# FALCA

## Case-study



## 1. Introduction

This document describes project undertaken by PalC Networks for developing a market aggregator platform name **FALCA**.

## 1.1. Introduction to FALCA

FALCA is an Indian origin agricultural commodities online market facilitating company. The objective behind is to address one of the major problems farmers have been facing all these years, i.e., fair and seamless marketing of their agricultural produce. FALCA, through its digital capabilities and establishments, facilitates the farmers to sell their agricultural goods in the open market, from their place only where the goods are produced, in which whole of India is their customer. Through this, profit gain will be increased to producers, and commodity prices decreased to consumers. We are in the verge of training and developing the rural youth and farmers group to acquire and maintain the quality standards required for the agricultural produce

to bring the tectonic shifts in the agricultural marketing and generating rural employment.

## 2. METEOR JS:

Meteor, or MeteorJS, is a free and open-source isomorphic JavaScript web framework [3] written using Node.js. Meteor allows for rapid prototyping and produces cross-platform (Android, iOS, Web) code. It integrates with MongoDB and uses the Distributed Data Protocol and a publish– subscribe pattern to automatically propagate data changes to clients without requiring the developer to write any synchronization code. On the client, Meteor can be used with its own Blaze templating engine, as well as with the Angular or React frameworks.

## 3. NODE JS:

Node.js is an open-source, cross-platform, JavaScript runtime environment that executes JavaScript code outside of a browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting—running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser. Consequently, Node.js represents a "JavaScript everywhere" paradigm, unifying web-application development around a single programming language, rather than different languages for server- and client-side scripts.

## 4. MONGO DB:

MongoDB is a cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with schema.

## 5. APACHE CORDOVA :

Apache Cordova (formerly PhoneGap) is a mobile application development framework originally created by Nitobi. Adobe Systems purchased Nitobi in 2011, rebranded it as PhoneGap, and later released an open source version of the software called Apache Cordova.Apache Cordova enables software programmers to build applications for mobile devices using CSS3, HTML5, and JavaScript instead of relying on platform-specific APIs like those in Android, iOS, or Windows Phone.It enables wrapping up of CSS, HTML, and JavaScript code depending upon the platform of the device. It extends the features of HTML and JavaScript to work with the device. The resulting applications are hybrid, meaning that they are neither truly native mobile application (because all layout rendering is done via Web views instead of the platform's native UI framework) nor purely Web-based (because they are not just Web apps, but are packaged as apps for distribution and have access to native device APIs).

## 6. AWS EC2:

Amazon Elastic Compute Cloud (EC2) forms a central part of Amazon.com's cloud-computing platform, Amazon Web Services (AWS), by allowing users to rent virtual computers on which to run their own computer applications. EC2 encourages scalable deployment of applications by providing a web service through which a user can boot an Amazon Machine Image (AMI) to configure a virtual machine, which Amazon calls an "instance", containing any software desired. A user can create, launch, and terminate server-instances as needed, paying by the second for active servers – hence the term "elastic". EC2 provides users with control over the geographical location of instances that allows for latency optimization and high levels of redundancy.

## 7. Bootstrap:

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation and other interface components.

## 8. Selenium and Appium:

Selenium is a portable framework for testing web applications. Selenium provides a playback tool for authoring functional tests without the need to learn a test scripting language (Selenium IDE). It also provides a test domain-specific language (Selenese) to write tests in a number of popular programming languages, including C#, Groovy, Java, Perl, PHP, Python, Ruby and Scala. The tests can then run against most modern web browsers. Selenium runs on Windows, Linux, and macOS. It is open-source software released under the Apache License 2.0. Appium is an open-source automation tool for running scripts and testing native applications, mobile-web applications and hybrid applications on Android or iOS using a webdriver.

## 9. SASS and Materialize:

Sass is a preprocessor scripting language that is interpreted or compiled into Cascading Style Sheets (CSS). SassScript is the scripting language itself. Sass consists of two syntaxes. The original syntax, called "the indented syntax," uses a syntax similar to Haml.It uses indentation to separate code blocks and newline characters to separate rules. The newer syntax, "SCSS" (Sassy CSS), uses block formatting like that of CSS. It uses braces to denote code blocks and semicolons to separate lines within a block. The indented syntax and SCSS files are traditionally given the extensions .sass and .scss, respectively.

