

# Ground Truth (GT) data collection using “Map Pad” mobile app

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Prepared by

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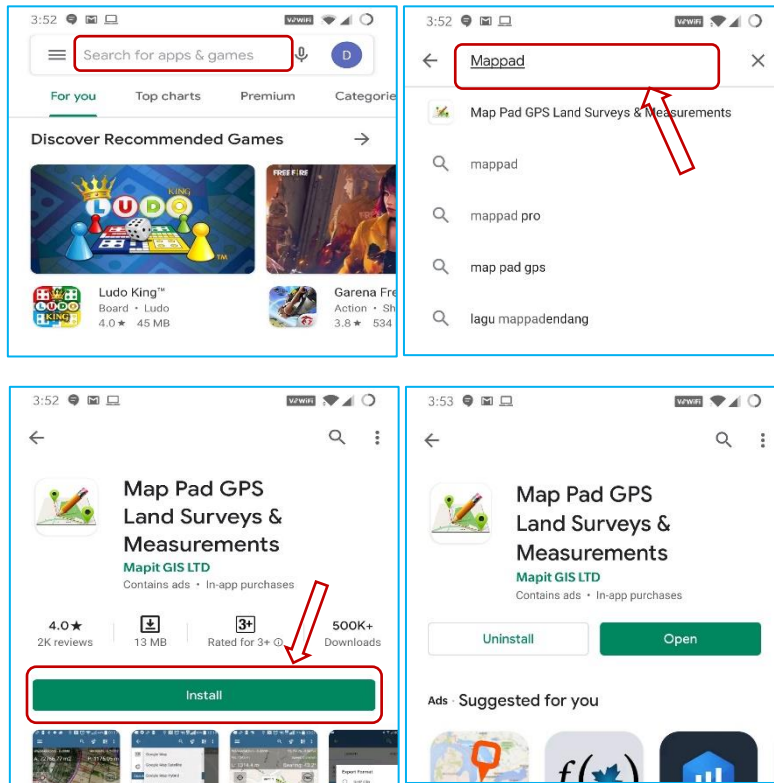


**ICAR-Indian Institute of Maize Research**

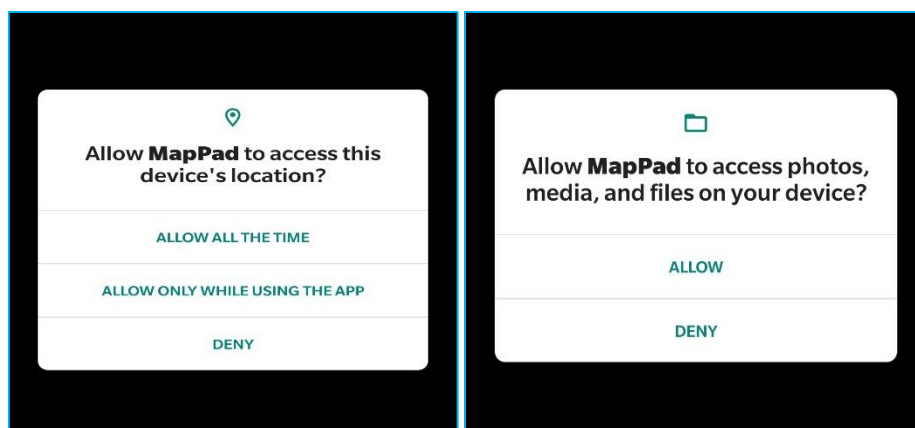
PAU Campus, Ludhiana (Punjab)-141 004 India

# Ground Truth (GT) data collection using “Map Pad” mobile app

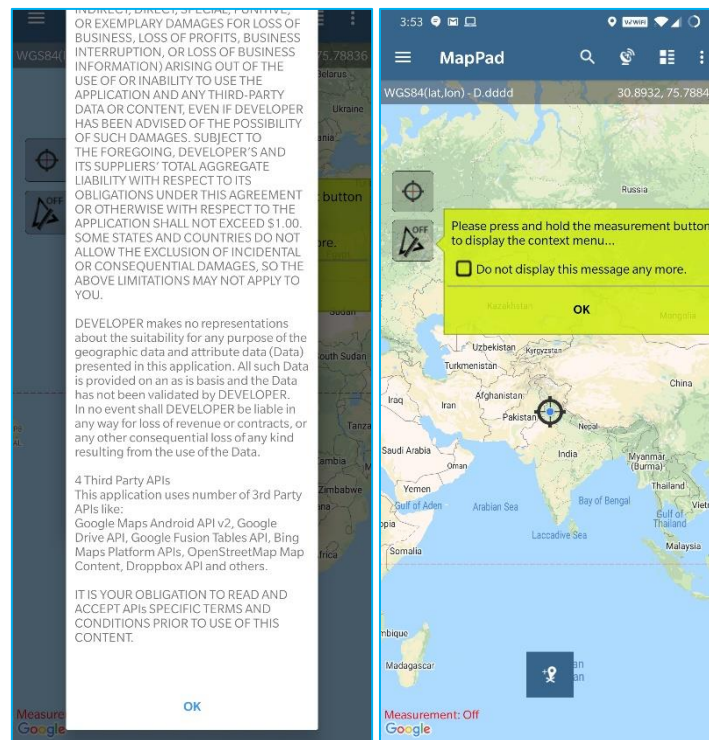
1. Download and install the “Map Pad” app from Play Store.



