**Problem Background: Agricultural Distress & Farmer Protests**

India's farmers are facing major challenges:

* **Low and unstable crop prices** (demand for Minimum Support Price - MSP guarantee)
* **Debt traps**, lack of insurance, and poor access to government schemes
* **Climate impacts** (droughts, floods) and inadequate forecasting
* **Misinformation** about market rates and subsidies

These problems have led to **farmer protests** and growing economic distress in rural areas.

**✅ Project Title: AgroConnect – Farmer Support and Market Linkage Platform**

**Tech Stack**

| **Layer** | **Technology** |
| --- | --- |
| Frontend | React.js, Bootstrap/Tailwind |
| Backend | Java (Spring Boot) or ASP.NET Core |
| Database | MySQL / MongoDB |
| APIs | OpenWeatherMap API, Agri Market API (Govt.) |
| Hosting | AWS / Azure / Render |
| Languages | Multi-language support (Hindi, Marathi, etc.) |

**User Roles**

1. **Farmer**
2. **Market Agents / Buyers**
3. **Admin**
4. **Government Officials (optional)**

**Core Modules**

**1. Farmer Registration & Profile**

* Register with mobile number and Aadhaar (optional)
* Choose crops grown, farm size, region, etc.
* Select preferred language (localization)

**2. Live Market Prices**

* Pull **real-time market rates** (mandi prices) via government APIs
* Show prices by crop and location
* Alert farmers when prices fall or spike

**3. Crop Sale & Buyer Interaction**

* Farmers list crops available for sale
* Local buyers/agents can place orders or bids
* Messaging or phone contact between farmer and buyer

**4. Weather Alerts & Crop Advice**

* Real-time **weather forecasts** (rain, drought alerts)
* Tips on crop protection, fertilizers, irrigation schedules
* AI-based advice based on crop type and season (optional)

**5. Government Scheme Awareness**

* List of available **government schemes** (PM-Kisan, insurance, loan waivers)
* Application status tracking
* Guide on how to apply

**6. Loan Calculator & Subsidy Checker**

* Estimate subsidy eligibility
* EMI calculator for agri-loans
* Alerts on loan deadlines

**7. Admin Dashboard**

* View user activity (farmers, buyers)
* Manage reported buyers/sellers
* Upload news updates or schemes

**Database Schema (Sample Tables)**

* Users (id, name, role, location, language)
* Crops (id, farmer\_id, crop\_name, quantity, price, status)
* MarketRates (crop\_name, mandi\_name, price, date)
* Weather (region, forecast, date)
* Schemes (id, title, eligibility, link)
* Applications (user\_id, scheme\_id, status)

**Localization**

* Support major Indian languages: Hindi, Marathi, Telugu, Punjabi, etc.
* Use Google Translate API or local datasets for crop and region names

**Security**

* OTP-based authentication (mobile number)
* Role-based access control
* Data privacy for farmer financial information

**Real-World Impact**

* Empowers farmers with price transparency
* Reduces dependency on middlemen
* Increases awareness about entitlements and schemes
* Helps reduce distress and improve livelihoods

**Optional Add-ons**

* **Chatbot in local languages** for query resolution
* **Offline mobile app** support for rural users
* **Blockchain traceability** of crop origin (for premium crops)