CSS3 consists of a series of selectors and pseudo-selectors that group rules that apply to them. Sass (in the larger context of both syntaxes) extends CSS by providing several mechanisms available in more traditional programming languages, particularly object-oriented languages, but that are not available to CSS3 itself. When SassScript is interpreted, it creates blocks of CSS rules for various selectors as defined by the Sass file. The Sass interpreter translates SassScript into CSS. Alternatively, Sass can monitor the .sass or .scss file and translate it to an output .css file whenever the .sass or .scss file is saved.

Materialize is a UI component library created with CSS, JavaScript, and HTML. Materialize UI components help in constructing attractive, consistent, and functional web pages and web apps, while adhering to modern web design principles such as browser portability, device independence, and graceful degradation. It helps in creating faster, beautiful, and responsive websites. It is inspired from Google Material Design.

## 10.APPLICATION WORKFLOW:

### Farmer App

An android application available on google play store ("Falca Farmers") which allows the farmers to enrol into FALCA platform. The farmers can post products, accept bids for the same and track payments via the application. It also hosts a section namely fPage that allows farmer to be updated with current
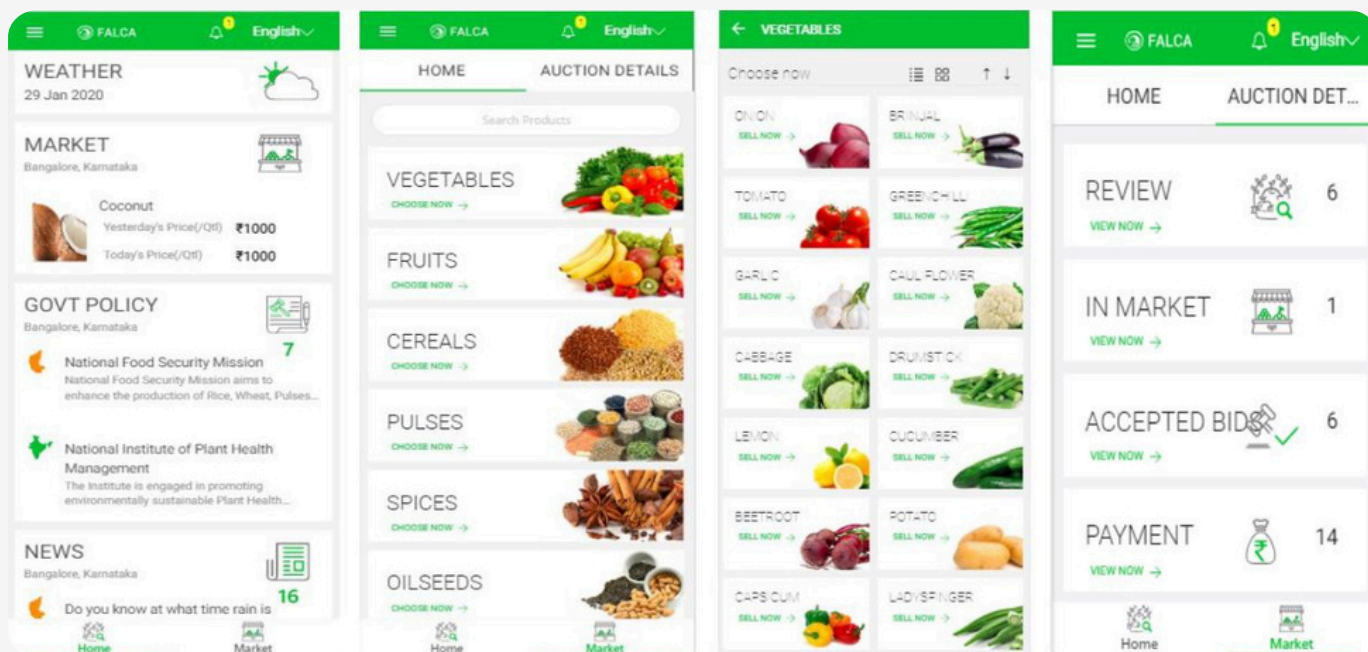
## ADMIN App-Web:

A central management web/mobile application running on meteor.js which is responsible for assignment of tasks to the FALCA field team. The tasks include verification, load, unload, creation of transport etc. The application also has a picturesque dashboard involving graphs, pie charts explaining the various statistics like number of farmers/consumers registered, quantity of products sold, transport details. The application also has the flexibility to create and delete field users, sales person and inventory manager respectively and reset the passwords for the same.

