

Day 1

Session I: Status of Rice Fortification: Global and Regional Perspective

Introduction to Rice Fortification

1. What is fortified Rice?
2. Why to choose rice (Global staple relevance)

Global Scenario

1. Countries implementing fortification (e.g., USA, Philippines, Bangladesh)
2. Global organizations involved (WHO, WFP, FAO)

Regional Perspective

1. India, Nepal, Bangladesh initiatives
2. Malnutrition burden (hidden hunger data)

Types of Fortification Strategies

1. Mass Fortification vs targeted programmes

Impact Evidence

1. Reduction in anemia, micronutrient deficiency

Session II: Role of NIFTEM-K in Strengthening India's Fortification Agenda

Introduction to NIFTEM-K

India's Fortification Programme

1. FSSAI + Poshan Abhiyan linkage

Key Contributions of NIFTEM-K

1. Research & Development
2. Training and Capacity Building
3. Technology transfer

Case Studies

1. Successful Implementations

Collaboration Models

1. Govt-Industry-Academia

Group Activity of Synthesis and Development of Roadmap

1. Current gaps in Nepal
2. Stakeholder mapping
3. Policy + Technology + supply Chain Integration
4. Short-term vs long-term goals

Visit to NIFTEM Facilities (CEFF/ Pilot Plants/ FTL)

1. Extrusion technology basics
2. FRK (Fortified Rice Kernel) formation
3. Blending techniques
4. QA checkpoints

Day 2

Session I: Strategy for Scale-Up: From Pilot to Nationwide Implementation

1. Pilot vs national rollout differences
2. Infrastructure requirements
3. Policy support needed
4. Cost considerations
5. Public distribution system integration

Session II: Enabling Environment & Ecosystem for Rice Fortification

1. Policy framework
2. Institutional roles
3. Industry participation
4. Consumer awareness & acceptance
5. Financial ecosystem

Session III: Challenges in Rice Fortification- Technical, Logistic, Financial

1. Technical: Stability, nutrient loss
2. Logistical: Distribution, storage
3. Financial: Cost of premix, machinery
4. Social: Acceptance, myths

Session IV: Rice Fortification Technology & Process Flow: FRK Production, Blending, and Quality Assurance

1. Raw material Selection
2. Premix formulation
3. Extrusion process
4. Drying & shaping
5. Blending with rice
6. Packaging

Quality Assurance

1. Uniformity
2. Nutrient retention
3. Standards compliance

Hands on Practical Demonstration

1. Show rxtrusion
2. Blending (1: 100)
3. Visual differentiation

Day 3**Industry Visit**

1. Commercial scale production
2. Machinery used
3. Cost efficiency strategies

Visit to Fair Price Shop/ Anganwadi

1. Last-mile delivery
2. Consumer acceptance
3. Cooking behaviour impact

Reflection & Learning Session

1. What worked?
2. What gaps observed?
3. Applicability to Nepal

Day 4**Session I: Regulatory Aspects & Licensing of Rice Fortification**

1. Food safety laws (FSSAI as example)
2. Licensing procedure
3. Compliance requirements

Session II: Micronutrient Testing & Regulatory Concerns

1. Iron, folic acid, B12 testing
2. Lab methods (AAS, HPLC basic intro)
3. Sampling methods

Session III: Comprehensive Quality Assurance of Fortified Foods-Institutional approach and field Practices

1. Institutional QA models
2. Field-level monitoring
3. SOPs

Session IV: Quality Standards & Regulations Parameters for Fortified Rice: From Food Safety & QA Perspective

1. Fortification standards (India example)
2. Labelling requirements
3. Permissible limits

Lab Practical Session

1. Sample preparation
2. Nutrient testing basics
3. Quality checks

Day 5

Session I: Supply Chain Dynamics in Rice Fortification: From Premix to Public Distribution

1. Premix → FRK → blending → distribution
2. Storage conditions
3. Transportation challenges

Session II: Monitoring & Evaluation Framework for Rice Fortification: Systems, Indicators and Digital Solutions

1. Key indicators (coverage, compliance)
2. Digital tracking systems
3. Data collection tools

Session III: Impact Evaluation- Evidence from NIN and Independent Assessments

1. Study designs (baseline vs endline)
2. Biomarkers (Hb levels)
3. Evidence from India/NIN

Group Presentation: Roadmap

1. Nepal roadmap
2. Implementation strategy