AGRI-BEKAA
PRIVATE SECTOR
DEVELOPMENT PROGRAMME
Inclusive • Elevating skills • Driving Competitiveness

CHAMBER OF COMMERCE
INDUSTRY & AGRICULTURE
ZAHLE & BEKAA

ICON
INSTITUT

Information System Version 1&2

RFP

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Rev: 1.5

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2 PSD Project Introduction:

Expertise France, the French technical cooperation agency, has been entrusted by the European Union with a major Private Sector Development Program in Lebanon. This program is structured around three different components:

1. Component 1: agribusiness value chains in the Bekaa and Akkar.

2. Component 2: wood Processing value chain in Tripoli (with focus on furniture production).

3. Component 3: access to finance.

The program aims to increase micro, small and medium enterprises competitiveness, productivity and participation in the economy by fostering their development and integration into value chains.

The specific objective of the program is to provide integrated nonfinancial and financial intermediation services to groups of Micro and SMEs in the agribusiness and wood processing sectors through the establishment, management and operation of market-oriented value chains and clusters, with special focus on enhancement of productivity and competitiveness. Value chains and clusters are considered as the most appropriate specific approach for achieving concrete results in terms of effective inter-business, inter-sectoral and private/public institutional linkages.

The expected outputs are:

1. MSMEs are reorganized into stronger groups for a more efficient and cost-effective use of inputs and resources

2. Market positioning and market access of MSMEs in the targeted sectors are expanded

3. Access to finance is facilitated for needed investments; available funding instruments are better used

4. New jobs and inclusive employment are created as a result of increased production and sales

With regards to the agribusiness component in the Bekaa, the inception phase diagnostics research has identified the below main activities of relevance to the enhancement of productivity and competitiveness of tables grapes and cherry value chains:

A1.1 Setting up a Value Chain Information System

A1.2 Promoting marketing, sales and communications

A1.3 Business support to producers

A1.4 Technical support to producers

A1.5 Business and technical support to exporters and post-harvest

The implementation of these activities will be ensured either directly by the Chamber of Commerce, Industry and Agriculture of Zahle and Bekaa (CCIAZ) that has been awarded a grant to accomplish the tasks expected of it or through the recruitment of dedicated operators by Expertise France.

3 CCIAZ Introduction:

The Chamber of Commerce, Industry and Agriculture of Zahle and Bekaa (CCIAZ) is a non-profit organization created in 1939, representing the interests of the commercial, industrial and agricultural sectors in the Bekaa region, covering 42% of the Lebanese territory.

The CCIAZ is contributing to the economic development of the Bekaa region and its promotion at the local, regional and international levels. This effort is reflected in the quality of the activities, through the communication with a large number of its affiliated members, industrialists, farmers, merchants and businessmen, media and civil society, as well as national and international organizations. It also provides information and statistics, facilitates contacts between members, local authorities and foreign embassies, resolves disputes among members by means of reconciliation or arbitration, and facilitates the participation in international exhibitions.

The CCIAZ is working under a Quality Management System and has been certified ISO 9001:2008, which is in line with the objectives set by the CCIAZ management targeting the development of its administrative system in order to ensure modern practices and conformity with international standards.

4 Information System Platform - Statement of Objectives:

The overall vision of the Information System is to provide a single platform that would help MSMEs be more profitable, increase their productivity, competitiveness and ease new business link creations. It should also help the value chain influencers and supporters have a global and historical vision of the sector as well as have early warning signs.

Value chain stakeholders (actors, influencers and supporters) should be able to access, store, track, manipulate, process and distribute relevant information as long as they have been granted the proper rights by the IS administrator. They should be able to access it using any device (smartphone android & iOS, Tablet, PC …) and from anywhere using the internet. The platform, services and data should be highly available, resilient, flexible, secure, and easy to add upon / upgradable; the platform should be able to accommodate new modules and offer new services at any point in time. For this, the back-end services need to be exposed to all clients (be it mobile or desktop) through a REST API with full documentation of all the REST resources in terms of their signatures, inputs, and outputs. Information integrity is also a key element of this platform.

The information System will be available in 2 languages Arabic and English configurable per user.

The Information System will be constituted from several modules and sub-modules including but not limited to the following main modules/features:

- Market Information
    - Local/domestic
    - International
- Value Chain Directory
- Library
- Push Notifications
- Polls
- Chat/Inquiry
- FAQ
- Contact us/Support

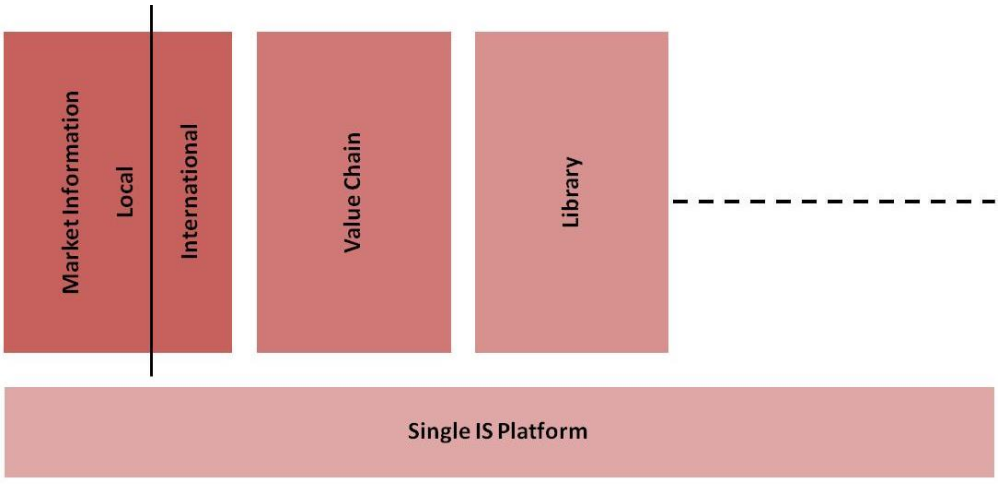


Figure 1: Information System including main modules

However through the Information System lifecycle many other modules can be added depending on stakeholder's needs and priorities. Modules like bookkeeping, weather information, epidemic alerts as well as others might be considered in the near future.

For the time being we are planning to develop the Information System under two versions we shall start with Version 1 and its related functionalities and later on we shall add to those functionalities further functionalities in Version 2 of the Information System.

You may find below a brief and non-exhaustive description and objective of each of the modules that will be developed in Version 1 and Version 2:

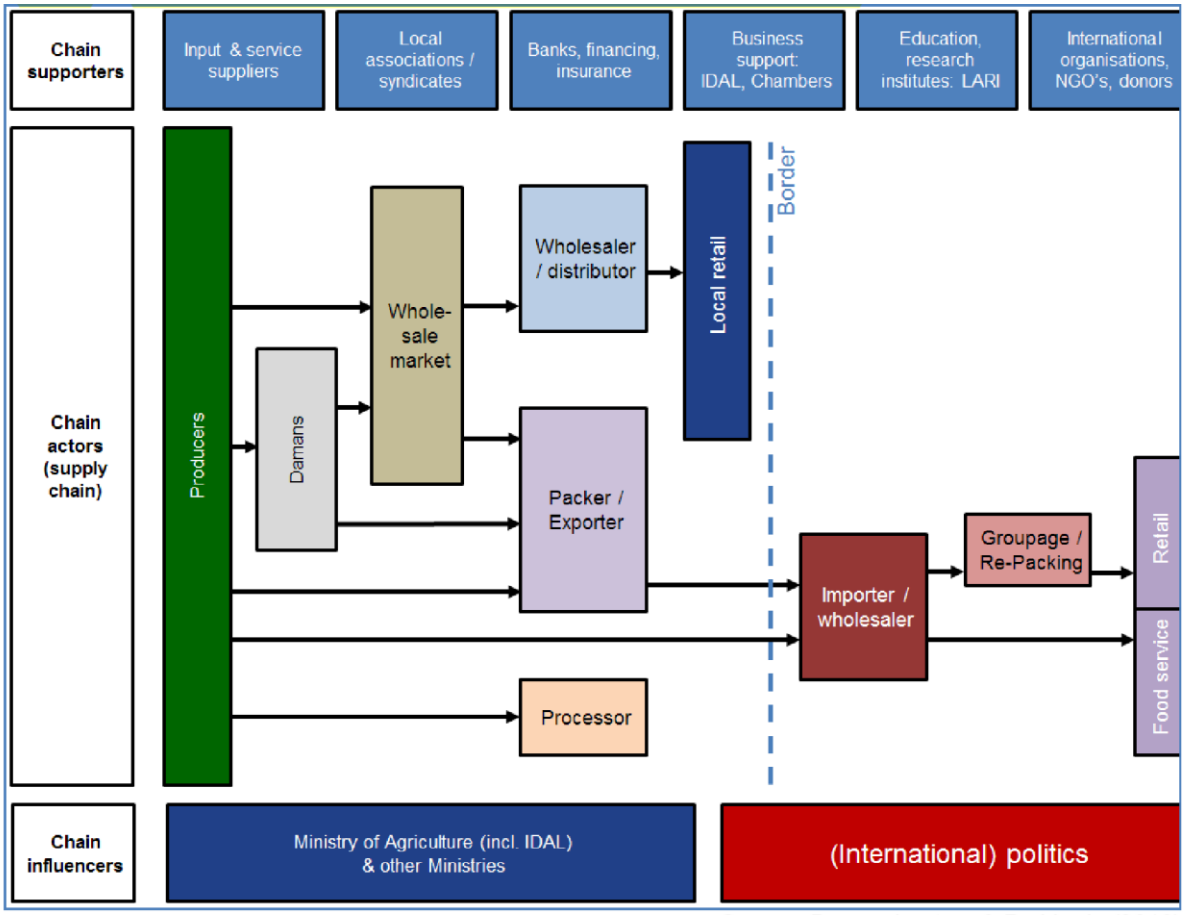
Market Information Module: divided into two sub-modules (local and international) will be offering fresh and up to date price information from the local wholesale markets (most probably the 6 markets in Lebanon), retail stores and international markets (the target international markets will be defined at a later stage of the project by the Key Marketing Expert). This information will help the end user (depending on who he is) achieve better business results, do market studies, get early warning signs (very high or low prices) …

The local market pricing will be collected by local data collectors, and will be sent to CCIAZ using the mobile application (they will use most probably a tablet with a data SIM card).

