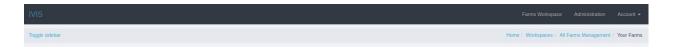
Users and Admin Guides: Agriculture Farms Dashboard WAZIFARM

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This document provides user manual and guides for users of WAZIFARM application. This application provides administration and management of application entities through Administration workspace (top and middle menu link in the following Figure), and a Farms Workspace (top and first menu link in the following Figure) for presentation of various information about farms such as farm view, farm events, farm recommendations, farm schedules (combination of events, and recommendations), farm map, farm crop seasons, etc. In the first sections of this document, we describe administration of entities, while in the sections after, we explain about Farms workspace.



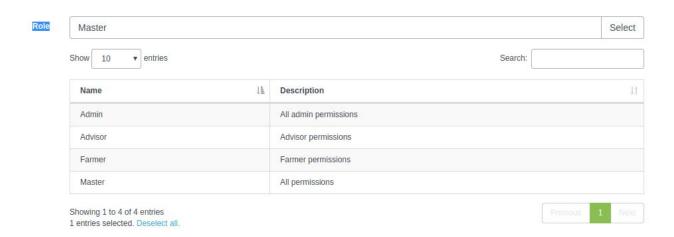
In WAZIFARM, we have different roles that are already configured and defined by application. In this document, we describe how different roles can use this application. For that, in the first section, we describe different four roles in WAZIFARM application. In Section 2, we define different entities of WAZIFARM application. Section 3 in more details explain about power of different roles.

Based on your role, you may refer to the parts of this guide that is related to you. For example, in Section 3 that is about Users Power, you may refer to the section that is related to your role. You may read all parts of Section 2 that is about WAZIFARM entities.

You can access dashboard via https://watersense.wazifarm.com. If you face some warning issues, you have to ignore and trust and accept certificate warning.

1. Roles

In WAZIFARM application, whenever you see a **Role** field, you should see these four roles as in the following Figure.



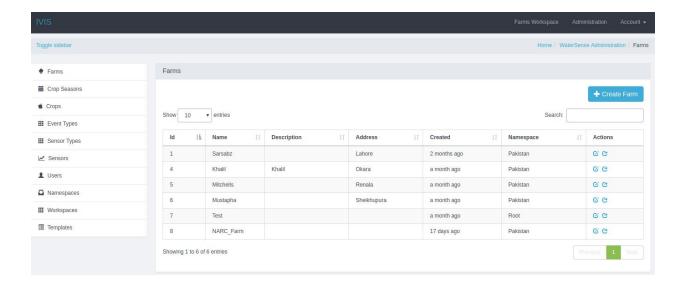
Currently, WAZIFARM dashboard has been configured with the following four roles:

- Master (technical and global admin): this is the technical and global admin of this application. This role can manage all administrative application entities such as sensors, users, namespaces, workspaces, and templates. Based on the need he might have some farm-specific power, e.g. to create a Crop, an Event Type, etc. We learn more about all power of this user in Section 3.
- Admin (application admin): this is the application admin of this farm application. This role might not able to manage all entities such as users, namespaces, workspaces. In the test deployment instance, this user type has several of these management roles also. Based on the need he might have some farm application-specific power, e.g. to create a Crop, an Event Type, a Farm etc. We learn more about all power of this user in Section 3. Each application admin user can manage the administrative domain assigned to him through the concept of namespace such as managing farms in his namespace, managing different users in his namespace, etc.
- Farmer: this role will be assigned to all farmer. A farmer has almost no admin power except in creating events, and farms. He is limited to the farms shared with him, and can create events, see events for his farms, etc. We learn more about all power of this user in Section 3.
- Advisor: this role will be assigned to all advisors of farmers. An advisor has almost no admin power. He is limited to the farms shared with him, and can create recommendations, see recommendations and events for his farms, etc. We learn more about all power of this user in Section 3.

More specifically, in the next sections we detail the power of each user type, what they can do, and what they cannot do.

2. Entities

In this section, we go over WAZIFARM entities. Some entities are more relevant for admins (global, and application) to manage, while some entities are more relevant for non-admin users, i.e. farmers, and advisor, to manage. In the Administration section of application, a user can manage or see all WAZIFARM entities that he has permissions to do so. The following Figure illustrates the view of a global admin (master role); other user types should have a different view based on their permissions.



In order to have consistent terminology throughout this guide, we refer to these things (Farms, Crop Seasons, Crops, etc.) as entities.

In WAZIFARM dashboard application, we have the following application-specific entities for WAZIFARM purposes:

- Crop: With this entity, users can create new crops to be used throughout the application.
 Farmers can only view crops. Advisors can create, and view crops. Global and
 application admins can create, edit and view crops. Farmers can only see crops. We let
 advisors to create new crops if a crop they want to work with does not exist. And we let
 only admin to edit crops. This way if a user defines a wrong crop, an admin can edit or
 delete that crop.
- Event Type: In this application, farmers and advisors need to create events that is happening in their farms. With this entity, users can create new event types to be used throughout the application. Farmers can only view event types. Advisors can create, and view event types. Global and application admins can create, edit and view event types. Farmers can only see Event Types. We let advisors to create new Event Types if an Event Type they want to work with does not exist. And we let only admin to edit Event Types. This way if a user defines a wrong Event Types, an admin can edit or delete that Event Type.
- Sensor Type: Admins need to define and assign a sensor type to a sensor. In WAZIFARM project, deployment teams are deploying different soil moisture sensors (e.g. capacitive, analogue) in farms. For each sensor we need to assign its type; with that, dashboard application can show the corresponding moisture percent based on sensors reading values in graphs. Global and application admins can create, edit and view Sensor Types. Farmers can only see Sensor Types. We let advisors to create new Sensor Types if a Sensor Type they want to work with does not exist. And we let only admin to edit Sensor Types. This way if a user defines a wrong Sensor Types, an admin can edit or delete that Sensor Type. Thus, a sensor type is managed by admins.

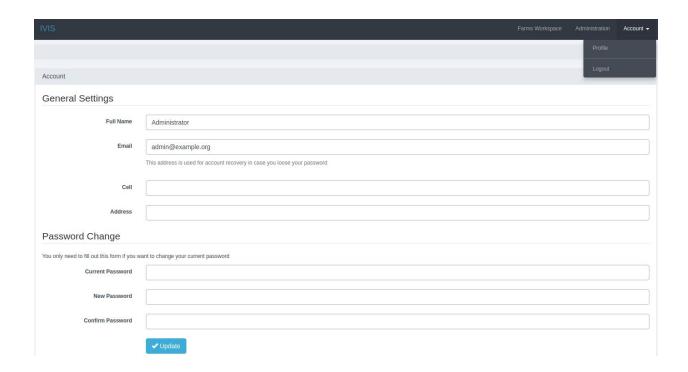
- Event: Farmers and advisors can create events that is happening in their farms. Therefore, an event is related to a specific farm, and a farmer (or an advisor). Farmers can create, edit, and view their own Events. Advisors can create, edit their own Events, and can view Events related to their farms, e.g. created by other farmers of their farms; thus, advisors will see all events for the farms that has been shared with them. Global and application admins cannot create/edit or view any events.
- Recommendations: A recommendation is similar to an event, but only an advisor can
 create a recommendation for a farmer of a farm to provide an advice to the farmer.
 Farmers can only view recommendations that target them. Advisors can view, create,
 edit their own recommendations. Global and application admins cannot create/edit or
 view any recommendations.
- Farms: Users can create farms. Farmers can create, and edit farms that they have created themselves, and view farms. They can see the farms that they created or have been shared with them. Farmers cannot share a farm with other users. They cannot also delete or edit the farms. Advisors can create/edit, and view farms that they have created themselves or shared with them. Advisors can see the farms that they created or have been shared with them. They can also delete or edit the farms that have been shared with them. Application admins can do everything on farms on the namespaces they have permission on, or on the farms that have shared with them. They can share farms with other users. Global admin can do anything.
- Crop Seasons: A crop season entity is related to a specific farm, and a crop. Farmers, and advisors can create/edit/view crop seasons for the farms that have shared with them. Instead, application admins can create/edit/view crop seasons for the farms within their namespaces (namespaces that are shared with them). Global admin can view all crop seasons at all namespaces.