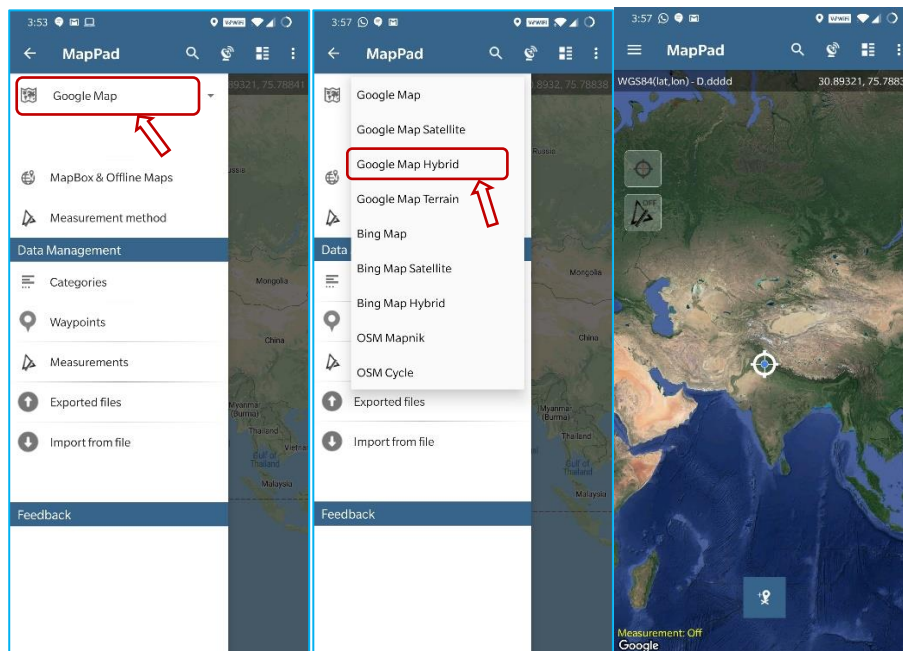
2. Allow the **location** and **photos, media and files** permissions.



3. Tap **“Ok”** in the disclaimer and message box.

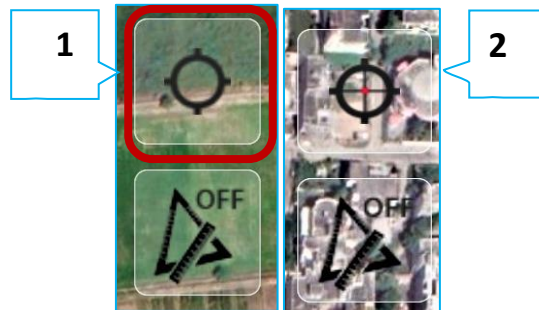


4. To enable the satellite view, tap on the top-left side of the screen (3 horizontal lines) and then tap on **“Google Map”** and then on **“Google Map Satellite”** or **“Google Map Hybrid\*”**

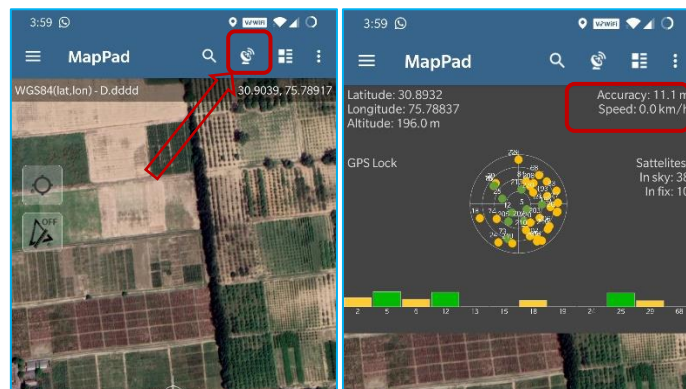


\*Google Map Satellite – This is the map type that shows the satellite images of the selected region.  
Google Map Hybrid – This map type shows the major streets on satellite images.