For the international markets; API (Application Programming Interface) integration between the IS and the International Data Service providers platforms is required in a future phase of the project (not in Version 1 nor in Version 2). Therefore the design of the Information System must take into account this need to make the future implementation of this requirement feasible. The aim of this integration is the complete automation of the data publishing (target is to reduce to the maximum the need to enter data manually). The overall objective of this submodule is to help exporters define new target markets, know more about the competition and increase their business gains

Value Chain Searchable Directory Module: classifying the different stakeholders of the chain and offering: small description of their role, contact numbers, address, website and email (where available) of these different stakeholders in order to ease collaboration and facilitate the creation of new business links.

The below picture gives a (non-exhaustive) visual representation of the parties involved in the value chain



Source: Bureau Leeters & ProVerde (2016)

Figure 2: Value Chain Stakeholders

Library Module: This is a repository where a user can find information like: documentations, trainings, technical sheets, articles etc. This module will help users cultivate their technical and business knowledge, get introduced to new agricultural techniques, know what are the requirements in order to export goods to another country … the aim of this module is to enhance the user's competitive edge.

Push Notifications Module: The primary aim of this module is to enable CCIAZ to broadcast information to the mobile user-base by different user groups. The feature can be used to send brief summaries of the latest relevant news, invitations to events (related to PSD project, CCIAZ, or other), as well as hyperlinks to online surveys or polls.

Polls: This feature would allow CCIAZ to push questions to targeted groups or to all users. Polls should be structured to prompt single or multiple responses to a question. Results of a poll can be made available to users immediately, after voting, after the closing date, or never. The objective of this module is to have the users opinion on a specific project/subject in order to take actions and/or necessary measures later on.

This entire module is planned for implementation in version 2 of the Information System.

Chat/Inquiry: The chat/inquiry feature would allow to a user/beneficiary the possibility to contact specific persons (for some specific topics) at the CCIAZ using text message as well as photos and short voice messaging. This module has different objectives but the most important one is for the IS to be a 2 ways communication platform, to have interactivity between CCIAZ and the end users which would encourage the users to use the platform again and again. **This entire module is planned for implementation in version 2 of the Information System.**

Frequently Asked Questions: listed questions and answers, grouped by context, and pertaining to a particular topic. In order to help users, find a solution for a problem/issue before reverting back to support. **This entire module is planned for implementation in version 2 of the Information System.**

Contact Us/ Support: This is where a user can find CCIAZ full contact information as well as get technical support related to the application

CCIAZ shall contract a service provider to deliver the Version 1 of the project directly after the evaluation of bidders process finish. As for Version 2 it will be contracted after the full successful delivery of Version 1 (exact date will be communicated by CCIAZ at a later stage).

5 Visualization of the information:

The offered solution should allow the visualization of compact/consolidated information through mobile application and the visualization of more exhaustive information (especially historical, comparative, dashboards …) through a web interface (accessible only using a user name and password and to specific users).

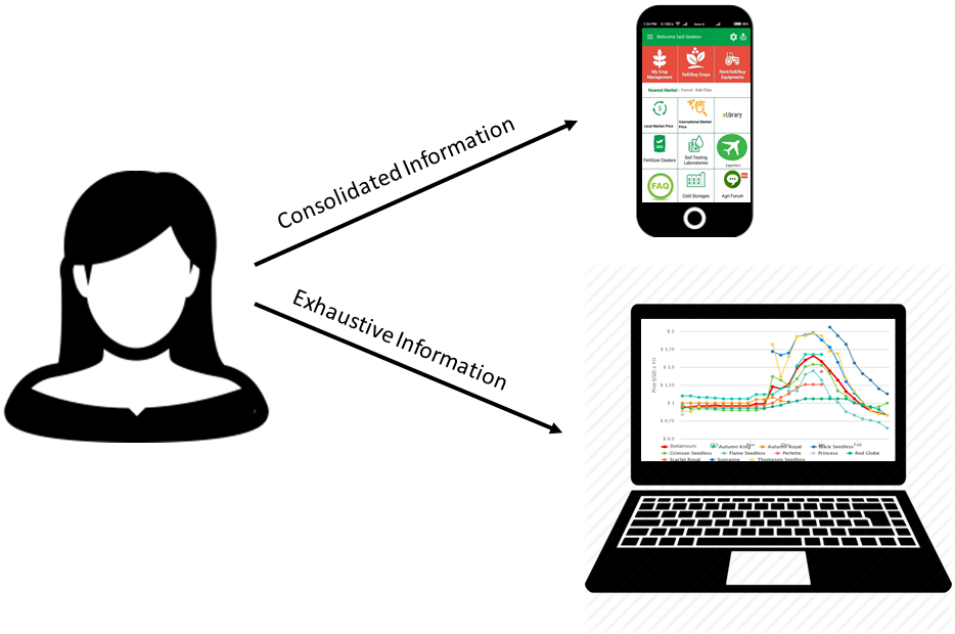


Figure 3: Information System – Two different levels of information visualization

6 Project Timeline Information System

The high-level milestones of the project for Version 1 are as per the below, as for Version 2 the bidders should send their proposed timeline.

6.1 Proposal Submission *[June 1st , 2018]*

Bidders need to submit their offer in written (3 copies) in two separate envelopes: technical envelope, financial envelope and include a digital copy of their submission. Envelopes should be delivered to CCIAZ – Zahle (1st floor – M. Fady Abou Fayad office) before June 1, 2018– 2pm.

Bidders can send their questions related to the RFP before May 18 2018 to the following email address serge.gedeon@icon-institute.de , bidders are only allowed to contact us during the proposal preparation and evaluation phase via email and during the specified timeline, no calls or request for meetings will be accepted. Questions will be answered to all bidders who asked questions before May 25 2018 and/or all bidders who sent an expression of interest.

6.2 Wireframe Design Submission *[≈20 July 2018]*

Information System Version 1 wireframes for both mobile and desktop (web application) use cases must be submitted 3 weeks after selection notification. The submission will be made in electronic format and will be followed by an onsite presentation in the following business week (exact date to be determined by CCIAZ). CCIAZ shall have the right to ask for adjustments following the presentation of wireframes. The selected bidder shall submit the adjusted wireframes within 3 business days of receiving required adjustments from CCIAZ before getting formal approval.

6.3 User Interface Design Submission *[≈17 of August 2018]*

Information System Version 1 user interface design for both mobile and desktop (web application) use cases must be submitted by the solution provider 3 weeks after wireframe formal approval is received from CCIAZ in electronic format. CCIAZ shall have the right to ask for adjustments following the submission. The selected bidder shall submit the adjusted UI design within 1 week of receiving required adjustments from CCIAZ before getting formal approval.

6.4 Development Iterations *[≈2nd of November 2018]*

"Agile is an iterative and incremental (evolutionary) approach to development which is performed in a highly collaborative manner by self-organizing teams within an effective governance framework with 'just enough' ceremony that produces high quality software in a cost effective and timely manner which meets the changing needs of its stakeholders" [Ambler 2013].

Information System Version 1 features are to be fully developed within a period of **14 weeks** from wireframe acceptance.

Features are to be delivered incrementally, in two-week iterations. At the end of every iteration a meeting will be held in which the service provider will demonstrate/showcase the features that were completed to CCIAZ representatives. The aim of this meeting is to provide feedback to the solution provider and increase the chances of a successful user acceptance testing phase.

6.5 Training *[≈by 9th of November 2018]*

Prior to UAT and immediately after development phase is finished, service provider must provide:

- training for CCIAZ end user trainers where he will demonstrate all the features of the developed information system as part of his RFP response. The service provider must present a training plan.

- Training for CCIAZ system administrator. The service provider must present a training plan.

6.6 User Acceptance Testing (UAT)

Following the completion of software development activities and the trainings, a user acceptance testing phase is conducted to validate the software delivered to CCIAZ.

Software specification is provided in a “user story” format (detailed in section 8.2) and, as such, validation of the software is based on its ability to fulfill the requirements of these user stories.

The solution provider shall resolve any issues uncovered during UAT within 72 hours of its submission by email.

Bidders should also describe what support will be provided to CCIAZ during this operational testing and evaluation period. Information shall include but not be limited to: test environment, test data, support, ...

6.7 Production Deployment and Go-Live

Full technical support should be provided by the service provider to ensure the deployment of the Information System to a production environment provided by the solution provider and make the system fully available and usable by all end users on the date specified by CCIAZ.

6.8 Hyper Care Period *[2 months]*

Following a successful UAT and production deployment a two (2) months hyper care period shall start where the Service Provider team will be highly available to offer extended support to CCIAZ and end user in the form of responses to emails and ad-hoc conference calls with the software developers that designed, developed and implemented the Information System; as well as deliver any modifications or change requests to the Information System that do not constitute a major new user workflow or major infrastructural change.