3. Users Power

In this section, we go over all user roles, and provide a detailed description of how they can use WAZIFARM application according to their roles by giving an example. We start by global admin (master role), and explain what a global admin needs to do in order to manage WAZIFARM application, and engage other user roles such as application admins, farmers, and advisors.

In this example, we consider the definition of a new administrative domain named Senegal to engage WAZIFARM users of Senegal. We provide steps for the case of Senegal, detailing what each role should do starting from global admin, then application admin.

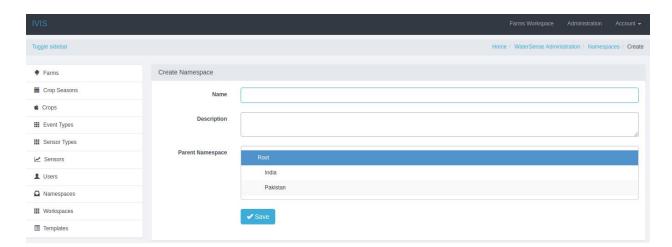
Before we start, all users are invited to go into <u>Account:Profile</u> section in order to update their profile information, including password. In the following Figure, global admin would like to change his Full Name into "Mehdi Sheikhalishahi", and Email address into mehdi.sheikhalishahi@innotec21.de. With that, we assume the global and technical admin for WAZIFARM application is "Mehdi Sheikhalishahi" from Innotec21 GmbH company.



3.1. Global admin

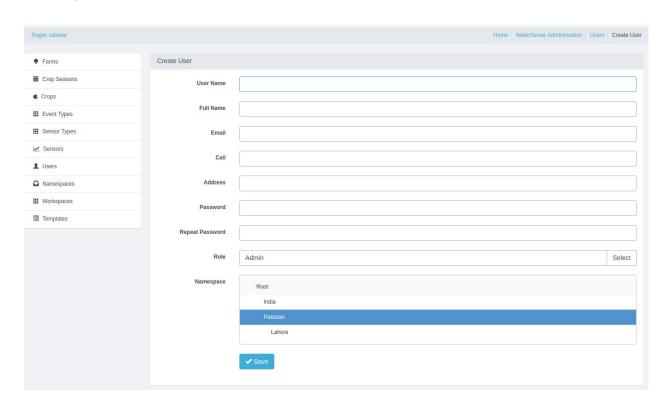
Creating a namespace

In order to support a new administrative domain, global admin needs to create a new namespace for that domain, if that does not exist in the system. For that, he needs to go into **Administration** section, and click on the **Namespace**, after that click on the "Create Namespace". Here, global admin needs to give a name, and a description to this namespace, and specify its Parent Namespace (e.g. Root). With that, global admin creates a namespace for Senegal administrative domain.



Creating a user

Global admin then needs to create a user with the role of application admin for Senegal namespace, similar to the following Figure (<u>Administration:Users</u>: Create User). Here, global admin enters profile information, with a default password, and selects Senegal as default Namespace of application admin for Senegal. We assume "Babacar DIOP" as application admin of Senegal.

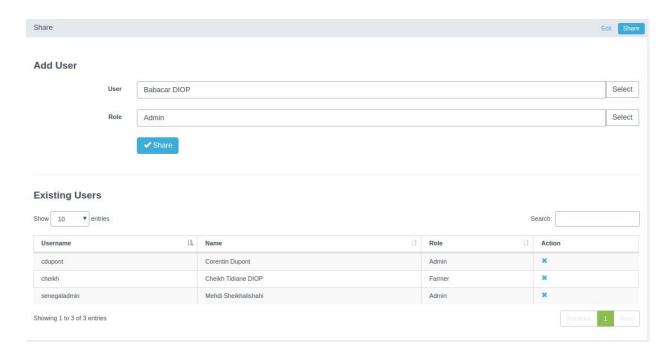


Sharing a namespace to a user

After this step, global admin needs to share Senegal namespace with application admin of Senegal, similar to the following Figure (<u>Administration:Namespaces</u>: Clicking on Icon Share of Senegal namespace). Here, global admin should click on icon **Share** of Senegal namespace. In this version of dashboard, this step is very important to be done immediately after user creation, otherwise it can block new user from getting access to dashboard.

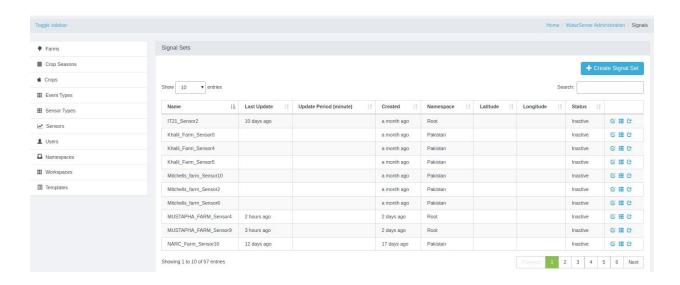


With that, there will appear a similar page as the following Figure, and would need to select "Babacar DIOP" (in the User field) with the role of Admin (in the Role field) in order to share Senegal namespace to application admin of Senegal, that is "Babacar DIOP".

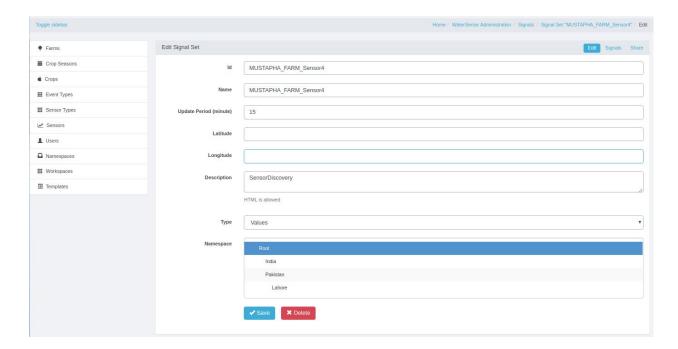


Sensors Management

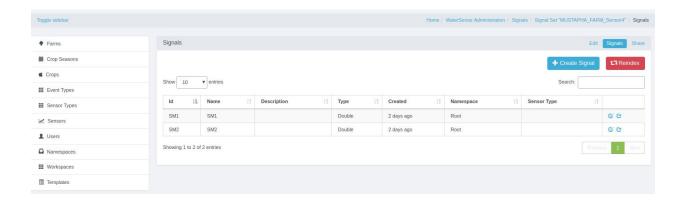
Global admin can also manage sensors (<u>Administration:Sensors</u>). In this page, global admin can see all sensors. Admins do not need to create sensors manually, since they will be created automatically by WAZIFARM data collection service. Here, admins or deployment team need to define or edit some parameters of sensors, such as Namespace, Update Period, Latitude, Longitude. Update Period specifies what is the frequency of data collection for a sensor in minutes; this parameter will be used to determine if a sensor is Active or Inactive. Latitude, Longitude define GPS coordinates of a sensor.



