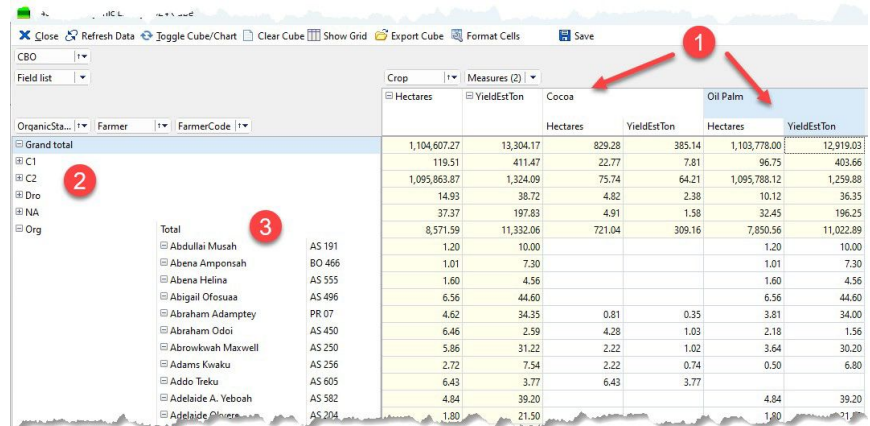# Extending / Duplicating a Resource to create a new or different output

Often an Orixa App contains a Resource which generates some useful output, but the user decides they need "something more". This webpage shows the steps that should be taken to achieve this, from a practical example.

## The Existing Resource: A Cube which shows farmer-acreage data



**Farmer Organic status cube**

The above image shows a **data-cube** of:

1. Cocoa and Oil Palm acreages and yield-estimates

2. with totals by farmer **certification status**.

3. Each total includes a "drill down" to show the list of individual farmers with their individual acreages and yield estimates.

The Cube is produced from a **Resource** record in the Resources data-table. Users now want to extend their system to add **new crops** to the output.
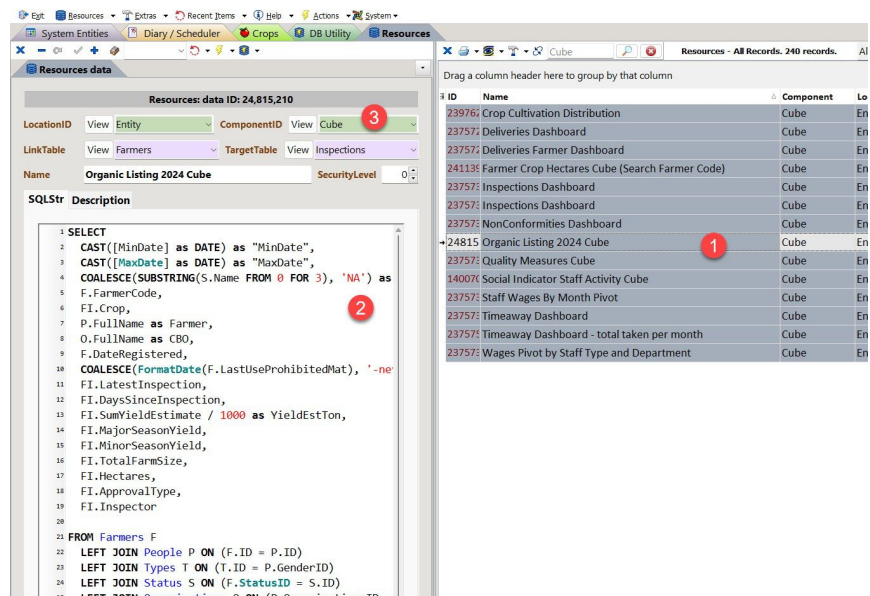


**Resource used to generate the farmer-acreage Cube**

1. One record in the Resources data-table includes all the information needed by the Application to create the Cube.

2. A complex SQL statement pulls back data from the database.

3. Choosing the "ComponentID" "Cube" means that the data will be generated as a data-cube. Users can design this cube themselves within the App. Once they have a design they like, they can save it. The details of the design are saved in the Resource's "ObjectProperties" data-field.