7 Platforms

Features described by user stories that indicate the actor as being a mobile user shall function correctly on the following platforms:

- Android 4.4 and newer
- iOS 9 and newer

Features described by user stories that indicate the actor as being a desktop user shall function correctly on the following platforms:

- Windows 7 and newer
    - Internet Explorer 10 and newer
    - Google Chrome version 58 and newer

8 Scope of Work

8.1 General Features:

- Solution Permits notifications distribution by CCIAZ

- Solution Permits Data Collector to login and upload pricing information from his tablet. He can also enter the data in offline mode and whenever his device is connected to the internet, it pushes the data automatically to CCIAZ for validation of prices before publishing
- Solution permits acceptance/review of market prices by CCIAZ before publishing
- Mobile application shouldn't ask for user name and password at this stage and will be free of charge, later on CCIAZ might decide to charge it for non-members for example (this would require integration with CCIAZ ERP system at a later stage)
- On first installation of the Mobile App the user will be asked to register his basic information: Full Name, Local Phone Number (that will be verified through pin exchange), Occupation (Farmer, Exporter, …), Business Address and Crop (main categories)
- Web App should require user name and password authentication as it provides more data, graphs trends etc.

8.2 User Stories:

The below user stories have been clearly classified as [Version 1] for the functionalities that needs to be delivered in Version 1 and [Version 2] for the functionalities that needs to be delivered in Version 2 of the project. All Nonfunctional requirements should be delivered with Version 1.

8.2.1 Platform Management:

1- As a regulator* using my desktop, I want to identify each user that downloaded the mobile app (Business Address, contact number, email, profile, crops) in order to have a quick idea of the dissemination of the app. [Version 1]

2- As a regulator using my desktop, I want to know my monthly active mobile users by role so that I count the overall beneficiaries and their type (producer, packer, exporter, ...). [Version 1]

3- As a regulator the information system should provide me with pricing discrepancies between different data collectors for the same market, product, variety, and on the same day so that I have redundancy in data collection and detect incorrect data entry. [Version 1]

4- As a regulator using my desktop, I want to know the reviews of my application through user's ratings and feedbacks in order to improve the app. [Version 1]

5- As a super administrator using my desktop, I want to create new administrator user accounts and any other user accounts, to allow new users to log into the system [Version 1]

6- As an administrator using my desktop, I want to create new user accounts except administrator accounts, to allow new users to log into the system [Version 1]

7- As a super administrator using my desktop I need to be able to deploy / undeploy the Information System in order to upgrade, install security patches, move to another hosting provider [Version 1]

8- As a super administrator using my desktop, I need remote access to the server hosting the Information System, so I can manage all aspects of the server (OS, resources, create backups and VM images) [Version 1]

9- As a super administrator using my desktop, I need full command line access to the Information System Database, so I can manipulate all data in the database [Version 1]
10- As a regulator using my desktop, I should be prevented from logging into the information system, without entering authenticated credentials, so that only authorized users are allowed access to the system. [Version 1]
11- As a regulator, I need to keep track of all uploaded data to the IS even if they are not shown any more to regular users so that I can keep track of my data over time. [Version 1]
12- As an administrator using my desktop I want to able to create update and delete all master data in the information System database so that I can add, remove and update [Version 1] products/crops, varieties, markets, farmers, exporters etc. [Version 1]
13- As an administrator using my desktop I want to be able to view logs (info., error) in order to debug issues facing the users of the system [Version 1]
14- As an administrator using my desktop, I should have a very granular control on the features/modules that will be open for access to all users, some users or users groups or to none of the users in order to have an easy to manage and control platform. [Version 1]
15- As a System Administrator, I want to be able to grant/revoke/change privileges to users or user groups in an easy way so that they can have access or not to certain services and pages [Version 1]
16- As a regulator using my desktop, I want to be able to have easy access to registered users of my mobile applications and web applications and their contact information, so that I can use this information as KPIs or to be able to contact these persons. [Version 1]
17- As an administrator using my desktop, I should have access to all users information (current and old) in a database in order to access, query and filter them [Version 1]
18- As an administrator using my desktop, I want to have a dashboard with graphs and statistics on the following but not limited to: most accessed pages, downtime per service, current number of users per module, … so that I can have a quick overview of the status of my system [Version 1]
19- As an administrator using my desktop, I need to make sure that each data collection user can only access the market place he is assigned to and not any other market, in order to prevent errors and copy/paste of prices from other markets. [Version 1]
20- As an administrator using my desktop, I should easily import/export pricing and directory data in bulk (filtered or non-filtered) into the Information System from/to excel sheets, access, SQL … in order to enter historical data or to share/receive information with /from different 3rd parties and partners [Version 1]
21- As an administrator using my desktop, the platform should alert me about the information in the database that needs updates (farmers, suppliers information etc.) in order to always have relevant and valuable information [Version 2]
22- As an administrator using my desktop, I should be able to switch my services (mobile and web app) from free of charge to paid services (for some users, all users or group of users) in order to ensure the sustainability of my platform [Version2]
23- As an administrator using my desktop, I should be able to allow the platform to do periodic/scheduled data backups (databases and unstructured data) into a specific location (cloud or onsite) in order to prevent data loss [Version 1]
24- As an administrator using my desktop, I should be able to take images of all my servers and save them on a local or cloud host in order to ensure resiliency. [Version 1]

25- As a regulator using my desktop, I should see statistics on how many users are accessing each page, what is the average time spent per page, on which page the users were when they asked for help, avg. time spent on the platform per user, how many clicks a user clicked to get to the needed information, how much time did a user spend before getting to the required info, how many users are using the mobile platforms and how many are using the web platform, the cost per transaction … in order to collect vital information which can help us enhance the platform and the overall user experience over time. [Version 2]
26- As an administrator using my desktop, I need to make sure that the attachments sent by the users through Chat/Inquiry have the right format and have been scanned for viruses, malwares … before being saved on the server in order to make sure that my servers are safe and secure [Version 2]
27- As a regulator using my desktop, I want to perform a user's typology (which features of the system are being used by user types [farmer, exporter, wholesaler, post harvest …), so that I have an idea on the needs and interests of each kind of user [Version 1]
28- As an administrator using my desktop, I should have a unique mobile phone number per mobile user in my Information System users database in order to restrict same user having different profiles on the system [Version 1]
29- As a regulator I might need to charge my mobile app at later stages to all users or to only non-member users (users not subscribed to CCIAZ); the mobile application should be open and able to communicate with my ERP system for data exchange in order not to do this filtering manually. (ERP integration not required at this stage but will be required at a later stage) [Version 2]
30- As a regulator I don't want the users of my mobile applications "at this stage – Version 1" to login via a user name and password to my applications however I might need it later on in order to enforce security [Version 2]
31- As an admin the end-user license agreement should mention that we can exchange some of the users info with 3rd parties in order to ensure transparency with the end-users. [Version 1]

8.2.2 Market Pricing

32- As a farmer particularly and as a user in general using my mobile device, I want to know each variety's price per grade (maximum/high, mid/average, minimum/low) in each wholesale market and some retail stores, so that I can plan which market/store to sell my crops in. [Version 1]
33- As an exporter using my mobile device, I need the ability to view weekly international wholesale and retail fruits & vegetables prices by variety, grade, country of origin and weight/package so I can make better decisions about which markets to export to and increase my profits. [Version 1]
34- As an exporter using my mobile device, I want to view local and international fruits & vegetables price, so that I can see price variation/fluctuation in the current season (3 months) [Version 1]
35- As a farmer using my mobile device, I want to view fruits & vegetables price so that:
    - I decide if I will harvest and deliver my produces today to the wholesale market or I will adjourn to another day.
    - I sell my produces directly to wholesale markets or to store them in a cold storage warehouse.

- I select the wholesale market that offers the best price.
- I negotiate with the wholesaler about prices.
- I ensure that the prices wholesalers offer me are competitive
- I avoid that wholesalers, processors or retailers having too much power over price
- I avoid the significant differences in the development of grower-consumer price margins over the period, in the fruit and vegetables supply chains.
- I can decide which variety to plant because it has a better price compared to other varieties. To choose between early and late variety according to prices. [Version 1]

36- As an exporter using my mobile device, I want to compare fruits & vegetables price between local and international markets, so that I understand which markets are profitable to export to. [Version 1]

37- As an exporter buying directly from farmers, using my mobile device, I want to view fruits & vegetables price, so that I can gain a better understanding of the prices I should offer to farmers. [Version 1]

38- As a consumer using my mobile device, I want to view local fruits and vegetable prices in retail stores and wholesale markets so that I can decide whether to buy in bulk or in retail [Version 1]

39- As the Ministry of Agriculture, NGO, or other institution employee using my desktop, I want to view local and international fruits & vegetable prices, so that

- I can make a yearly comparison between grower prices and the prices of food products paid by the consumer, in order to measure the price divergence and its recent development.
- I can explain the main factors contributing to the divergence between farmer prices and the prices of food products paid by the consumer; and, to formulate economic and commercial propositions aimed at improving the situation of farmer income and/or the prices charged to consumers.
- I can estimate the impact of price movements on the end-user weekly fruits and vegetables basket [Version1]

40- As a regulator using my desktop, I can export fresh fruits and vegetables historical pricing data over a certain period of time so that I can provide it to business planning engineers or consultants and help them plan their marketing strategy or perform other studies [Version 1]

41- As a regulator using my desktop I want to control how much historical price information mobile device users are allowed to see (for example, maximum of last 3 months from current date) so that I prevent this large number of users from affecting the performance of my back-end system. [Version1]