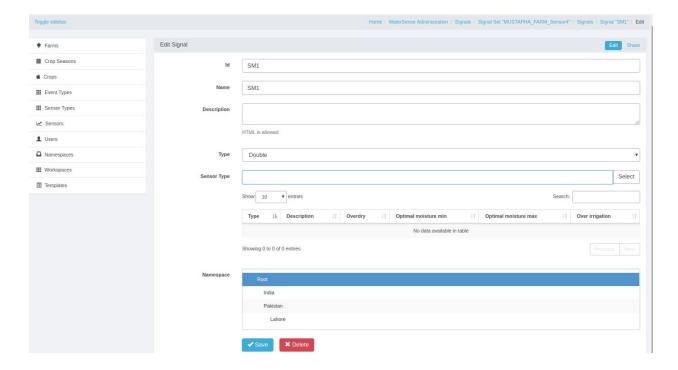
In order to edit a sensor parameters, admins need to click on the first icon (Edit) in the Actions column (last column), then they will directed into the following page. Here, admins can edit sensor parameters. *We do not recommend to change Id, and Name of any sensor* as this will interfere with data service, and sensors will not receive any data after this update of name, and id. Here, admins need to change Namespace of this sensor to Senegal, since this sensor belongs to Senegal administrative domain. After these changes, admins need to click on **Save**.



Then, admins need to edit individual moisture sensors (Signals) of a sensor, by clicking on **Signals** tab after Edit tab. Clicking on this tab will lead you into the following page.

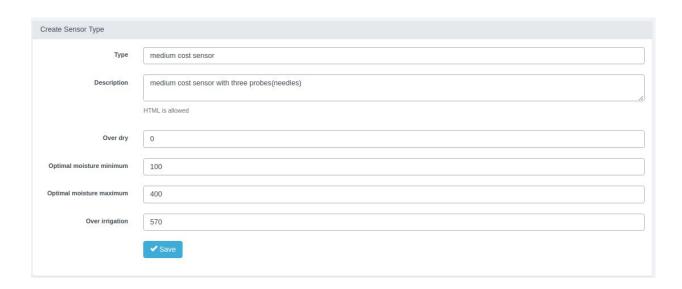


Here, you can click on the Edit icon to edit moisture sensor parameters, with that you will lead into the following page.



We do not recommend to change Id, and Name of any signal as this will interfere with data service, and sensors will not receive any data after this update of name, and id. Here, admins need to change Namespace of this signal to Senegal, since this signal belongs to Senegal administrative domain. In order to specify Sensor Type of this signal, you need to click on Select button of Sensor Type field, and select relevant entry for sensor type. After these changes, admins need to click on Save.

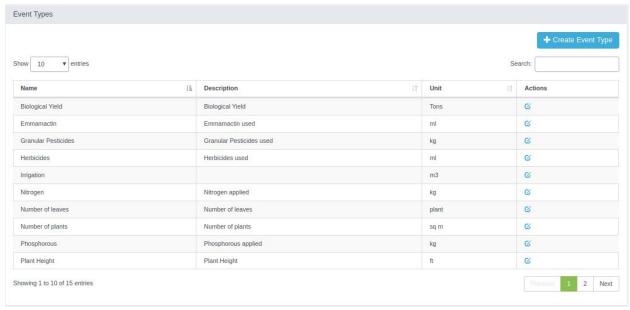
If a sensor type of a signal has not been defined yet, global admin would need to go into page (<u>Administration:Sensor Types</u>) by clicking on Sensor Types. In this page, global admin can see all sensor types, and click on (<u>Create Sensor Types</u>) button in order to create a new one, similar to the following Figure.



Here, we define a medium cost sensor (with three probes or needles); for this soil moisture sensor type 0 means full dry (Over dry in the form) and 570 means full wet (Over irrigation in the form).

Creating event types

Similarly, global admin can see the list of already defined event types (<u>Administration:Event Types</u>) by clicking on Event Types.

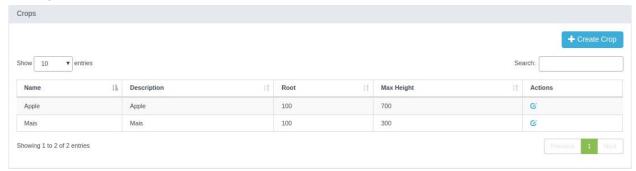


In this page, global admin can see all event types, and click on (**Create Event Types**) button in order to create a new one, similar to the following Figure.

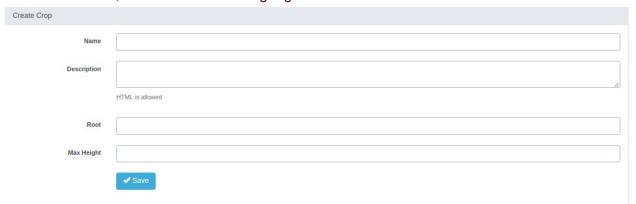


Creating crops

Similarly, global admin can see the list of already defined crops (<u>Administration:Crops</u>) by clicking on Crops.

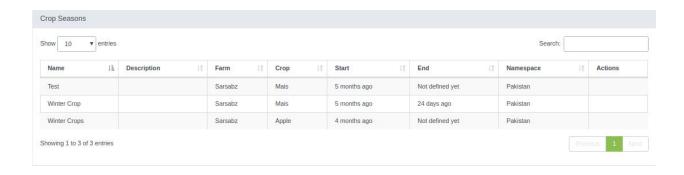


In this page, global admin can see all crops, and click on (**Create Crop**) button in order to create a new one, similar to the following Figure.



Crop seasons

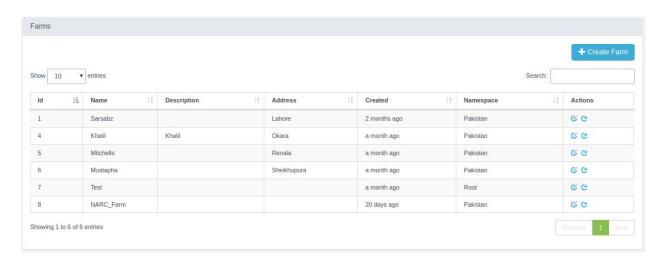
Similarly, global admin can see the list of already defined crop seasons (**Administration:Crop Seasons**) by clicking on Crop Seasons. Here, global admin cannot create any crop season since he does not have this permission to do so.



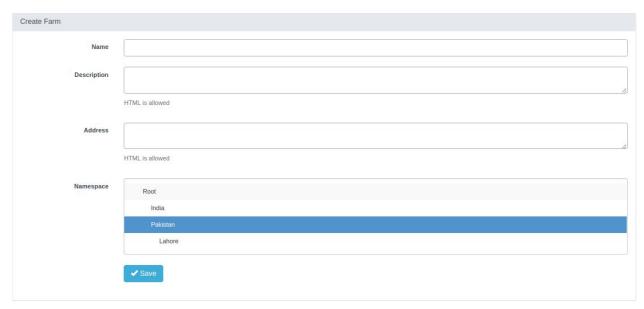
Farm Management

Global admin can see the list of all created farms of all users (<u>Administration:Farms</u>) by clicking on Farms. Here, global admin can also create and edit farms and share them with other users.

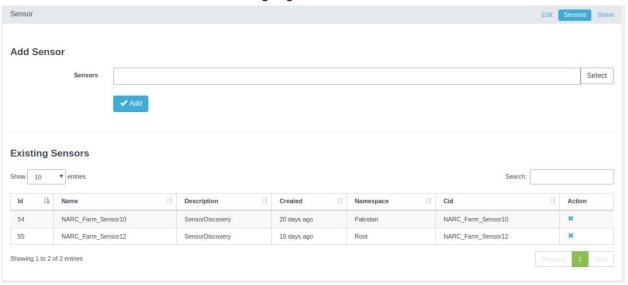
In general, global admin has "view", "edit", "delete", and "share" capabilities on the farms within all namespaces, basically everything.