FALCA- A Market Aggregator Platform
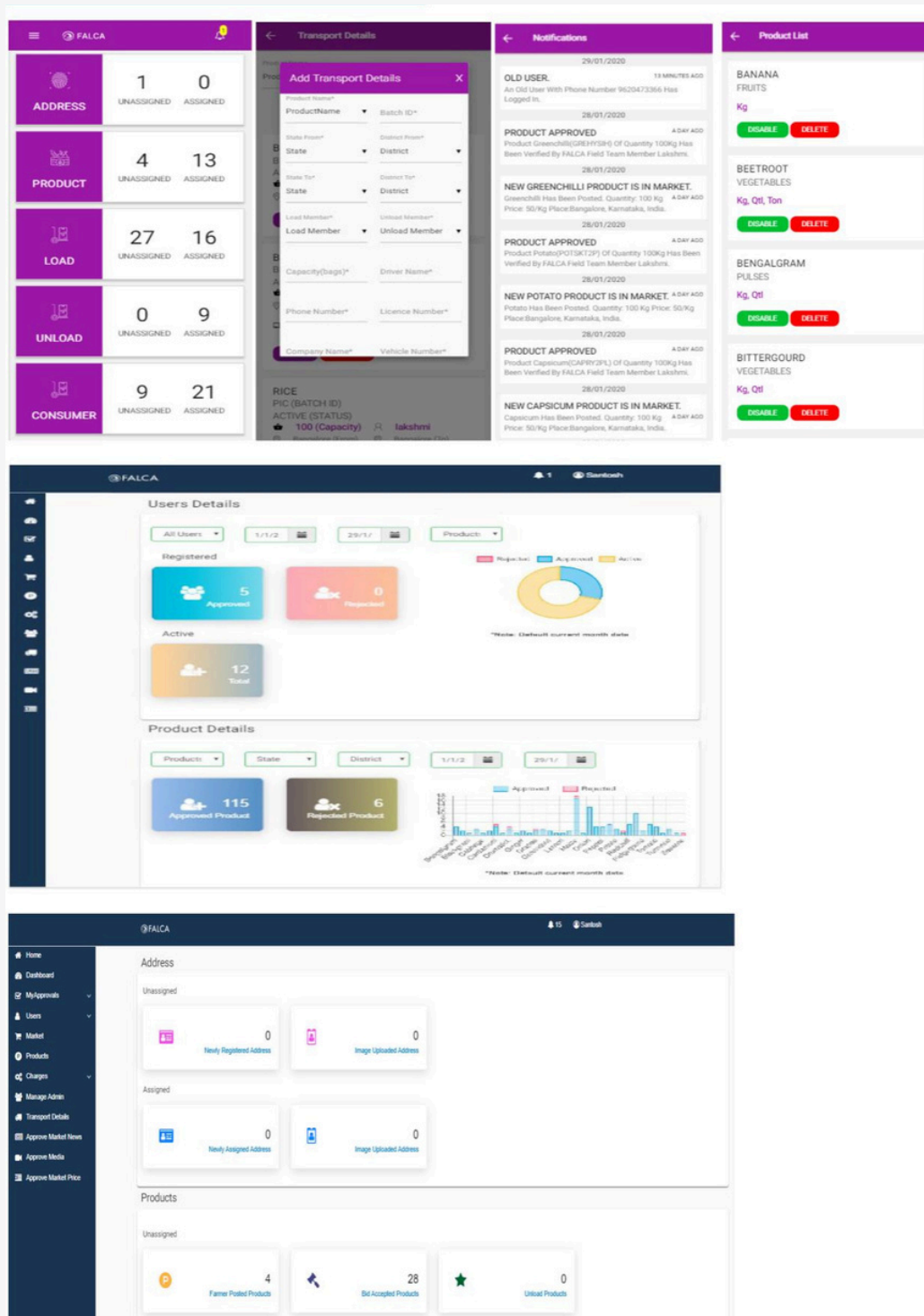


**Backend Team-App**: An android application built using meteor cordova platform that helps FALCA Field team to verify the products, upload their images, load and unload the products respectively. It also has the provision to approve the farmers registered using FALCA Farmer Application.