42- As a regulator using my desktop I should be able to get historical pricing information per crop up to X number of years and observe the fluctuation of pricing through a graph so that I can perform further analysis on this data.[Version 1]

43- As a regulator using my desktop, I should be able to check and acknowledge the fresh market prices sent by the data collectors through the application before publishing them to the public in the Information System in order to make sure that this information is logical and doesn't contain errors [Version 1]

44- As a regulator that needs to acknowledge pricing information sent by data collectors there should be a well-defined workflow for this process in order to guarantee normal operation in

case I or any of the parties involved in the process is absent, sick or didn't take the necessary actions in time [Version 1]

45- As a data collector using my mobile device I want the ability to enter the minimum/low and maximum/high price for a specific crop variety for the current date and time and in the specific wholesale market or retailer(s) I am assigned to so that I can make this information available to regulators using the Information System. [Version 1]

46- As a regulator using my desktop I want the system to automatically generate the average/mid price of a specific crop (by adding the low price to the high price sent by the data collector for a specified market and dividing it over two) for a certain crop in a certain day and show it to the mobile end users. [Version 1]

47- As a data collector using my mobile device I need the ability to enter in fresh market data into the mobile application even when my mobile device doesn't have an active internet connection and then once my device establishes an internet connection, the app will automatically and without my intervention upload the data to the Information System and make it available to regulators, so that I am not forced to capture the data using other means (such as on paper) and then re-enter it again later once my device has an internet connection. [Version 1]

48- As a data collector using my mobile device, I should be automatically directed to the price entry workflow so that I don't waste time navigating to this functionality every time I launch the app. [Version 1]

49- As a data collector using my mobile device, I should be able to easily enter in price data at a specific market/retailer for tens of crop varieties within a reasonable amount of time, so that my work is efficient/productive. [Version 1]

50- As a regulator, I want the Information System to prevent data collectors from making changes to their submitted prices once I have acknowledged them so that I preserve data integrity and prevent tampering. [Version 1]

51- As a data collector using my mobile device, I should be able to review and update the prices I recently entered (before they are acknowledged by CCIAZ) so that I can fix any wrong entries [Version 1]

52- As a regulator using my desktop I should be able to add to the market pricelist (new crops, varieties, type of packaging etc.) easily without writing any dev. code to the information system module in order not to go back the Information System service provider each time I need to do a minor change [Version 1]

53- As a mobile device user I can choose a specific crop/variety and check the fluctuation of the prices for the past week, 2 weeks, one month and three months in order to see the market trend and take action upon it. [Version 1]

54- As a regulator using my desktop, the Information system should provide me with early warning signs/alerts of food security difficulties (very High prices, very low prices …) in order to take necessary measures and ensure food security [Version 2]

55- As a regulator, I want the platform to automatically detect and alert me of unrealistic prices; great differences between markets; sudden jumps/drops compared to the previous period; missing data; obvious typographical errors; and other patterns that may indicate that the data collector has confused the units of measure, or has submitted incorrect information before I acknowledge prices so that I can guarantee correct prices to end users. [Version 1]

56- As a user I should be able to see the approximate/indicative cost structure of a merchandise (in percentage) in the local or international market in order to understand how the price is divided into: raw material, logistics, cooling, waste … and know at which price I can sell my crop [version 2]
57- As a regulator using my desktop, I want to update the approximate cost structure of a certain crop (raw material, logistics, cooling, waste, etc.) so that I can help the users understand the reason behind crop prices. [Version 2]
58- As a mobile device or desktop user, I want the ability to view and compare crop prices between the local wholesale market and/or another wholesale market and/or retail prices and/or the international markets in order to have a broader vision of market prices [Version 1]
59- As a regulator using my desktop, I want the ability to manually enter in prices for crop varieties in specific markets and on specific dates, so that I have a workaround when a data collector is unable to access his mobile app to enter the data himself and send me the info via other means (fax, phone, email) [Version 1]

8.2.3 Directory

60- As an administrator using my desktop, I need the ability to export data from the system (into Excel Files, CSV) in order to supply it to requesting third party organizations (suppliers/Financial Institutions/ Packers) [Version 1]
61- As a farmer using my mobile device, I need to know the places I can get the certified plants in order to buy them from the nurseries [Version 1]
62- As a farmer using my mobile device, I need to have profile information of farmers in my area for benchmarking purposes [Version 1]
63- As a farmer using my mobile device, I need to have access to IS mobile application so that I could identify the list of input suppliers, equipment suppliers …, filtered by area, … and their products offered, in order to explore new business links. [Version 1]
64- As an exporter using my mobile device, I need to have access to international importers databases in order to establish new business links [Version 1]
65- As a user using my mobile device, I need to have access to the IS mobile application because I need to know the list of wholesalers in a wholesale market (location, contact person, contact number, specialty…) in order to have new business links [Version 1]
66- As a user using my mobile device, I should be able to rate suppliers, financial institutions or any other entity present in the directory, anonymously to them, in order to give my personal evaluation of their service [Version 2]
67- As a user using my mobile device, I am unable to duplicate my rating for the same entity in a directory in order to keep the rating information relevant [Version 2]
68- As a user using my mobile device, I should be able to update my previous rating for suppliers, financial institutions or any other entity present in the directory, in order to reflect my latest re-evaluation of their service [Version 2]
69- As a user in the directory, library as well as other modules, using my mobile device or my desktop, I should be able to search by name, part of a name, business type, product family, or

any other field in the contact data structure. and in any combination in order to find the information I am looking for. [Version 1]

70- As a user, using my mobile device, I should be able to view the list of the supermarkets (all or by region) in order to establish contact with them [Version 1]

71- As a packer particularly and as a user in general using my mobile device, I need to have access to IS mobile application so that I could identify the list of input suppliers (in particular in packaging), equipment suppliers, …, filtered by area, … in order to establish new business links [Version 1]

72- As a packer particularly and as a user in general using my mobile device, I need to have access to the equipment suppliers (details) in Lebanon and abroad in order to set up my purchasing strategy [Version 1]

73- As an exporter particularly and as a user in general using my mobile device, I need an updated information on the logistics companies available in Lebanon in order to reach faster and/or at a better price the existing markets, and to reach new markets (transportation, duration, costs, requirements,…) [Version 1]

74- As an exporter particularly and as a user in general using my mobile device, I need to know the national and international fairs details in order to assess the relevance of my attendance as an exhibitor or visitor [Version 1]

75- As a supermarket particularly and as a user in general using my mobile device, I need to know the list of producers/farmers of a certain crop filtered by region in order to try work with them directly [Version 1]

76- As a regulator or an administrator using my desktop to enter data into the IS (especially in the directory module) the system gives me automatically similar or equivalent entries in order to ease the data entry task [Version 1]

77- As a regulator or an administrator using my desktop to enter data in the directory module the system will not permit me to enter duplicates (same producer name with the same mobile number for example) to prevent introducing noisy data into the directory. [Version 1]

78- As a farmer particularly and as a user in general using my mobile device, I need to have access to IS mobile application so that I could identify the list of cold storage warehouse (location, contact person, contact number).

79- As a farmer particularly and as a user in general using my mobile device, I need to have access to IS mobile application so that I could identify the list of exporters (location, contact person, contact number).

80- As an exporter particularly and as a user in general using my mobile device, I need to have access to IS mobile application so that I could identify the list of farmers (location, contact person, contact number, crops).

81- As a user using my mobile device, the directory module should propose to me “first” the information of the value chain stakeholder (input supplier, financial institution etc.) that is nearest to my location in order to have relevant information [Version 1]

82- As a user using my mobile device, inside the directory module I should be able to click on links and get directed to specific supplier’s, project’s, NGO’s ... websites in order to have further elaborate information. [Version 1]

83- As a user using my mobile device while viewing information in the directory I can immediately click on a phone number to call it (integration with phone dialer) in order not to copy/paste the phone number into the phone dialer and ease the usage of the application [Version 1]

84- As a user using my mobile device while viewing information in the directory I can immediately see the location of a certain entity (integration with phone maps application) in order to ease the usage of the IS application [Version 1]

85- As a user using my mobile device while viewing information in the directory I can immediately click on a website url to view it in my browser (integration with phone browser) in order not to copy/paste the url into the browser and ease the usage of the IS application [Version 1]

86- As a user using my mobile device while viewing information in the directory I can immediately click on an email address and I am directly directed to my phone email client – new email section (integration with phone email client) in order not to copy/paste the email address into the email client and ease the usage of the IS application [Version 1]

8.2.4 Library

87- As an exporter using my mobile device, I need to have the information on the export support program from the Lebanese government in order to benefit from it [Version 1]

88- As a University using my desktop, I need to have access to IS web application in order to spread the latest news about applied researches, extension services.[Version 2]

89- As a regulator using my desktop, I need to check the submitted material for publishing by allowed 3rd parties before they get published in order to make sure its relevance and compliance to CCIAZ rules. [Version 2]

90- As a regulator using my desktop to check submitted material for publishing sent by 3rd party partners, there should be a well-defined workflow for this process in order to guarantee normal operation in case myself or any of the parties involved in the process is absent, sick or didn't take the necessary actions in time [Version 2]

91- As a farmer particularly and as a user in general, using my mobile device, I need to have information on new plants available in Lebanon in order to monitor innovation and plan investment [Version 1]

92- As a farmer particularly and as a user in general, using my mobile device, I need to have information on new plants in similar countries in order to monitor innovation and plan investment [Version 1]

93- As a farmer particularly and as a user in general, using my mobile device, I need to have access to technical training information in order to enhance my technical skills [Version 1]

94- As a farmer particularly and as a user in general, using my mobile device, I need to have access to marketing training information in order to enhance my business skills and increase my turnover [Version 1]