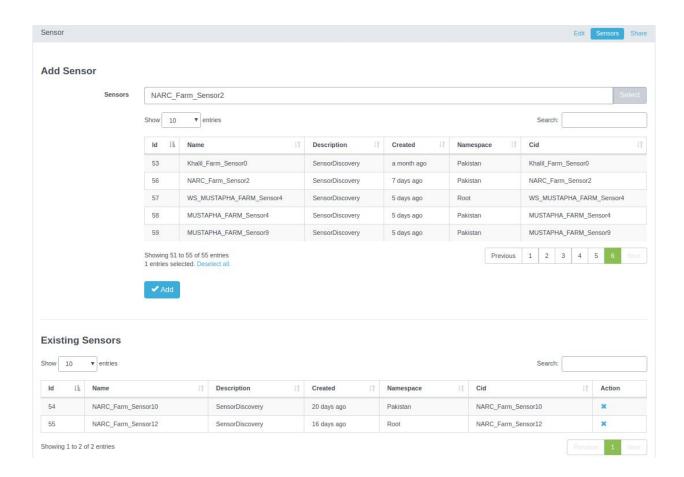


In order to create a new farm, global admin needs to click on (**Create Farm**), similar to the following Figure.

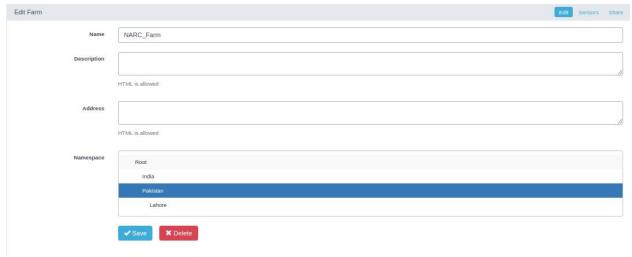


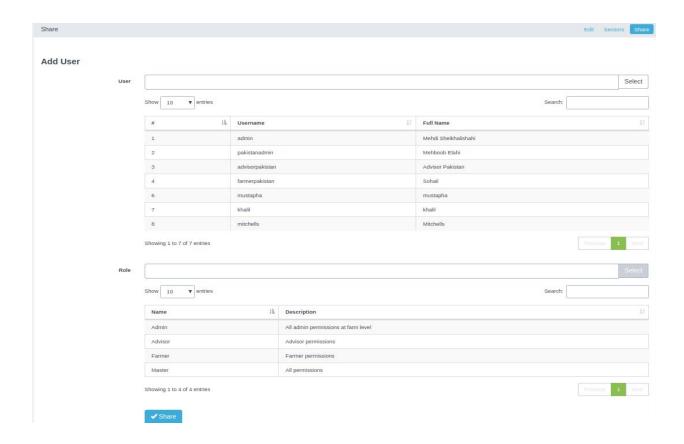
After farm creation, global admin needs to edit a farm by clicking on Edit button in actions column, and add farm's sensors to the farm by clicking on Sensors tab. Here, he needs to click on Select button, then select the sensor from the list, and click on Add button in order to add the sensor to the farm, similar to the following Figures.





Global admin can share farms with other users (with the role of farmers, and advisors) by clicking on Share button (the last one) in Actions column. In this page, he need to select the user, and its role and click on the **Share** button in order to share the farm with the selected user. Global admin can also delete a farm by going to Edit page, and clicking on Delete button.

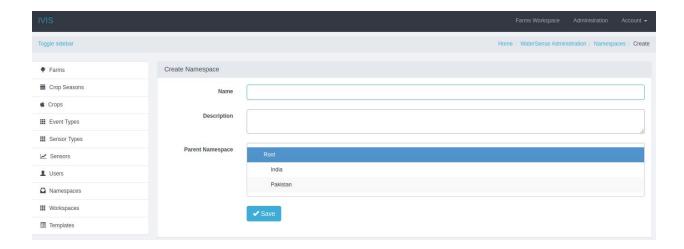




3.2. Application admin

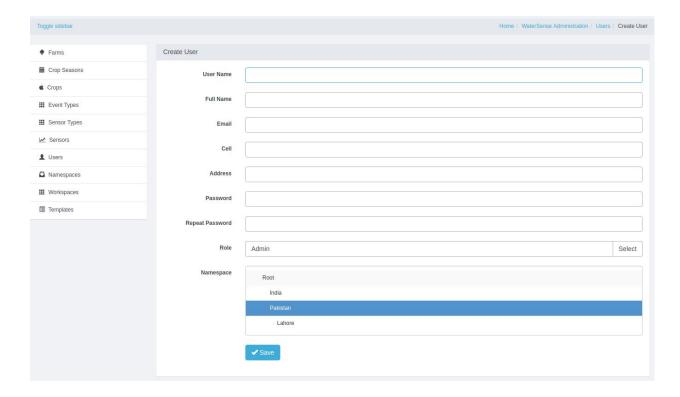
Creating a namespace

In order to support a new administrative domain, admin needs to create a new namespace for that domain, if that does not exist in the system. For that, he needs to go into **Administration** section, and click on the **Namespace**, after that click on the "Create Namespace". Here, admin needs to give a name, and a description to this namespace, and specify its Parent Namespace (e.g. Senegal). With that, admin creates a namespace for Lahore administrative domain.



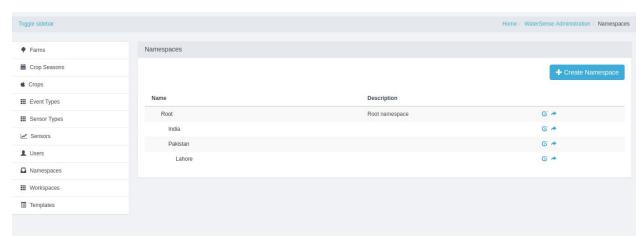
Creating a user

Admin then can create users with the roles of farmers, or advisors, similar to the following Figure (Administration:Users: Create User). Here, admin enters profile information of user (e.g. a farmer named Abdul Ghafoor Mangrio), with a default password, and selects Senegal as default Namespace. For example, admin can create Abdul Ghafoor Mangrio that is a farmer, and share Senegal namespace with him.

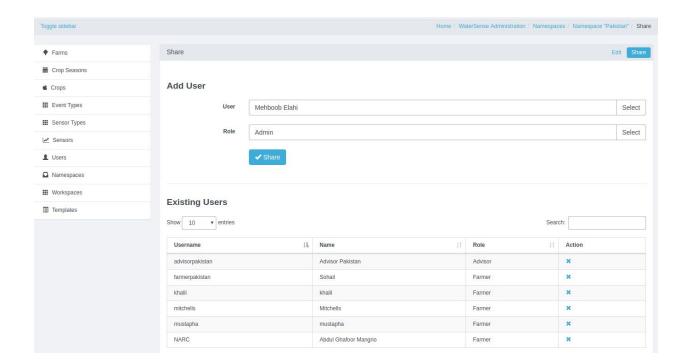


Sharing a namespace to a user

After this step, admin needs to share a namespace (e.g., Senegal) with users, similar to the following Figure (<u>Administration:Namespaces</u>: Clicking on Icon Share of Senegal namespace). Here, admin should click on icon *Share* of Senegal namespace. *In this version of dashboard, this step is very important to be done immediately after user creation, otherwise it can block new user from getting access to dashboard. If you have problems with this task, you need to ask global admin (Mehdi Sheikhalishahi).*

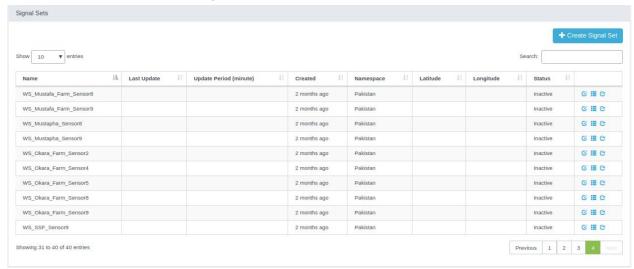


With that, there will appear a similar page as the following Figure, and would need to select "Abdul Ghafoor Mangrio" (in the User field) with the role of Farmer (in the Role field) in order to share Senegal namespace to this farmer.