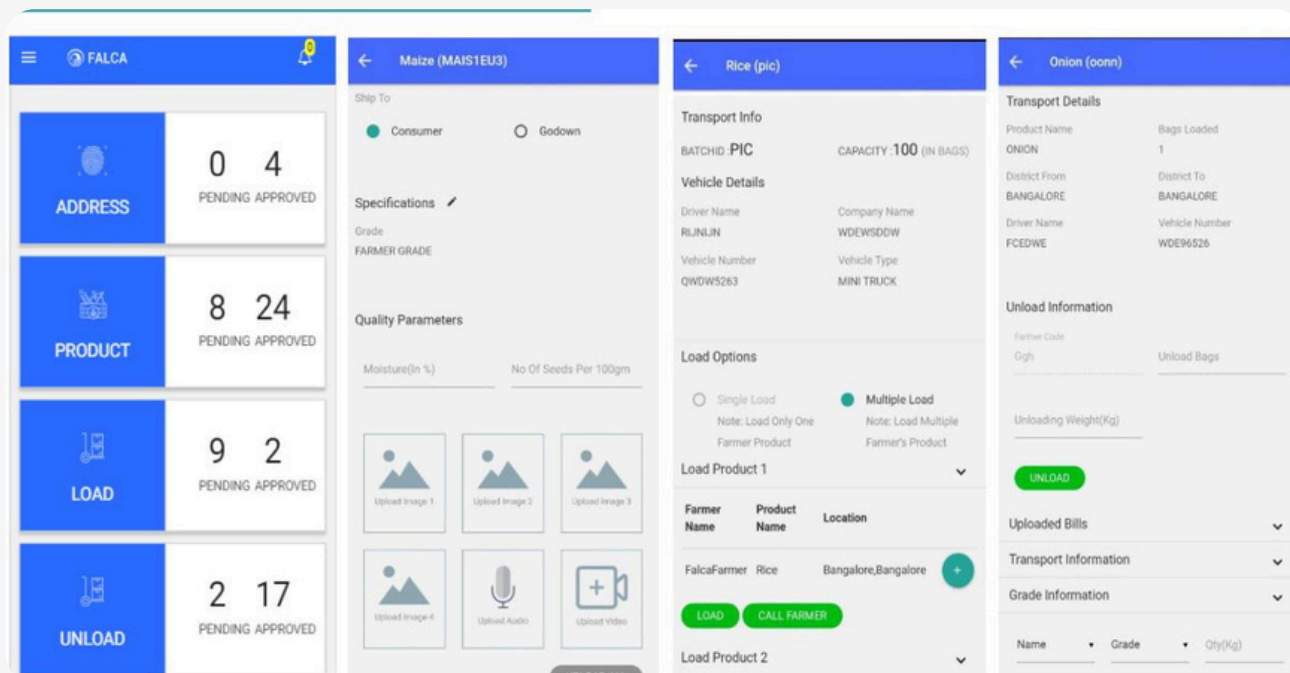
**Sales Person-App**: An android app carved out of meteor cordova platform that allows FALCA sales persons to create, handle and service the orders of various consumers. The orders can be created per day basis or for a particular range of dates.
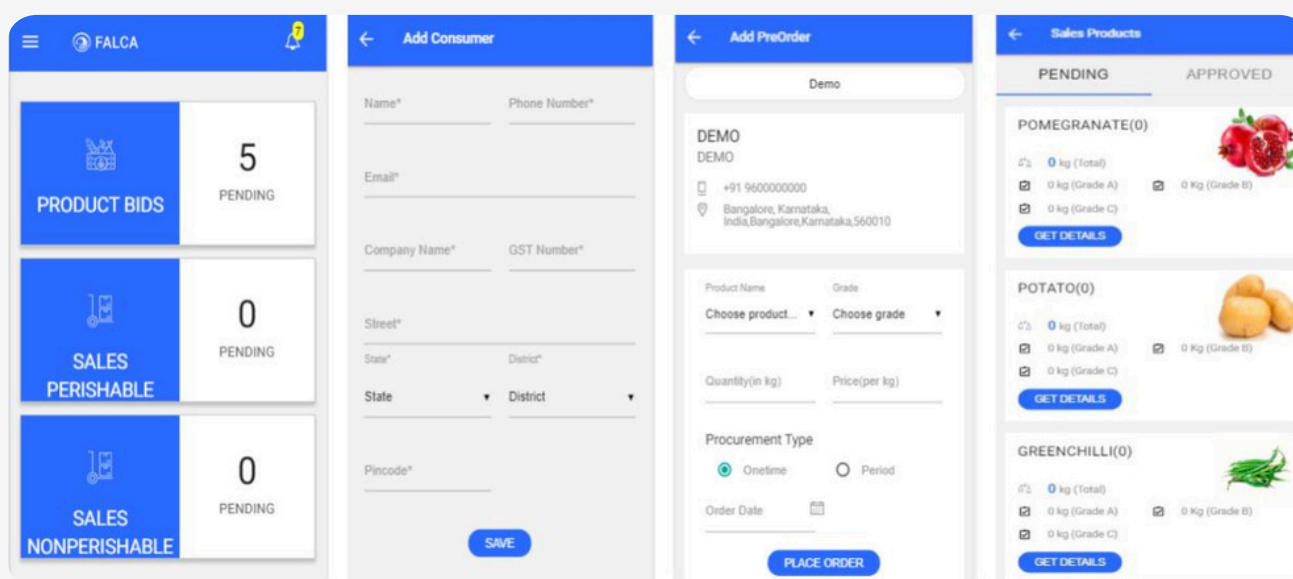