95- As an exporter particularly and as a user in general, using my mobile device, I need to have access to the information related to the international markets: regulations, imports, consumption, distribution, and trends in order to assess new business opportunities [Version 1]

96- As an exporter particularly and as a user in general, using my mobile device, I need to have information on the international competition in order to better plan my business [Version 1]

97- As an exporter particularly and as a user in general, using my mobile device, I need to have access to international training information in order to enhance my knowledge [Version 1]

98- As an exporter using my mobile device, I need to have access to the IS mobile application so that I could meet market requirements when exploring new export markets in terms of price, volume, grading, sorting and packaging. [Version 1]

99- As a user using my mobile device and in the directory and the library module (especially), I should be able to search quickly and successfully for a required information, in order not to be discouraged of using the application again [Version 1]

100- As a user using my mobile device, inside the directory and the library module main pages I should have easy access to relevant sub-menus / categories for ease of access to information [Version 1]

101- As a user using my mobile device, the application should ask me when entering back to the library module if I want to pick up from where I left in a certain document, video etc. in order to help me reduce the time finding the file and exact place where I was reading or watching. [Version 2]

102- As a regulator I want the information system to display the following disclaimer for certain library items that I have flagged:
The content of this [report/study/article/publication…] does not reflect the official opinion of the CCIAZ. The responsibility for the information and views expressed in the report/study/article/publication…] / [therein] lies entirely with the author(s)" .
In order to inform the reader that the material in hand might not be an absolute truth or that the CCIAZ don't share the same opinions of the related document. [Version 1]

103- As a packer particularly and as a user in general, using my mobile device, I need to have access to the information related to the technical specifications of packaging in order to adapt and enhance mine [Version 1]

104- As an exporter particularly and as a user in general, using my mobile device, I need to have access to the information related to trainings and conferences on the international trade in order to increase my knowledge and skills [Version 1]

105- As an exporter particularly and as a user in general, using my mobile device, I need to access to the lessons learned of the previous fairs in order not to repeat the same mistakes and benefit from the lessons learned [Version 1]

106- As an exporter particularly and as a user in general, using my mobile device, I need to access to market studies on the international markets in order to set up my marketing strategy [Version 1]

107- As an exporter particularly and as a user in general, using my mobile device, I need to access to the information of the calendar productions by variety in Lebanon and internationally in order to set up my marketing strategy [Version 1]

108- As a regulator using my desktop, I should be able to upload videos, pictures, document to the information system in order to populate the Library module [Version 1]

109- As a regulator using my desktop the information system forces me to fill the metadata information (Category [Technical, Business, Marketing, …], Topic, Sub-Topic Author, Size, Publish Date, Last Revision, language, number of pages, summary, crop, File type [document, video, presentation …] …) related to each file I am uploading in order to categorize the uploaded material [Version 1]

110- As a user using my mobile device I should be able to search quickly for relevant documents using single or multiple criteria like (crop, topic, category, file type …) in order to ease the finding of needed files or documents [Version 1]

111- As a regulator using my desktop I should be able to update the metadata of certain files in the library module in order to correct false information. [Version 1]

112- As an administrator or regulator using the desktop, the back end engine should be able to propose to me automatic tagging of newly entered files into the platform in order to automate the process and reduce the time entering new files [Version 2]

113- As Ministry of Agriculture, NGO's and institutions, using the desktop, we need to have access to all the market studies related to the value chains, in order to source our library and to define value chain policies [Version 1]

8.2.5 Push Notification

114- As a regulator using my desktop, I want to send text notification to all or a subset of the IS mobile app users, so that I can inform them about the latest news concerning CCIAZ projects, invite them to trainings, or send them general updates that are relevant to their business. [Version 1]

115- As a regulator using my desktop, I should be able to see notification historical data, so that I can track information over time [Version 1]

116- As a farmer using my mobile device, I want the app to notify me/alert me with important issues like the most dangerous pests during this period so that I could reduce the damages of my crop (the notification can carry a link to 3rd parties [LARI or Other] website where I will find detailed info. about the problem and how to remediate) [Version 1]

117- As a farmer using my mobile device, I want the app to alert me about extreme weather conditions threatening the crop so that I prevent any frost/heat damages (the notification can carry a link to 3rd parties [LARI or Other] website where I will find detailed info. about the problem and how to remediate). [Version 1]

118- As a farmer using my mobile device, I need to have access to IS mobile application so that I get notifications about the important agricultural news, projects, distribution of trees and inputs [Version 1]

119- As a regulator using my desktop I should be able to send informative notifications with or without a web link to all the users or some of the users of the mobile app (filtered by profession, by region, …) in order to inform them of an important topic [Version 1]

120- As a regulator using my desktop I should be able to see who received the notifications I have sent and who didn't in order to have some benchmarking information [Version 1]

121- As a user using my mobile device I should be able to control whether I want to receive notifications or not from the regulator (by changing my profile settings) "however by default this setting should be ON and I should receive notifications", in order not to be disturbed by irrelevant information [Version 1]

122- As a regulator using my desktop and the IS platform, I want to know the farmers invited for trainings and that confirmed their attendance, so I can organize the logistics aspects of the training [Version 2]

123- As a regulator using my desktop, I need to send the most relevant information in the form of headlines on the agriculture on time to the farmers, packers and exporters (for example, a new law on the use of pesticides with a deadline to its application) in order to keep them updated [Version 1]

124- As a regulator using my desktop, I want to be able to send notifications to all or some users and receive their feedback (yes/no/other) so that I can know how many are coming to a certain event for example. [Version 2]

8.2.6 Chat & inquiry

125- As a data collector using my mobile device, I am able to send an inquiry to some members of the CCIAZ in order to share with them new and important information [Version 2]

126- As a user using my mobile device, I should be able to send an inquiry to the chamber and attach to it a picture in order to ask the chamber about a specific subject and use the picture sent to further explain the situation [Version 2]

127- As a user using my mobile device it should be visible for me when to expect a feedback from the chamber on my inquiry in order not to feel ignored [Version 2]

128- As a regulator using my desktop I should be informed immediately via email and/or other medium that an inquiry within my expertise have been submitted and what is the timeline for me to answer it [Version 2]

129- As an administrator using my desktop I should be able to visualize how many inquiries have been sent, how many have been answered on time, how many are still pending, how many and which ones have passed the timeline for answer; in order to escalate the pending inquiry(ies) to the appropriate person(s). [Version 2]

130- As a regulator using my desktop I should be able to route inquiries to other regulators since they are not within my specialty, or have been routed to me by error, or since I am taking a vacation; in order to make sure that the person who submit the inquiry will get the right answer on time. [Version 2]

8.2.7 Polls

131- As a regulator using my desktop I should be able to send a poll to all the users or some of the users of the app (filtered by profession, by region, …) in order to have their opinion or feedback on a particular matter. [Version 2]

132- As a regulator using my desktop I should be able to publish the results of a poll to all the users or some of the users or none of the users of the app immediately or at a later stage of a poll [Version 2]

8.2.8 Contact Us / Support

133- As a regulator using my desktop, I want to insert/ change/ remove the address/ email/contact numbers of the CCIAZ in the application so that the users can contact us for any further information needed. [Version 1]

134- As a user using my mobile device I should have the support contact details (call or text), in order to contact them if I am facing troubles with the application [Version 1]

135- As a user using my mobile device, on any page of the platform I should be able to ask for help with one click at any time in order not to go to the homepage first for instance to click for help [Version 1]

136- As a regulator using my desktop, I should be able to track all the support cases submitted by the users and handled by the Service Provider (subject, details, time of submission, time of resolution, escalation, …) in order to make sure that the SLA agreement is being respected [Version 1]

137- As a user using my mobile device it should be very clear to me that if I need support related to the mobile or web applications I should use the Support function however if I need any other type of support from the chamber (for example: related to agriculture whether from its marketing side or technical side) I should use the inquiry/chat function (or both functions

can be combined in a single function with clear and different sub-option) in order not to get confused and have my request lost or badly routed.[Version 2]

8.2.9 FAQ

138- As a user using my mobile device I should easily access the FAQ module, search for a specific subject and find relevant information, in order to ease the adoption of the application [Version 2]

139- As a user using my mobile device and accessing the main page of the FAQ module, questions should be organized by topics in order to ease the accessibility [Version 2]

140- As a regulator using my desktop I should easily tag FAQs in order to ease the search for the user on specific topics [Version 2]

8.2.10 Others

141- As a user of the mobile application, I want the application to save my filtering preferences so that I don't need to re-enter this information every time I use the application. [Version 1]

142- As a user using my mobile device I would like that the application saves my general preferences in order not to put them again each time I open the app as well as to ease the access to the required information [Version 1]

143- As a user of the Mobile App I would like to be able to switch the language of the platform from English to Arabic and vice versa in order to see the information in my preferred language [Version 1]

144- As a user /regulator using my desktop I should have a user name and password to login to the web application in order to benefit from the advanced features of the Information System [Version 1]

145- As a user /regulator using my desktop the web application main language should be English however I am able to see contents in Arabic and English [Version 1]

146- As a user of the mobile app, I should have a friendly and easy to use interface in order to have quick and effortless access to the information I need [Version 1]

147- As a user using my mobile device, if my internet connection is rather slow the app will ask me if I want it to buffer the video I am watching first then watch it later-on once buffered; once buffered the app will alert me to watch the video; in order to reduce frustration and waste of time [Version 2]

148- As user/regulator using my desktop to access the web app in case I forget my username or password the web app should redirect me to a special page in order to recuperate my access [Version 1]