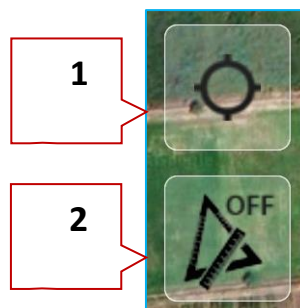
- Now tap on the button as shown in the red circle (point 1) to move to your current location.  
If the marker on your screen is at your current location then the button will be shown like picture 2 (red-colored crosshair in between).



- Before making observations, make sure that the accuracy of GPS is less than 5 meters.  
To know the accuracy of GPS, click on red circled icon and GPS accuracy will be mentioned in the upper right corner of the window.  
Note: In open field conditions, within a few seconds the accuracy will be less than 5 meters.

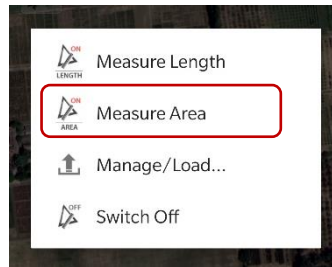


- To mark the desired area in the field, first, click on **option 1** (as mentioned in the image below), this step will take the pointer to your current location. After that **long press** on **option 2**.





**Long press** will open a window with four options. Tap on **“Measure Area”**



8. Now tap on the desired crop field boundary to draw a polygon as shown in the below image.

Important: While selecting a crop field, always tap **clockwise** or **counter clockwise** (image 1).

Irregular tapping will lead to no polygon formation (image 2)

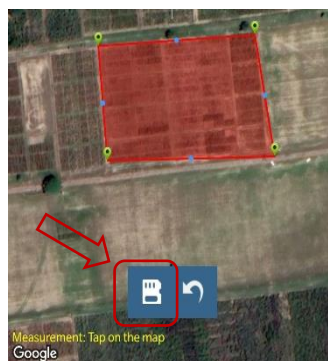


Image 1



Image 2

9. After drawing polygon, **save** it by tapping the circled icon (located at the lower side of the screen).



10. After tapping the “Save” icon, name\* and save the file.

**Standard format for file naming while using Mobile “app” during Ground truth data collection**

Sl no.	Attributes	Number of characters	Number/letter	Example	Remarks
1	Crop name	2	Letter	‘mz’ for Maize	Maintain uniform code for similar crops in different locations
2	Maize type	2	Letter	‘nc’ for normal corn	Five categories for type of corn nc : normal corn bc : baby corn sc : sweat corn sm: silage maize fm : fodder maize
3	Field number	3	Number	‘002’	GT location number
4	Date of sowing (DOS)	4(DDMM)	Number	‘1006’ for 10 June DOS	If exact date not possible then assess crop age/stage and provide a tentative DOS
5	Crop stage	2	Letter	‘ma’ for maturity	Six categories of crop stage ev: early vegetative mv: mid-vegetative lv: late vegetative rp: reproductive ma: maturity ha: harvested
6	Average crop height (cm)	3	Number	‘120’	
7	Plot detail	2	Letter	‘ex’	Six categories of the plot detail if it is experimental plot or outreach farmer’s plot or other farmer’s plot

					ex: experimental plot nf: plot under NFSM's FLD st: plot under STC/TSP's FLD sc: plot under SCSP's FLD ne: plot under NEH's FLD ot: plot under other farmer's plot
8	Visual crop vigour	2	Letter	'ns'	Five categories visual identification of any abiotic/biotic stress levels ls: low stress ms: moderate stress ss: severe stress ns: severe stress na: not application
9	Crop management	2	Number	'01'	State of crop management 01: excellent 02: good 03: average 04: poor 05: very poor (due to high weed infestation, stunting, high pest/disease infestation etc.)