**Inventory-App/Web**: A repository management web/mobile application running on meteor.js that allows the store manager to allocate the available resource from the godown respective orders create by sales person. It also facilitates the store manager in shipping the confirmed orders to respective consumers and track the same.
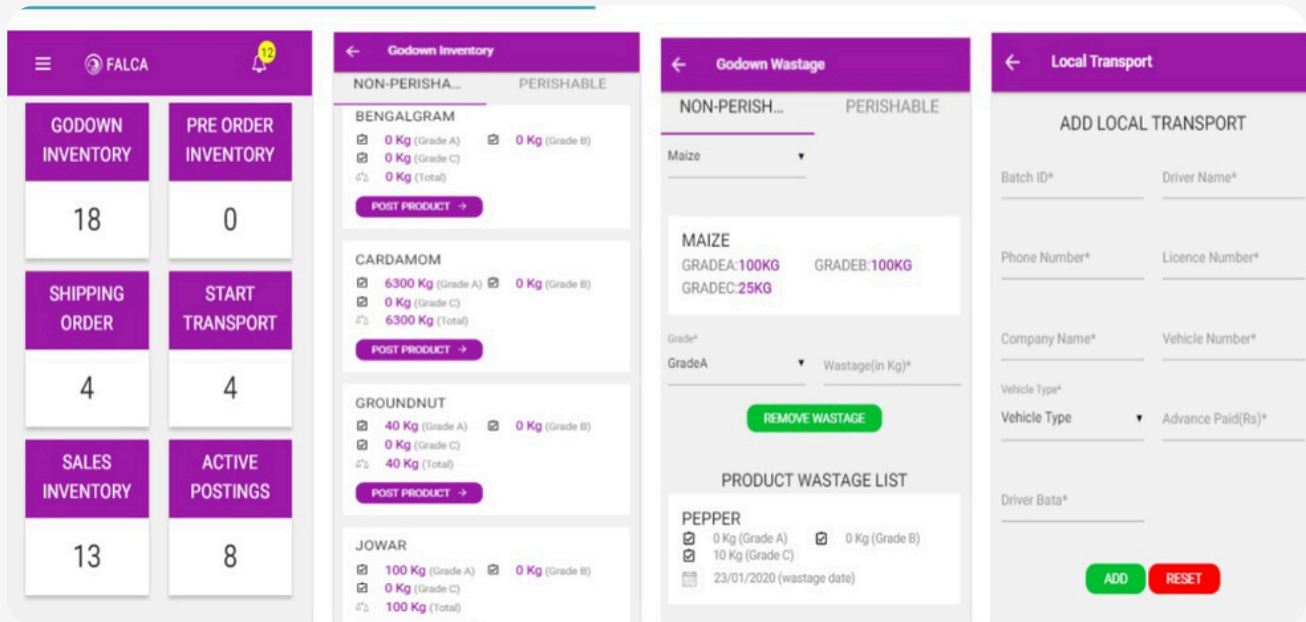
**Finance-Web**: A web application running on node.js and meteor which allows the finance team to handle the payments from FALCA to farmers and consumers to FALCA respectively. It also allows the user to download historical payments and generate reports.
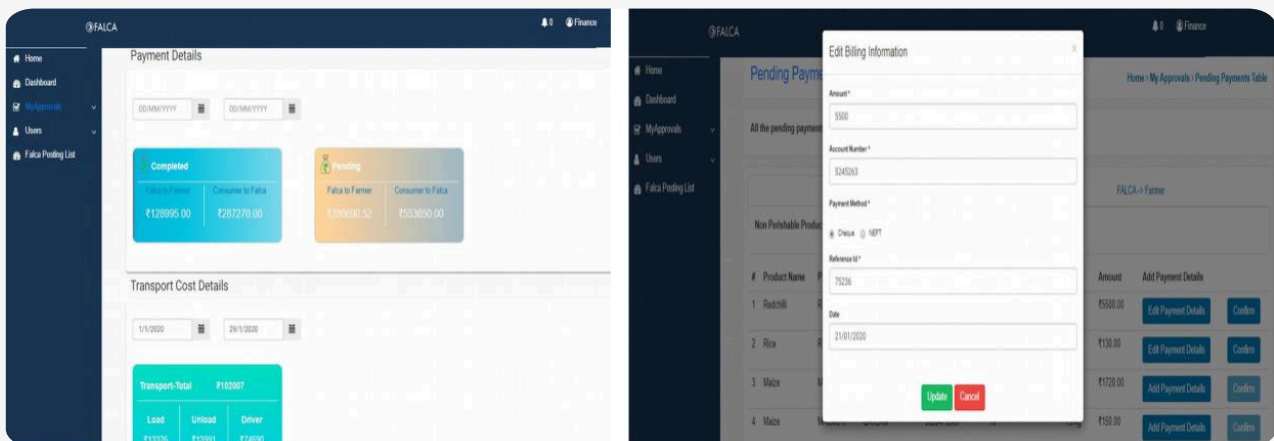