149- As a user using my mobile device, the main menu should be clear enough for me, adapted to my profile, with big fonts directing me straight to where I want to go in order not to get frustrated [Version 1]

150- As a user using my mobile device my main menu should show me frequently used or recently accessed in order to immediately direct me to my interest pages and have a better working experience [Version 1]

151- As a user using my mobile device during my first subscription I should be able to select the crops that I am interested in or even all crops in order:

i. for the app to send me the relevant notifications
ii. to see first in the mobile app pages the information related to my preferred crop [Version 1]

152- As a regulator, I want the users to be able to change their profile details in the application, so I can update my database [Version 1]

153- As a new user of the mobile app, once I download the mobile application it asks me for certain information like (name, business address, mobile number, profile [farmer/producer, exporter, input supplier …],crop, land surface etc.) for profiling purposes (creates a profile for me if I am not in the directory or updates my profile in case I am already in the directory). [Version 1]

154- As an administrator using my desktop, registered mobile users with mobile phone numbers not found in the IS directory should be flagged as unvalidated user accounts so that we can follow-up with these users and validate their information. [Version 1]

155- As a new user of the mobile app, once I enter my mobile number for profiling purpose, it is verified through pin exchange in order to verify my identity and that no mobile phone number is being used by 2 persons or more. [Version 1]

156- As a registered user of the mobile app, in case I change my phone device the application should permit me to continue using it and transfer my preferences and customized environment to the new phone [Version1]

157- As a user that works with a certain crop(s), using my mobile device, I want the application to take me to relevant pages once I click on a certain button/function/menu/submenu (for example if I am an exporter of table grapes and I have saved those preferences in my profile, once I enter the application and access international pricing information it should show me information related to table grapes first) in order to ease my access to information. [Version 1]

158- As a user using my mobile device, I want to be able to access the “About us” page in order to have a brief description about CCIAZ, introduction to the Agriculture extension department, Mission, Services, the purpose of this app … [Version 1]

*Regulator: CCIAZ

8.3 Backend system

The provided backend system should run on a Windows Server platform and be able at least to:

- Include robust authoring tools
- Allow content Tagging
- Allow collaboration (several persons working on the same content)
- Be user friendly
- Keep track of every access to the content and every change made (logging)
- Allow full customization of content permissions, module permissions and user roles
- Allow in an easy way the administrator to add, remove & change fields in the databases
- Support mobile devices
- Support multisite
- Support multi-language
- Permit Traffic Analytics

A training on the offered backend platform is required.

8.4 Data Migration:

Bidders should account in their offer the migration of the existing access databases and excel files (pricing information, stakeholders information …) into the Information System new database.

8.5 Architecture:

- **Software:** n-tier architecture or multi-tier architecture should be used in developing the required applications
- **Hardware:** Full redundant, resilient and secure solution

8.6 Data Security & Privacy:

Successful bidder shall implement and maintain appropriate administrative, technical (including, without limitation, encryption and virus/spyware scanning) and physical safeguards, procedures and practices to:

- Ensure the security, confidentiality, integrity and authorization of all information transmitted electronically between the parties, however stored, retained, maintained, saved or held by Successful Bidder (“Electronic Information”).
- Protect against any anticipated threats or hazards to the security, confidentiality or integrity of Electronic Information.

- Protect against any unauthorized use, destruction, modification or disclosure of Electronic Information.

8.7 SLA, Maintenance & Support:

Successful bidder should make sure that all provided applications, databases, their hosting environments etc. are available for user access seven (7) days/week, twenty-four (24) hours/day.

The Successful bidder shall provide 99.9% uptime for the provided applications, databases, their hosting environments, etc.

Successful bidder is permitted to perform periodic maintenance on the Applications or hosting environment for purposes of system upgrades, maintenance, and backup procedures ("Scheduled Downtime"). All Scheduled Downtime will either be performed seamlessly to the Users (so that they are unaware of the Scheduled Downtime) or, if not seamless.

Successful bidder will:

- provide advance notice to CCIAZ (successful bidder to provide such notice through prominently displaying the planned Scheduled Downtime on the Applications through the main page of the Information System and by sending an official email to CCIAZ seven (7) days in advance).
- use commercially reasonable best efforts to limit Downtime to a window of 10:00 p.m. Saturday to 10:00 a.m. on Sunday (Beirut local time)
- will not exceed forty three (43) minutes Downtime per month on average. In addition to Scheduled Downtime meeting the requirements of this Section, there may be events that from time to time will make the system inaccessible for a limited amount of time due to unforeseen software, hardware, network, power and/or Internet outages ("Unscheduled Downtime"). Service interruptions shall not exceed eight (8) hours & forty five minutes (45) for Critical Interruptions in a calendar year, defined as interruptions preventing access to the applications, or processing of transactions on the applications. Successful bidder shall ensure that no more than two Critical Interruptions occur in any calendar quarter.

8.7.1 Designated Points of Contact:

Three designated points of contact shall be assigned by the successful bidder:

- Business Contact: coordinate all activities from
- Technical Contact: manage development activities
- Support Contact: manage support activities of the end users

8.7.2 Hours of Coverage:

Typical hours of coverage are 8am to 6pm Monday to Friday.

8.7.3 Incidents and Resolution time:

Incident Type	Resolution Time
Critical Unbale to access the application or server or other mission critical system(s) are down and no workaround is immediately available.	2 to 4 hours from incident report
Major Major functionality is severely impaired.	4 to 8 hours from incident report
Minor Partial, non-critical loss of functionality of the software	1 to 3 days from incident report

An issue tracking system should be used to track each incident, CCIAZ should have access to all open technical and support tickets in order to track them down.

8.7.4 Technical Support:

- First Level Customer Service. Successful Bidder shall provide first level customer service to all Users, namely, User sign-ups and cancellations; answering general customer service questions …
- Second Level Technical Support. Successful Bidder will provide second level technical support to CCIAZ relating to the Mobile App and Web App.

The successful bidder should include in his offer 3 years Maintenance and Support contract.

8.8 Penalty:

8.8.1 Failing to deliver on time

In case of failing to deliver the required applications, documentation and all related deliveries on the agreed time; the successful bidder will be charged 3% of the total project value for each week of delay in delivering a fully functional solution.

8.8.2 Discovered bugs during UAT testing

Bugs discovery during UAT will be penalized as follows:

Number of found bugs/re-opened bugs	Penalty for found bugs	Penalty for re-opened bugs
0 to 10	No penalties shall apply	0.25% of total contract amount for each bug
11 to 40	0.25% of total contract amount for each bug	0.25% of total contract amount for each bug
Above 40	CCIAZ will have the right to immediately stop the contract and reclaim all the money paid to the Service Provider	CCIAZ will have the right to immediately stop the contract and reclaim all the money paid to the Service Provider

Bugs that are not solved within 72 hours after submission by email will be penalized for the extra amount of:

- 0.25% of total contract amount for each bug

The above penalty section has been added in order to encourage the selected Service Provider invest in QA during the delivery of this project and reduce the UAT testing time.

8.8.3 Failing to meet the SLA agreement

In case of failing to respect the signed service level of agreement the successful bidder will be charged as follows:

Incident Type	**Charge**
Critical	500$ for each extra two (2) hours the incident wasn't solved
Major	500$ for each extra four (4) hours the incident wasn't solved
Minor	500$ for each extra one (1) day the incident wasn't solved

8.9 Hosting & SSL Certificates:

Bidders should provide within their offering Hosting services and necessary SSL certificates for 3 years for production and testing environment.

The Hosting of the applications and databases should be done on dedicated (not shared with other applications) Server(s) / Virtual Server(s) at a recognized and certified Tier IV data centers, servers should be under CCIAZ name.

Replication of the Server(s) / Virtual Server(s) is required in an "active-active" setup preferably, to provide high availability (99.9%); using different physical data centers, the 2 data centers should be at least 400KM distant from each other [testing environment should use the same high availability setup as production environment].

8.10 Source Code:

- Each object, component, …, in the developed source code should have a relevant, understandable, easy to relate and find name (practices like using: Button 1, Button 2 etc. are totally unaccepted)
- Successful bidder should deliver with the developed applications the source code, automated build scripts, links, libraries, installer, etc.
- Successful bidder must deliver all the necessary documentation detailing the instructions to build the web application from source code and deployment into a fully running and usable state.
- CCIAZ shall hold full ownership of the developed applications and source code

8.11 App Store Optimization:

In their proposals, bidders should propose their strategy for app store optimization, or ASO, techniques to get the mobile app at the top of app store search results.

8.12 Innovation in the offering:

The bidders will also be evaluated based on the innovation they are providing in their offers (add-on features, proposing new functionalities, proposing vital functionalities that are not directly mentioned in this RFP, proposing interaction solutions that would boost the users use of this information system).

8.13 UX & UI

The bidders should present in their offers their strategy on how to make the developed application easy to use, have a great user experience and an intuitive user interface.

Bidders, based on their experience, should also propose solutions that would make the end users of the application come back or use it again.

UX design shall include but not be limited to the following:

- Visual design: The look and feel of the applications
- Information architecture: organizing the information in products and services to support usability and findability
- Navigation design: to regulate the users movement through the information architecture and make it simple
- Structuring, organization, and labeling: Reducing information to its basic building units and then relating them to each other, grouping these units in a distinctive and meaningful manner, using appropriate wording to support easy navigation and findability.
- Finding and managing: Navigation needs to be clearly conveyed to ease finding of the contents
- Interaction design:
    - Defining interaction patterns best suited in the context
    - Incorporating user needs collected during user research into the designs
    - Features and information that are important to the user
    - Interface behavior like drag-drop, selections, and mouse-over actions
    - Effectively communicating strengths of the system
    - Making the interface intuitive by building affordances
    - Maintaining consistency throughout the system
- Usability & Usability testing: ability to use the applications by specified users to achieve specified goals with effectiveness
- Accessibility: Shorter learning curve, ease of reach, use and understanding.