## Duplicating This Resource
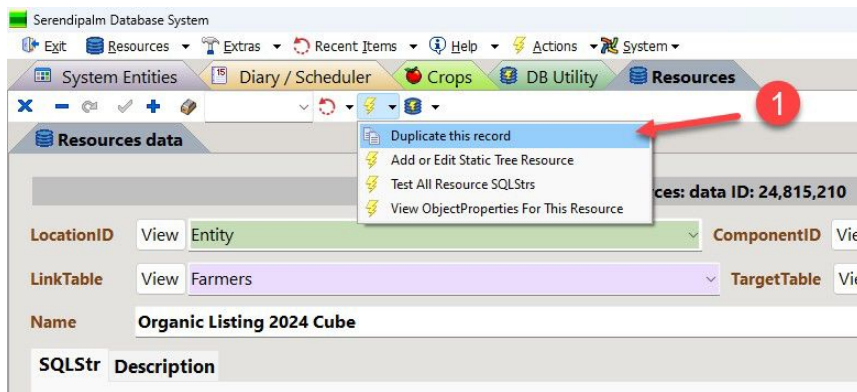


**Duplicating a resource**

Rather than re-writing the entire resource to generate a new version, just "Duplicate this record", as shown above. This is a very useful function, especially when a lot of work has been done to design a resource.

Once the new record is created, adjust the SQL to pull back new data, in this case data for other crops.

## How to re-write the SQL

**Example SQL for the Resource (simplified)**

```
SELECT
  COALESCE(SUBSTRING(S.Name FROM 0 FOR 3), 'NA') as OrganicStatus,
  F.FarmerCode,
  FI.Crop,
  P.FullName as Farmer,
  FI.SumYieldEstimate / 1000 as YieldEstTon,
  FI.Hectares
FROM Farmers F
  LEFT JOIN People P ON (F.ID = P.ID)
  LEFT JOIN Status S ON (F.StatusID = S.ID)
  LEFT JOIN
    (SELECT
        I.PersonID,
        FF.MainCropID,
        C.Name as Crop,
        SUM(FF.YieldEstimate) as SumYieldEstimate,
        SUM(FF.Hectares) as Hectares
      FROM Inspections I
        LEFT JOIN FarmFields FF ON FF.InspectionsID = I.ID
        LEFT JOIN Crops C ON C.ID = FF.MainCropID
      WHERE MainCropID IN (539, 553)
        AND I.DateDone BETWEEN DATE [MinDate] AND DATE [MaxDate]
        AND FF.Current = true
      GROUP BY I.PersonID, MainCropID) FI ON (FI.PersonID = F.ID)
WHERE Crop IS NOT NULL
ORDER BY OrganicStatus, FarmerCode
```

**Note the line from the above script:**

```
WHERE MainCropID IN (539, 553)
```

The Cube is only showing the details of **2** crops. This WHERE clause is the place in the script where these 2 crops are selected. How can we add other crops? We just need to add additional IDs to this list
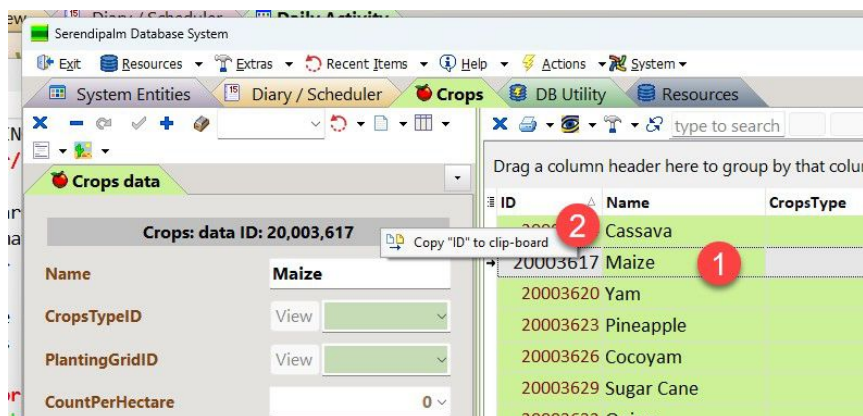
## Finding the ID of Crops to use in the resource

**The Crops Grid**

Open the Crops Grid, and look at the data. The 2 crops which appear in the SQL are marked with arrow. You can see their IDs: 539 and 553.

To add other crops to the newly created resource, simply pick out their IDs and use them in the SQL. There is even a small feature of Orixa to make this step easier.



**Copying the ID for "Maize" to the clip board to use in the SQL**

1. Open the Crops Grid and double click on a Crop you want to add to the new Resource. In this case we have selected "Maize".

2. Right-click on the "ID" field in the Edit Window and click "Copy to Clip-board"

Now go to the SQLStr field of the newly duplicated Resource and **paste** this copied value into the line:

```
WHERE MainCropID IN (539, 553, 20003617)
```

The Cube will now show data for 3 crops, including Maize.