**Consumer-Web**: A web application which allows consumers to register into FALCA platform, bid for products posted by farmer, visualize the product via images and videos, track their product, create their requirements, add products to wish list and track their activity via dashboards.

FALCA

## Welcome!
Today will be great

Email *

Password *

LOGIN

FORGOT PASSWORD ?
NEW USER SIGNUP
HOME

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FALCA    Home   Products ⌄   Dashboard                    4   0   3   QA Team ⌄

**RECENT POSTINGS**   LIVE BIDS   SUCCESSFUL BIDS                    Filter   Clear

| Maize - Grade 1 | Maize - Grade 2 | SoyaBean - Grade 1 | Maize - Grade 2 |
|---|---|---|---|
| MAISKNVZ | MAIB1JNE | SOYHKMET | MAISJ18N |
| 90 Qtl | 107 Qtl | 7 Qtl | 57 Qtl |
| ₹ 1950 /Qtl | ₹ 1985 /Qtl | ₹ 4450 /Qtl | ₹ 1960 /Qtl |
| Haveri,Karnataka | Haveri,Karnataka | Haveri,Karnataka | Haveri,Karnataka |
| View   Wishlist | View   Wishlist | View   Wishlist | View   Wishlist |
| BID NOW | BID NOW | BID NOW | BID NOW |

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FALCA    Home   Products ⌄   Dashboard                    4   0   3

### Maize (MAISKNVZ)

| | |
|---|---|
| Base Price | ₹ 1950 / Qtl |
| Current Max Bid | ₹ 1960 / Qtl |
| Grade | Grade 1 |
| Quantity | 90 Qtl |
| Loading Date | 26/01/2020 |
| Location | Mumbai Highway , Haveri , Karnataka |
| Posted Date | 26/01/2020 |
| Total Bids | 1 |

**Quality Parameters**

| | |
|---|---|
| Moisture(in %) | 13.1 |
| No of seeds per 100gm | 365 |

BID NOW    Wishlist

### Similar Products

| Maize - Grade 2 | Maize - Grade 2 | Maize - Grade 1 |
|---|---|---|
| MAIB1JNE | MAISJ18N | MAIR1E-P |

**Content Writer – Web**: A web application that allows a content writer to publish various information like news, policies, videos and market rates that will be made available to farmers via farmer app's fPage.