**Note:**

- Always put '**underscore**' ( \_ ) after each attribute while naming
- Total length of characters in the file string: 22 (excluding underscore)  
(e.g.:mz\_nc\_002\_1006\_ma\_120\_ex\_ns\_01)
- Attribute number 8 and 9 are optional. However, if you are considering these attributes, keep these throughout your data collection
- If attribute number 8 and 9 are not considered total length of charactered will be 18(eg. mz\_nc\_002\_1006\_ma\_120\_ex)

**Note - Please collect the details for a particular maize site/field as listed in proforma at the end of the document.**

**NB: For crops other than maize, the file name should be-**

**Crop name\_area**

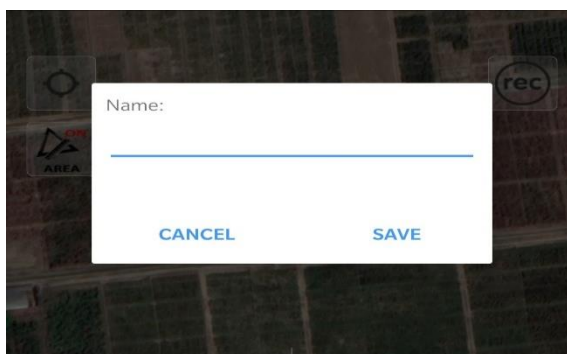
For eg. Pearlmillet\_ludhiana

Sugarcane\_ludhiana

Sorghum\_jalandhar

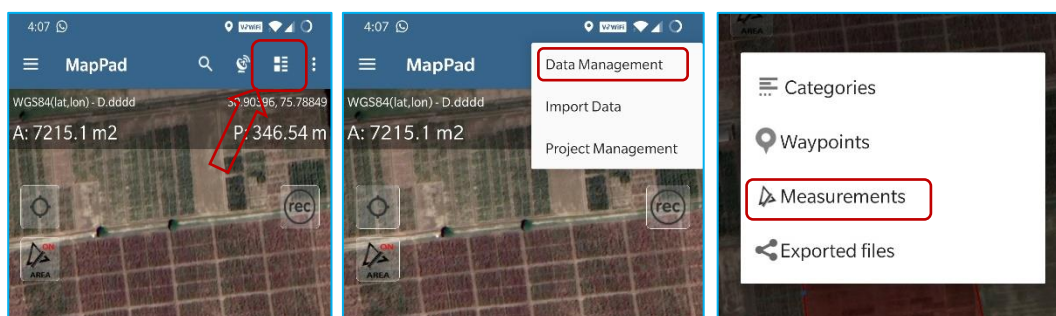
Arhar\_jalandhar

- **No other observations need to make for crops other than maize.**
- **Follow a uniform code for naming crops as given in the eg.**



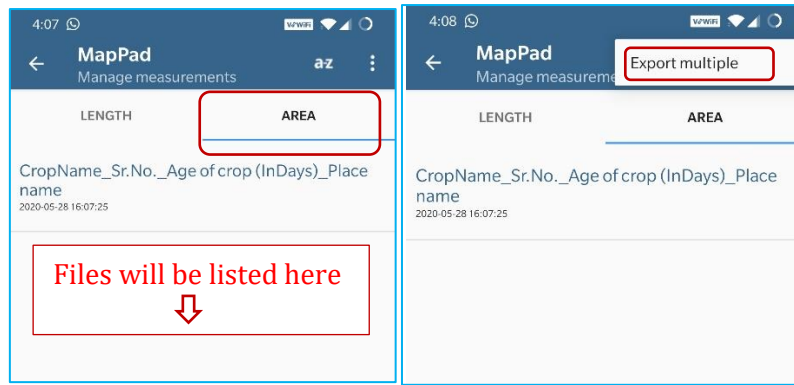
**To save the next polygon (crop field) follow the same procedure mentioned above from point 6 to point 10.**

11. To retrieve the saved files/polygons, tap on the circled option located at the upper ribbon. Next tap on **“Data Management”** and then on **“Measurements”**.



12. Tap on **“AREA”**, and you will find all the saved polygons. To export these files for further use/analysis, tap on three vertical dots present on the upper-right corner of the screen and then tap **“Export multiple”**.





13. Select the desired files by tapping on them, and then tap on the export icon located on the upper right corner. Select the destined storage. Select **“SD Card”** to save on phone storage. Select **“Share exported file”** to share the files directly through email without moving them to local storage. Next, select the **“SHP file”** and it will make a zip file for which we have to give a **file name** to the export file.