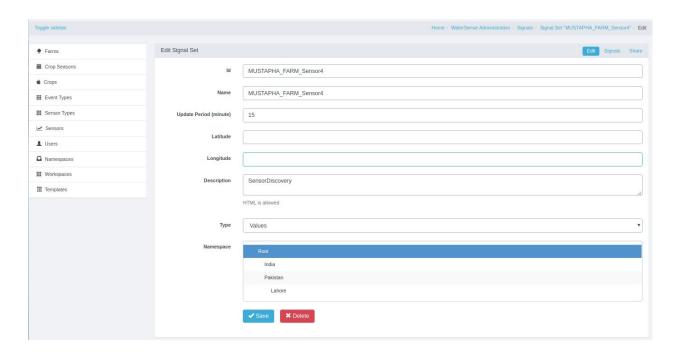


Sensors Management

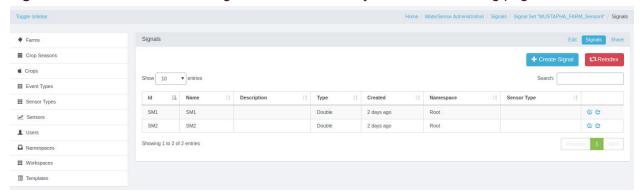
Admin can also manage sensors of Senegal namespace (<u>Administration:Sensors</u>). In this page, admin can see all sensors of Senegal namespace. Admins do not need to create sensors manually, since they will be created automatically by WAZIFARM data collection service. Here, admins or deployment team need to define or edit some parameters of sensors, such as Namespace, Update Period, Latitude, Longitude. Update Period specifies what is the frequency of data collection for a sensor in minutes; this parameter will be used to determine if a sensor is Active or Inactive. Latitude, Longitude define GPS coordinates of a sensor.



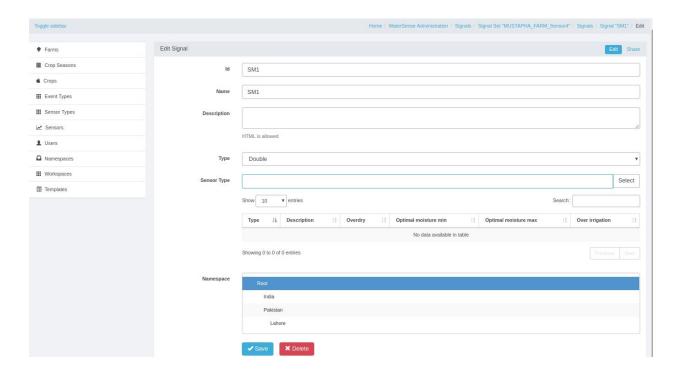
In order to edit a sensor parameters, admins need to click on the first icon (Edit) in the Actions column (last column), then they will directed into the following page. Here, admins can edit sensor parameters. *We do not recommend to change Id, and Name of any sensor* as this will interfere with data service, and sensors will not receive any data after this update of name, and id. Here, admins may need to change Namespace of this sensor to Senegal, since this sensor belongs to Senegal administrative domain. After these changes, admins need to click on Save.



Then, admins need to edit individual moisture sensors (Signals) of a sensor, by clicking on **Signals** tab after Edit tab. Clicking on this tab will lead you into the following page.



Here, you can click on the Edit icon to edit moisture sensor parameters, with that you will lead into the following page.



We do not recommend to change Id, and Name of any signal as this will interfere with data service, and sensors will not receive any data after this update of name, and id. Here, admins may need to change Namespace of this signal to Senegal, since this signal belongs to Senegal administrative domain. In order to specify Sensor Type of this signal, you need to click on Select button of Sensor Type field, and select relevant entry for sensor type. After these changes, admins need to click on Save.

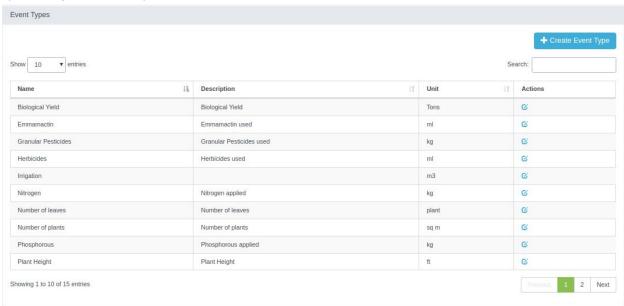
If a sensor type of a signal has not been defined yet, admin would need to go into page (<u>Administration:Sensor Types</u>) by clicking on Sensor Types. In this page, admin can see all sensor types, and click on (<u>Create Sensor Types</u>) button in order to create a new one, similar to the following Figure.



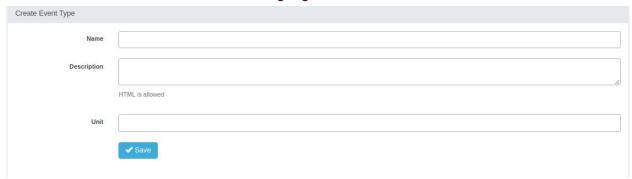
Here, we define a medium cost sensor (with three probes or needles); for this soil moisture sensor type 0 means full dry (Over dry in the form) and 570 means full wet (Over irrigation in the form).

Creating event types

Similarly, admin can see the list of already defined event types (**Administration:Event Types**) by clicking on Event Types.

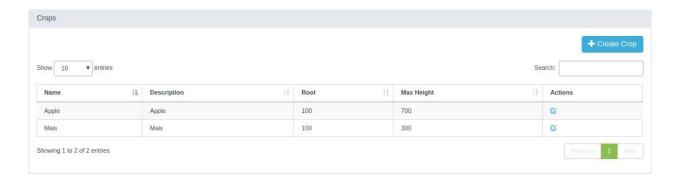


In this page, admin can see all event types, and click on (**Create Event Types**) button in order to create a new one, similar to the following Figure.

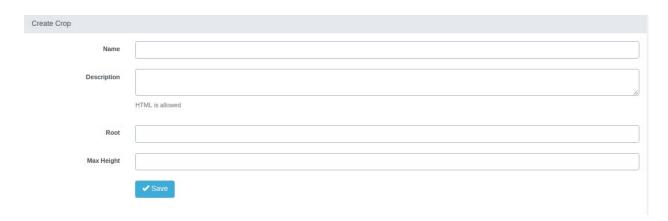


Creating crops

Similarly, admin can see the list of already defined crops (**Administration:Crops**) by clicking on Crops.

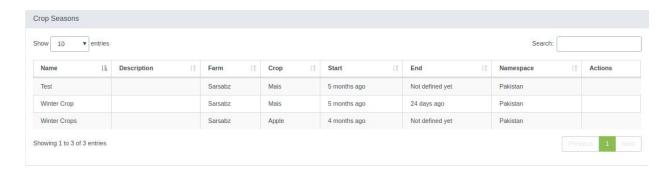


In this page, admin can see all crops, and click on (**Create Crop**) button in order to create a new one, similar to the following Figure.

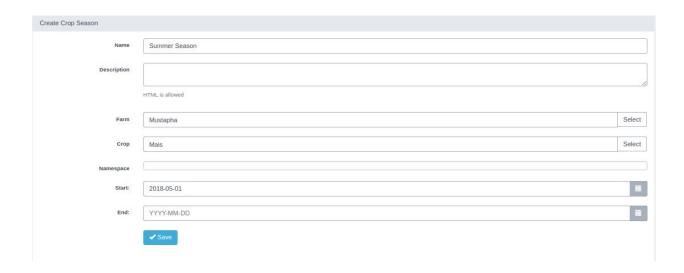


Crop seasons

Similarly, admin can see the list of already defined crop seasons (<u>Administration:Crop Seasons</u>) by clicking on Crop Seasons.



