilization of essential resources like water, energy, and land. A systematic agenda to foster organic farming in the region is critical due to its vast potential. Promoting organic farming serves as a linchpin in addressing these challenges and enhancing agricultural production sustainably.



## **The Renaissance of Organic Farming**

Organic farming emerges as the sole remedy for ecological concerns while upholding a crucial natural balance vital for sustainable crop production. It offers nutrients for eco-friendly, pollution-free, and sustainable agriculture. The aim is to establish an integrated, human-centered, eco-friendly, and economically viable system that maximizes renewable resources and manages ecological and biological processes. This approach ensures adequate crop, livestock, and human nutrition, shields against pests and diseases, and yields a fair return on investment. Organic farming adeptly tackles emerging challenges in food security and environmental sustainability, concurrently enhancing farmers' socioeconomic status through the growing demand for organic products. Globally, it's estimated that organic farming can bolster biodiversity by approximately 34% and abundance by about 50%. With a pivotal role in environmental conservation, organic farming forsakes synthetic inputs, relying instead on ecological processes, biodiversity, and locally adapted cycles. This system often harmonizes three primary objectives: environmental health, economic viability, and social and economic equity.

Organic farming primarily employs two pivotal strategies: diversification and bolstering soil organic matter, both enhancing crop resilience against extreme weather conditions. By averting nutrient depletion and fostering increased soil organic matter, organic farming significantly improves water retention compared to conventional cultivation methods. Consequently, organic farming systems demonstrate heightened resistance to adverse weather conditions such as droughts, floods, and waterlogging. Essentially, organic farming proficiently addresses critical implications of climate change, countering the escalating frequency of extreme weather events, amplifying water stress and drought, and rectifying soil quality issues.

### **Future Prospects**

Recognizing the potential of organic farming in enhancing climate resilience and meeting the increasing demand for organic food, the government has taken several steps to boost organic food production and increase economic returns for farmers in the valley. Initiatives such as the construction of vermicompost pits, vermi-beds, certification of organic produce, and support for promoting bio-agents are vital in making farmers more competitive and yielding better returns from their farms. Many farmers in Jammu and Kashmir are already



growing spices, basmati rice, walnuts, herbs, and more organically. However, there's a need to introduce organic farming on a commercial, scientific, and systematic scale to ensure that farmers reap rich dividends and that farming becomes truly sustainable. Given the growing importance of organic products, the shift from chemical to organic farming is not just desirable; it's imperative.

### References

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