8.14 System Testing:

Bidders should describe their internal testing methodologies, as part of their response to the RFP:

- How many full time team members will be involved in the QA processes? Are they part time, full-time or subcontractors?
- Summary of a typical QA processes from start to finish.

8.15 Security:

The platform should:

Prohibit any connection to database/data exchange with Mobile Phones "and Web Users" located outside Lebanon; however, the platform should also support White Lists and Black Lists per Mobile Phone number, Device IMEI, IP Address etc.

The developed Web Platform should be developed in a secure way and prohibit known security vulnerabilities like:

- Injection flaws, such as SQL, NoSQL, OS, and LDAP injection, …
- Broken Authentication
- Sensitive Data Exposure
- XML External Entities (XXE)
- Broken Access Control
- Security Misconfiguration
- Cross-Site Scripting (XSS)
- Insecure Deserialization
- Using Components, libraries … with Known Vulnerabilities
- Insufficient Logging & Monitoring

The Service Provider should have clear processes and procedures based on standard frameworks for testing web application technical security controls and should also provide his developers with a list of requirements for secure development.

Same for the developed Mobile Platforms, they should be developed in a secure way and prohibit known security vulnerabilities …

Following OWASP security standards and guidelines is highly recommended.

9 Required Experience and Expertise

The successful bidder will be able to demonstrate extensive and current experience in:

- Mobile application / website / web application development and deployment
- Database design / development / and migration of old data

- Designing and developing for a range of smartphone devices and operating systems
- Application usability standards
- Technical design for future flexibility and add-on
- Agile development approaches

Successful bidder should submit with his offer a list of similar references with their full contact details.

9.1 Proposed Resources & CVs:

Bidders must provide details on the proposed team structure and the roles they shall fulfil. Please respond in the table format below, providing the resource's name, their professional title, the role they will play for the purposes of this specific engagement and whether they are employees or provided through a subcontracting arrangement.

Resource	Name	Title	Engagement Role	Staff/Sub

Bidders must outline any sub-contracting arrangements they plan to utilize in order to resource this engagement.

Bidders must attach a bio of all of the proposed resources, outlining relevant education and experience.

10 Prices:

Bidders must provide detailed man-day breakdown per each functionality/module, as well as their man-day rate for any future add-ons.

Bidders must quote separately the features required for Version 1 and Version 2.

Bidders must include in their quotation for Version 2 (based on previous experience) an estimation of the required man-days needed to enhance the features / workflows provided in Version 1. Assumptions taken should be clearly mentioned in the bidder's proposal (number of man-days per profile as well as unitary prices etc.)

Bidders quotations shall be valid for a minimum period of 180 days.

11 Payment:

Proposed payment scheme:

- 10% upon contract award
- 10% upon CCIAZ acceptance of the presented wireframes
- 60% upon delivery of:
    - Live Information System
    - Necessary Documentations

    - Satisfactory user acceptance testing
    - Necessary trainings
    - CCIAZ sign-off

- 20% two months after:
    - Information System is live
    - Necessary Documentations have been delivered
    - Satisfactory user acceptance testing
    - Necessary trainings have been delivered
    - CCIAZ sign-off

12 Documentation:

Bidders/successful Bidder should (at least) submit the below mentioned documents/sections during the different phases of the project:

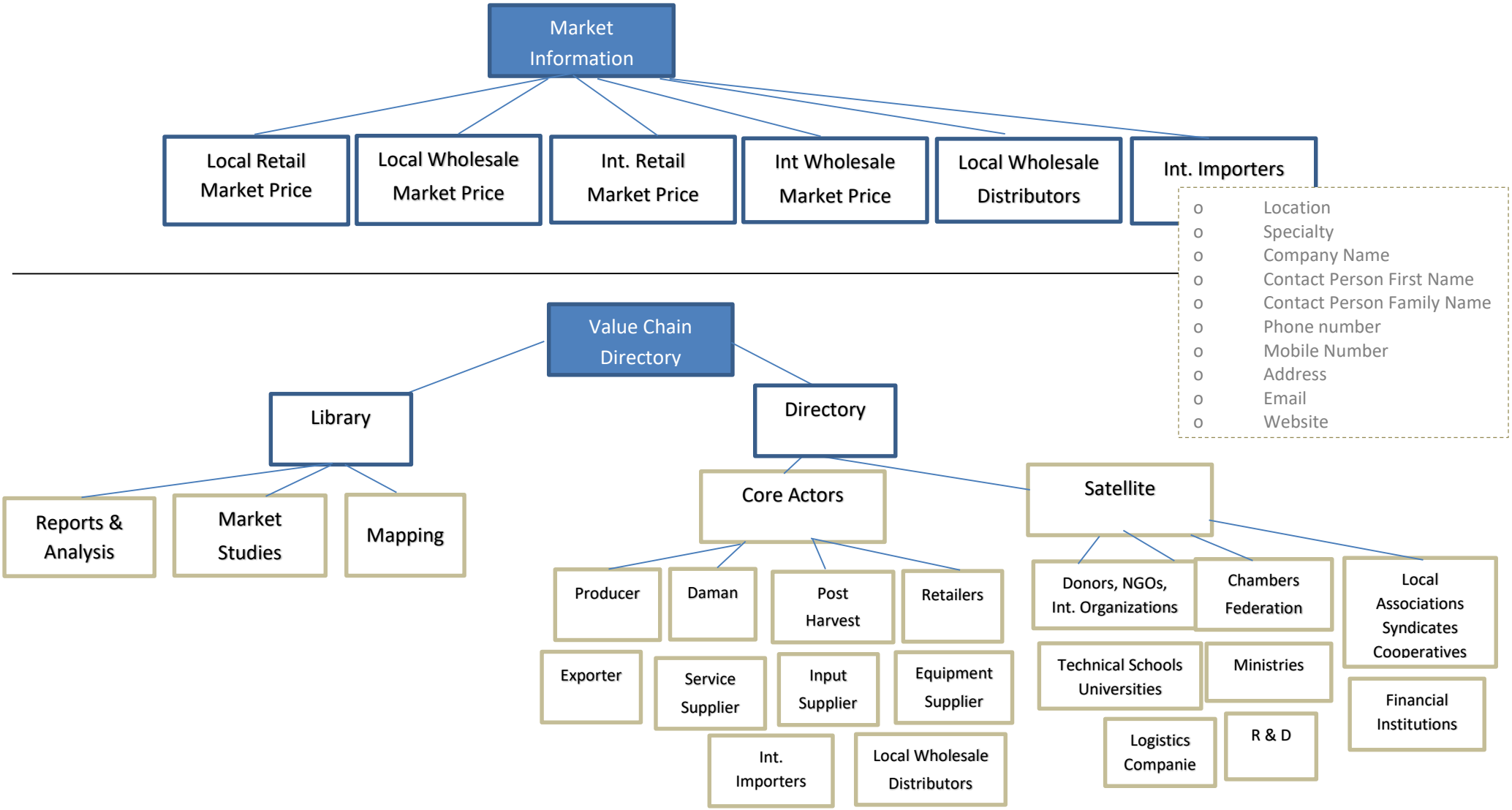
Type of Document	To be delivered with RFP	To be delivered with the application
Preliminary Architecture	**x**	
Test Case Specifications and setup – CCIAZ UAT Support	**x**	
Work Breakdown Structure V1 &V2	**x**	
Proposed CVs	**x**	
References (agile, non-agile) & relevant experience	**x**	
Bidders acceptance letter of full RFP terms (signed by authorized authority with his designation)	**x**	
New ideas /Innovation in the offering	**x**	
App store optimization strategy	**x**	
UX/UI strategy	**x**	
Support & Maintenance Contract sample	**x**	
Offered Training Plans	**x**	
Hosting Servers configuration	**x**	
Internal testing methodologies	**x**	
Test Case Results		**x**
User Guides		**x**