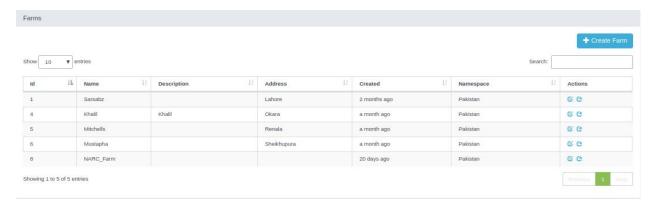
Here, admin can create a crop season for a farm with a crop in his namespace by clicking on (**Create Crop Season**) button, similar to the following Figure. Admin needs to specify farm, crop, and starting date. End date is optional, as this date may change.



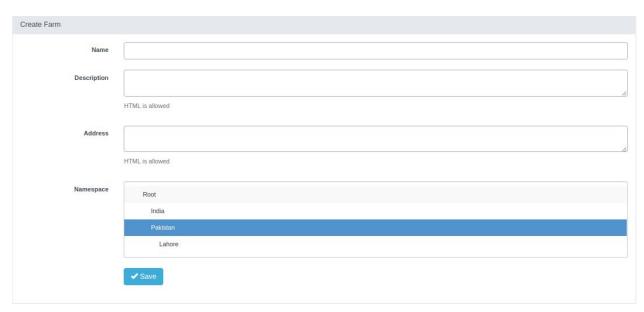
Farm Management

Admin can see the list of all created farms in Senegal namespace (<u>Administration:Farms</u>) by clicking on Farms menu link. Here, admin can also create and edit farms and share them with other users.

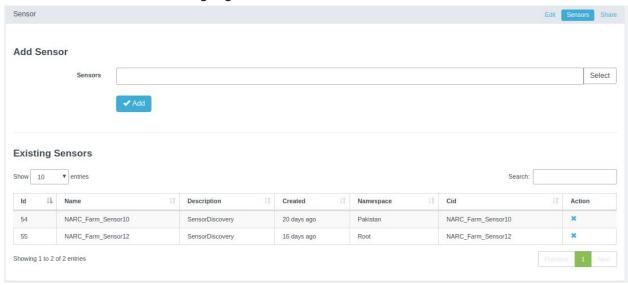
In general, admin has "view", "edit", "delete", and "share" capabilities on all the farms within his namespaces. He can see all farms within namespaces that have been shared with him or as part of namespace sharing.



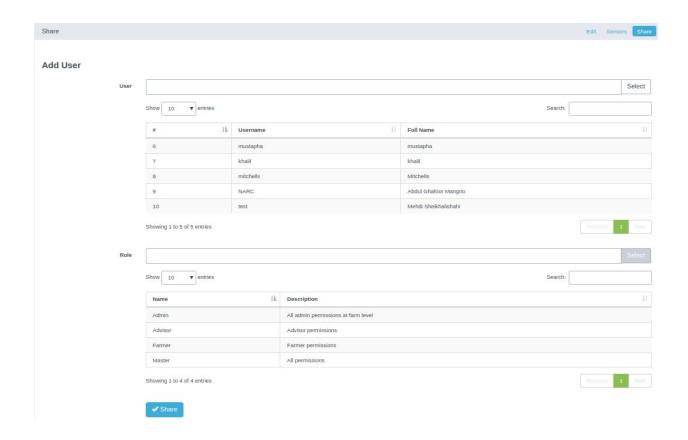
In order to create a new farm, admin needs to click on (<u>Create Farm</u>), similar to the following Figure. You need to provide Address field in order to enable weather service to collect weather conditions and forecast and present it to you.



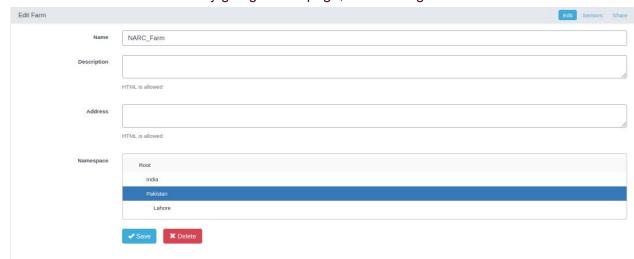
After farm creation, admin needs to edit a farm by clicking on Edit button in actions column, and add farm's sensors to the farm by clicking on Sensors tab. Here, he needs to click on Select button, then select the sensor from the list, and click on Add button in order to add the sensor to the farm, similar to the following Figure.



Admin can share farms with other users (with the role of farmers, and advisors) by clicking on Share button (the last one) in Actions column. In this page, he needs to select the user, and its role and click on the **Share** button in order to share the farm with the selected user.



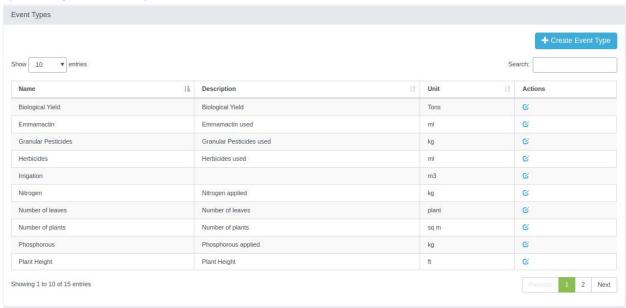
Admin can also delete a farm by going to Edit page, and clicking on Delete button.



3.3. Advisor

Creating event types

Similarly, advisor can see the list of already defined event types (**Administration:Event Types**) by clicking on Event Types.



In this page, advisor can see all event types, and click on (**Create Event Types**) button in order to create a new one, similar to the following Figure.



Creating crops

Similarly, advisor can see the list of already defined crops (**Administration:Crops**) by clicking on Crops.

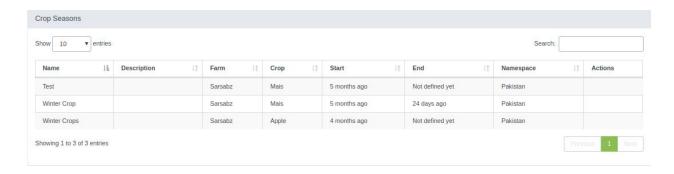


In this page, advisor can see all crops, and click on (**Create Crop**) button in order to create a new one, similar to the following Figure.

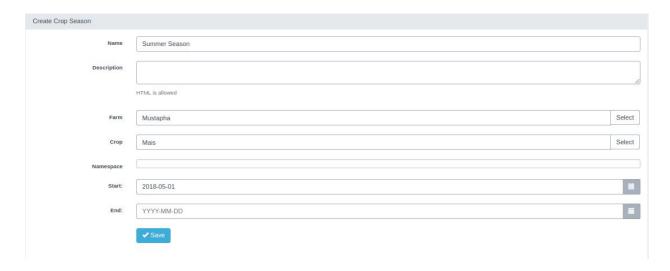


Crop seasons

Similarly, advisors can see the list of already defined crop seasons (**Administration:Crop Seasons**) by clicking on Crop Seasons.



Here, advisors can create a crop season for a farm with a crop in his namespace by clicking on (**Create Crop Season**) button, similar to the following Figure. Advisors needs to specify farm, crop, and starting date. End date is optional, as this date may change.

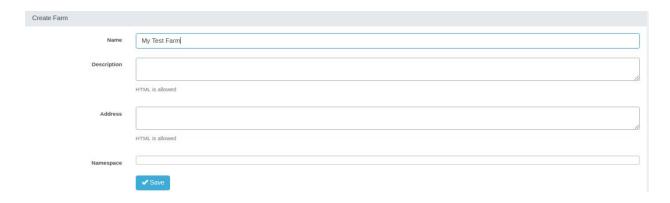


Farm Management

An advisor can see the list of shared farms with him (**Administration:Farms**) by clicking on Farms menu link. For this advisor, there are the following farms shared with him.

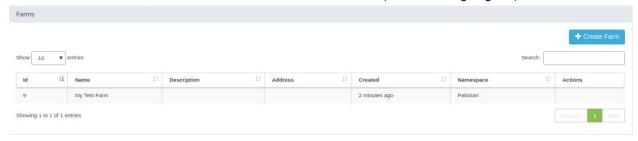


Here, an advisor can also create and edit farms. In order to create a new farm, advisor needs to click on (**Create Farm**), and provide all information about farm, similar to the following Figure.

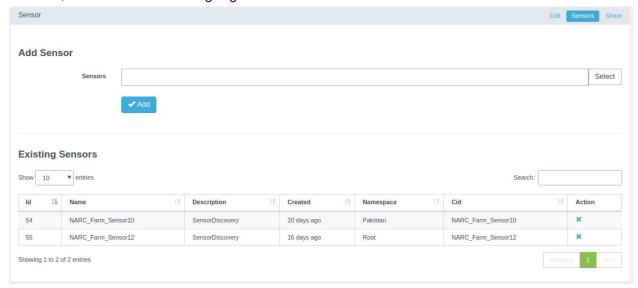


After farm creation, advisor needs to wait for one of the admins confirmation about this new farm.

After this confirmation, advisor can see his farm in the list (the following Figure).



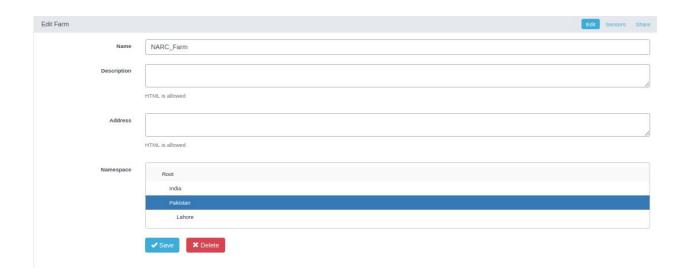
After farm creation, advisor needs to edit a farm by clicking on Edit button in actions column, and add farm's sensors to the farm by clicking on Sensors tab. Here, he needs to click on Select button, then select the sensor from the list, and click on Add button in order to add the sensor to the farm, similar to the following Figure.



An advisor can also edit and delete his farms.

In general, an advisor has "view", "edit", and "delete" permissions on his farms.

Advisor can delete a farm by going to Edit page, and clicking on Delete button.

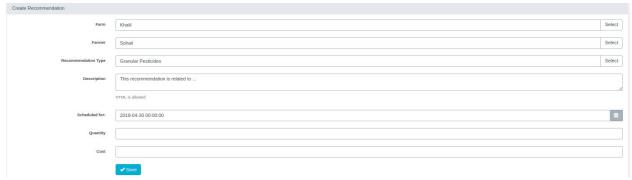


Recommendation Management

An advisor can see the list of all recommendations created by him for his farms (**Administration:Farms**) by clicking on Recommendations menu link (the following Figure).



Here, an advisor can also create and edit recommendations. In order to create a recommendation, an advisor needs to click on (**Create Recommendation**), and provide all information about recommendation (selecting farm, farmer, recommendation type, when scheduled for, etc.), similar to the following Figure.

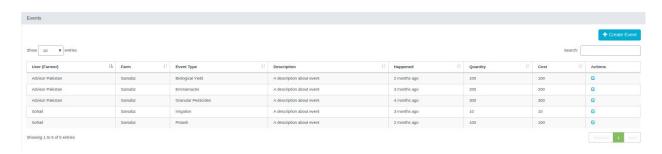


After recommendation creation, he can see the new recommendation in the list of recommendations.

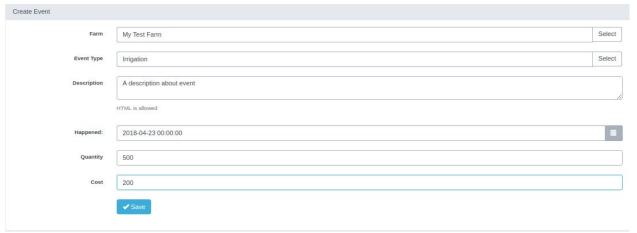


Event Management

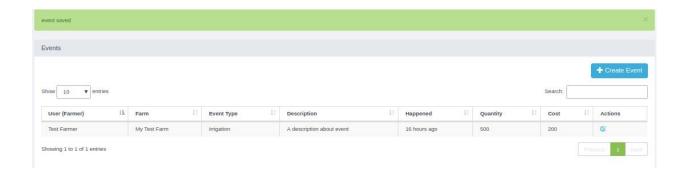
An advisor can see the list of all events created by him or by farmers for his farms (**Administration:Farms**) by clicking on Events menu link (the following Figure).



Here, an advisor can also create and edit events. In order to create an event, an advisor needs to click on (**Create Event**), and provide all information about event (selecting farm, event type, when happened, etc.), similar to the following Figure.



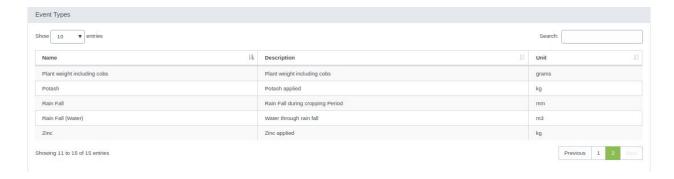
After event creation, he can see the new event in the list of events.



3.4. Farmer

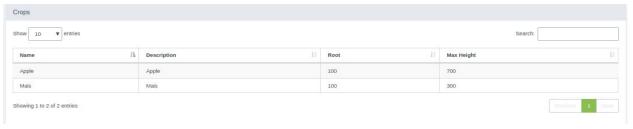
Event types

Farmers can only see the list of already defined event types (<u>Administration:Event Types</u>) by clicking on Event Types.



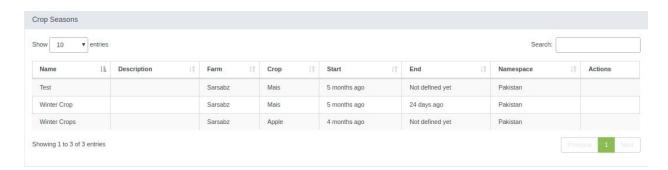
Crops

Similarly, farmers can only see the list of already defined crops ($\underline{Administration:Crops}$) by clicking on Crops.



Crop seasons

Similarly, farmers can see the list of already defined crop seasons (**Administration:Crop Seasons**) by clicking on Crop Seasons.



Here, farmers can create a crop season for a farm with a crop in his namespace by clicking on (**Create Crop Season**) button, similar to the following Figure. Farmers needs to specify farm, crop, and starting date. End date is optional, as this date may change.



Farm Management

A farmer can see the list of shared farms with him (<u>Administration:Farms</u>) by clicking on Farms menu link. For this farmer, there is not any farm shared with him.



Here, a farmer can also create and edit farms. In order to create a new farm, farmer needs to click on (**Create Farm**), and provide all information about farm, similar to the following Figure.



After farm creation, farmer needs to wait for one of the admins confirmation about this new farm. After this confirmation, farmer can see his farm in the list (the following Figure).

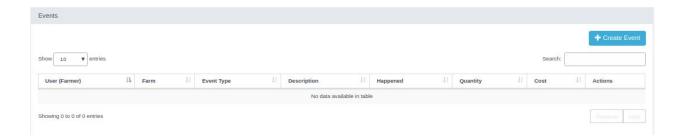


Farmer cannot edit his farms.

In general, a farmer has "view" permission on his farms.

Event Management

A farmer can see the list of all events created by him for his farms (<u>Administration:Farms</u>) by clicking on Events menu link. This farmer has not create any event for his farms (the following Figure).



Here, a farmer can also create and edit events. In order to create an event, a farmer needs to click on (**Create Event**), and provide all information about event (selecting farm, event type, when happened, etc.), similar to the following Figure.