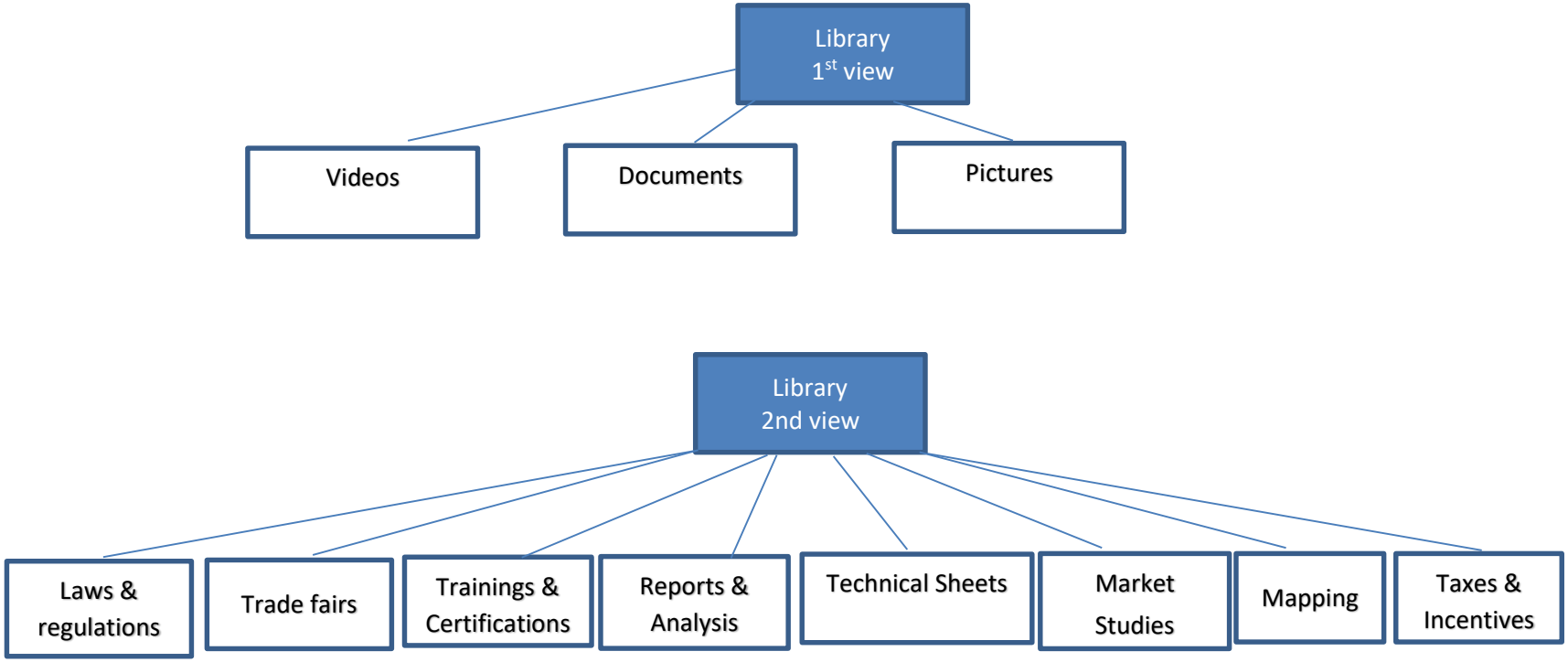
Installation Guides		**x**
Source Code with Comments / Explanation		**x**
Backend REST API Resources		**x**

13 Annex 1- Data Structure:

The below represented information **is not** in any case a preliminary database design of the information system but rather a non-exhaustive representation/list of the information that a User need to find in the Information System (not all users will have access to all the below mentioned information, the access rights to the below information will be managed by the administrator of the Information System)

13.1 Draft Data Structure High Level Visual Representation




Library
1st view
Videos
Documents
Pictures
Library
2nd view
Laws & regulations
Trade fairs
Trainings & Certifications
Reports & Analysis
Technical Sheets
Market Studies
Mapping
Taxes & Incentives

News & Events
Inquiry
FAQ
Poll
Contact us

13.2 Draft Comprehensive Data Structure

- Producer *[Periodic Update: 3 years]*
    - First Name
    - Family Name
    - Phone number
    - Mobile Number
    - Region(s)
        - Address
    - Crop(s)
        - Varieties
    - Certification (GLOBAL GAP, ICM, other)
    - Land Surface Total
    - Land surface per variety
    - Land Plots QTY

- Daman *[Periodic Update: 3 years]*
    - First Name
    - Family Name
    - Company Name (can be empty)
    - Phone number
    - Mobile Number
    - Region(s)
        - Address
    - Crop(s)
        - Varieties

- Post Harvest Unit *[Periodic Update: 3 years]*
    - Company Name
    - GPS coordinates
    - Contact Person First Name
    - Contact Person Family Name
    - Phone number
    - Mobile Number
    - Business Address
    - Email
    - Website
    - Packing Line (Yes/No)
    - Crops Packed
    - Cold storage facility (Yes/No)
    - Cold Rooms Volume (m^3)
    - Cold Room QTY
    - Cold Rooms total capacity in Tons
    - Crop(s)
    - CCIAZ Member (Yes/No)

    - Traceability system
    - Quality Management System (Yes/No)
        - Certification (ISO, HACCP, GAP …)
    - Controlled/modified atmosphere (Yes/No)
    - Precooling Room (Yes/No)
        - Type: forced air cooling/hydrocooling)

- Wholesale Market **Pricing** *[Periodic Update:3 times a week]*
    - Location (Tripoli, Jbeil, Sin El Fil, Beirut , Kab Eliass, Ferzol)
    - GIS coordinates
    - Crop: Cherry, Table Grapes
        - Variety
        - Origin
        - Grading/Quality
        - Packaging
        - Price (min, max)

- International Market **Pricing** *[Periodic Update: weekly]*
    - Location (…)
    - Crop: Cherry, Table Grapes
        - Variety
        - Origin
        - Grading/Quality
        - Packaging
        - Price (min, max)
    - Approximate Cost Structure (crop, packaging, logistics …) in percentage

- International Importers *[Periodic Update: yearly]*
    - Location
    - Specialty
    - Company Name
    - Contact Person First Name
    - Contact Person Family Name
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website
- Exporters *[Periodic Update: yearly]*
    - Location
    - Specialty
    - Company Name
    - Contact Person First Name
    - Contact Person Family Name
    - Phone number

    - Mobile Number
    - Countries of export
    - Exported crop per country
    - IDAL (Yes/No)
    - Shipping mode
    - Business Address
    - Email
    - Website

- Wholesale Distributors / *[Periodic Update: 3 years]*
    - Company Name
    - First Name
    - Family Name
    - Capacity/Surface (m2 or m3)
    - Specialization (fruits/vegetables)
    - Contact number

- Local Retail **Pricing**: *[Periodic Update: weekly]*
    - Type: Supermarket, Specialist
        - Crop: Cherry, Table Grapes
            - Variety
            - Origin
            - Grading/Quality
            - Packaging
            - Price

        - Approximate Cost Structure (crop, packaging, logistics …) in percentage

- International Retail **Pricing**: *[Periodic Update: weekly]*
    - Country
    - Type: Supermarket, Specialist
        - Crop: Cherry, Table Grapes
            - Variety
            - Origin
            - Grading/Quality
            - Packaging
            - Price
        - Approximate Cost Structure (crop, packaging, logistics …) in percentage

- Ministries *[Periodic Update: 3 years]*
    - Per Subject
        - Position
        - Contact Person First Name

        - Contact Person Family Name
        - Phone number

    - Address (have multiple – regional office and head quarter at least)
    - Email
    - Website

- Federation of Chamber & Chambers of Commerce Zahle, Beirut, Saida, Tripoli *[Periodic Update: 3 years]*
    - Per Subject
        - Position
        - Contact Person First Name
        - Contact Person Family Name
        - Phone number
    - Address
    - Email
    - Website
    - Services
    - Projects

- Input Suppliers *[Periodic Update: yearly]*
    - Company Name
    - Contact Person First Name
    - Contact Person Family Name
    - Supplies (Crop protection products/Seeds & forage crops/ fertilizers/Public health & Pest Control/Biological Products, Nurseries)
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website

- Equipment Suppliers *[Periodic Update: yearly]*
    - Company Name
    - Contact Person First Name
    - Contact Person Family Name
    - Equipment (Irrigation system/Agricultural machinery)
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website

- Service Suppliers *[Periodic Update: yearly]*
    - Company Name
    - Contact Person First Name
    - Contact Person Family Name
    - Services
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website

- Local Associations / Syndicates/Cooperatives / Clusters *[Periodic Update: yearly]*
    - Name
    - Contact Person First Name
    - Contact Person Family Name
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website
    - Specialty (per crop, per region, per actor, …)
- Financial Institutions *[Periodic Update: 3 years]*
    - Type
    - Name
    - Contact Person First Name
    - Contact Person Family Name
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website
    - Provided Services /Loans
- Technical schools, Universities *[Periodic Update: 3 years]*
    - Type
    - Name
    - Contact Person First Name
    - Contact Person Family Name
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website
    - Specialties
    - Services
    - Research Activities

- R&D institutions (e.g. LARI)
    - Name of the Institution
    - Address
    - Phone Number
    - Name of the Department/type of Services

- Donors, NGOs, National & International Organizations *[Periodic Update: yearly]*
    - Type
    - Name
    - Contact Person First Name
    - Contact Person Family Name
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website
    - Services (Financial, Technical, Management…)

- Logistics Companies *[Periodic Update: yearly]*
    - Name
    - Contact Person First Name
    - Contact Person Family Name
    - Phone number
    - Mobile Number
    - Address
    - Email
    - Website
    - Services (shipping, clearing, Insurance…)
    - Shipping mode

- FAQs
    - Subject
    - Question
    - Answer
- Chats/Inquiry
    - Category
    - Subject
    - Users
    - Media
    - Date & Time
    - Text
- Push Notification
    - Subject
    - Date & Time

    - Author/Sender
    - Details
- Events
    - Local / International
    - Type (Trade fair, Conference, Training, …)
    - Subject
    - Date & Time
    - Description
    - Media
    - Invitees
    - Attendees
- Poll
    - Subject
    - Date & Time
    - Description
    - Proposed Answers
    - Polled users
    - Polled user's answers
    - Result

Unstructured Data:

Videos Pictures & Documents:

- Reports
- diagnostics
- Analysis
    - Pricing analysis
    - Consumer demand
- Mapping / cartography
- Distribution diagram
- Weekly Fruit Basket decomposition
-
- Trainings
    - Technical
    - Quality
    - Safety
- Market Studies
    - Local
        - Technical
        - Commercial
    - International
        - Technical
        - Commercial
- Marketing campaigns

    - Local
    - International
- Laws and regulations
    - Local
    - International
    - Export Requirements per country
- Taxes and Incentives
    - Local
    - International
- Workflows
    - What do I need to export to …
- Trade fair
    - Steps to follow to participate in a trade fair (for example)