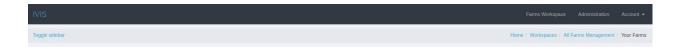


After event creation, he can see the new event in the list of events.



4. Farms Workspace

This section goes over Farms Workspace (top and first menu link of the application).



Farms Workspace provides various views for presentation of different information about farms such as farm view, farm events, farm recommendations, farm schedules (combination of events, and recommendations), farm map, farm crop seasons, etc.

This section is organized based on different roles of WAZIFARM application. We describe how Farms Workspace looks like based on each role, and what each role will see.

Advisor

When an advisor clicks on Farms Workspace menu link, he will see a view as the following Figure. In this view, he can see all his farms.



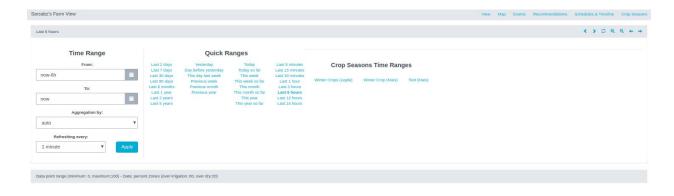
In each row of farm, there is an Actions column, in which advisor can go into that specific farm view, farm events, farm recommendations, farm timeline & schedules, farm crop seasons, and farm map, respectively. These actions will lead into per farm information presentation.

Farm View

By clicking on Eye icon, advisor will go into Farm View (the following Figure).

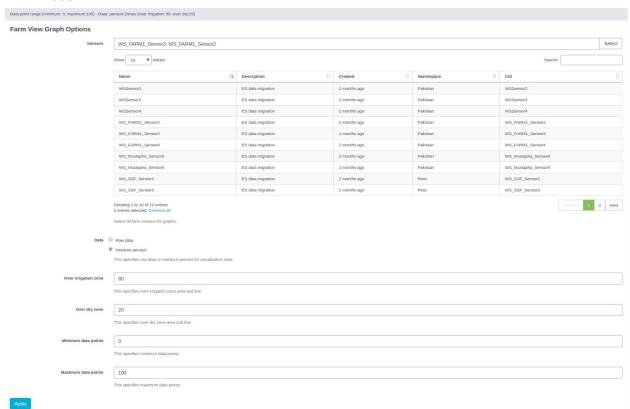


Here, user needs to click on "Last 6 hours" in order to choose the time range. User has multiple options how to use time range; in the left most part user can select the precise timing, in the middle part there are several preset quick ranges, and in the most right part there are time ranges based on crop seasons of that farm.



Then, advisor needs to click on the second row (Data point range) in order to provide graph options as the following:

- Sensors: select some sensors of the farm for visualization.
- Data: whether he wants to see line chart graph based on raw data values of sensors, or moisture percent.
- Over irrigation zone: what is the reference number for over irrigation area (to be highlighted in graph).
- Over dry zone: what is the reference number for over dry area.
- Minimum data points: this is to set the minimum data points that advisor would like to see. Only sensor data from minimum to maximum data points will be drawn on graph.
- Maximum data points: this is to set the maximum data points that advisor would like to see.



After these settings, and clicking on Apply button, he will see Sarsabz's farm view for selected sensor.



Here, advisor can go deep into the data visualization by zoom-in (clicking on + icon), and zoom-out (clicking on - icon) buttons above graph, or by brushing mouse horizontally over time starting from a desired time and ending at a desired time.

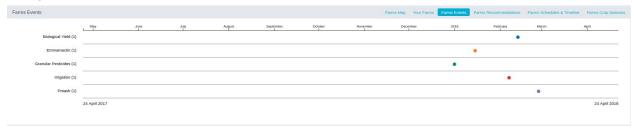


Advisor has two ways to access other Farms views that are: via vertical menu list on the left side of the page, or breadcrumb horizontal menu on top of Farms workspace. These actions will lead into per farm information presentation.

In each row of farm, there is an Actions column, in which advisor can go into that specific farm view, farm events, farm recommendations, farm timeline & schedules, farm crop seasons, and farm map, respectively.

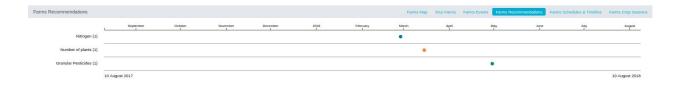
Events

In order to access Events view, he can click on Events link in vertical menu or Farms Events link in breadcrumb horizontal menu. Here, advisor can collectively see all events of all of his farms in a single view.



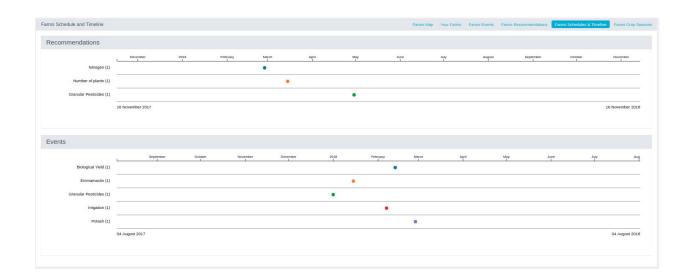
Recommendations

Similarly, in order to access Recommendations view, he can click on Recommendations link in vertical menu or Farms Recommendations link in breadcrumb horizontal menu. Here, advisor can collectively see all recommendations of all of his farms in a single view.



Farms Schedule and Timeline

In this same way, in order to access Farms Schedule and Timeline view, advisor can click on Schedule and Timeline link in vertical menu or Farms Schedule and Timeline link in breadcrumb horizontal menu. Here, advisor can collectively see all recommendations and events of all of his farms in a single view. Thus, Farms Schedule and Timeline is combination of events, and recommendations.

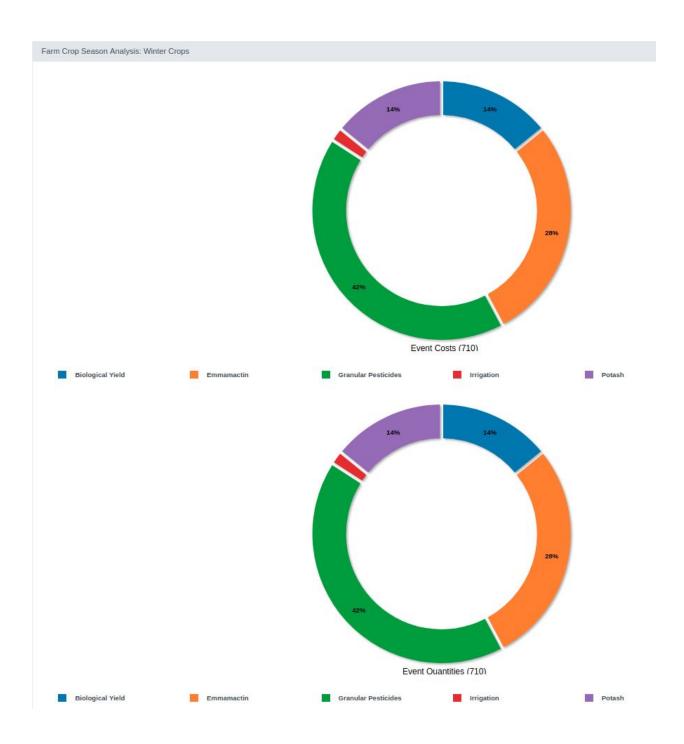


Farms Crop Seasons

In order to access Farms Crop Seasons view, advisor can click on Crop Seasons link in vertical menu or Farms Crop Seasons link in breadcrumb horizontal menu. Here, advisor can collectively see all crop seasons of all of his farms in a single view.



If advisor click on Eye icon of a crop season, he will be directed to crop season analysis about costs, and quantities of that crop season with two pie charts.



Farmer