The file name should follow the format given below –  
**gt\_centre city name\_season\_year**

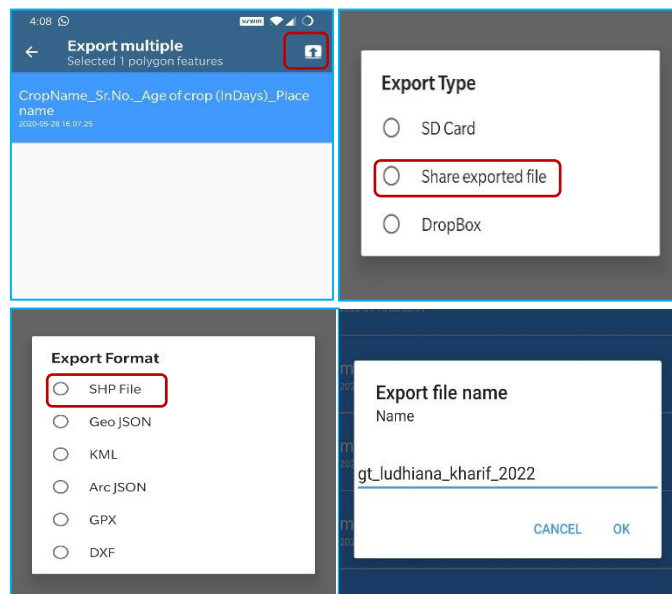
**gt:** common for all

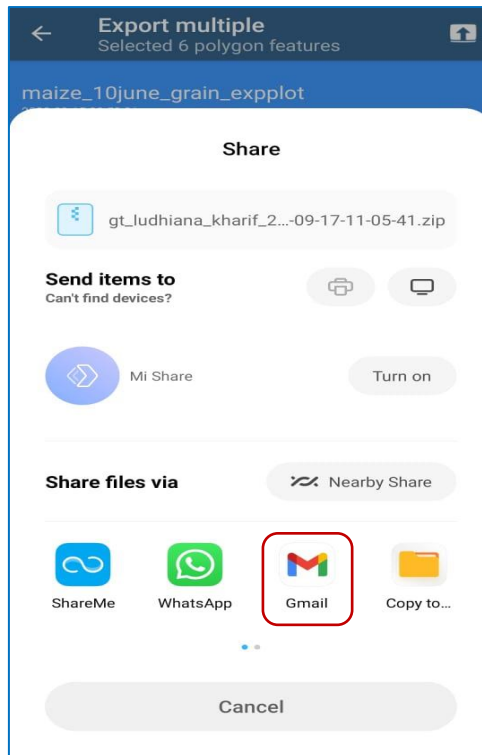
**Centre city name:** AICRP centre **city** name, eg. Ludhiana

**Season:** Season of the crop **kharif/rabi/spring**, eg. Kharif

**Year:** yyyy eg. 2022

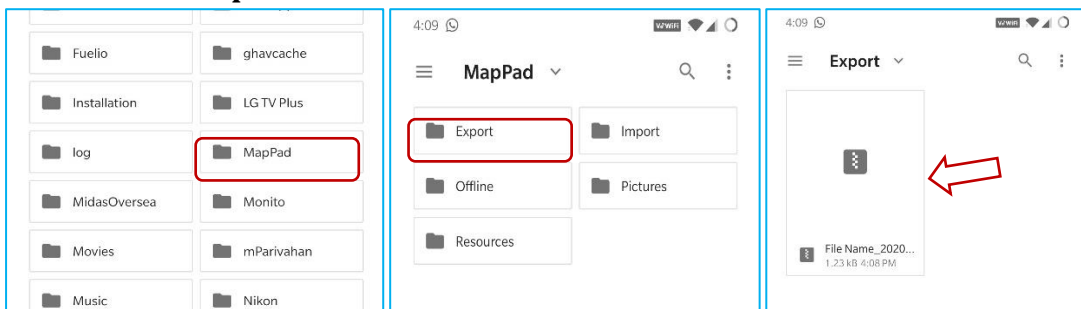
**Eg. gt\_ludhiana\_kharif\_2022**





NB: Send the file to [iimr.data21@gmail.com](mailto:iimr.data21@gmail.com) and cc to [totdmr12@gmail.com](mailto:totdmr12@gmail.com)

14. If export type **“SD card”** is selected then after exporting the file, go to file explorer of mobile phone and search for the **“MapPad”** folder and exported files will be stored in the **“Export”** subfolder.



### Proforma of ground truth data collection

Field/site ID:..... (As mentioned in file name)

<b>Sr.No.</b>	<b>Name of Observed Variable/Item</b>	<b>Value/Details of Item</b>
1.	District (Block/Taluk, Village - Optional)	
2.	Date (yyyymmdd)	
3.	Type of crop- <b>Variety</b>	
4.	Mono-crop/Mixed crop ( <b>% of mixed</b> )	
5.	Size of the SITE (Length x Width) in metres (Approximate)	
6.	Crop Growth Stage and Crop Health ( <b>Good/Average/Poor</b> )	
7.	Crop height ( <b>in m</b> )	
8.	Fraction of crop coverage ( <b>e.g. 0 - 100%</b> )	
9.	Soil Moisture Condition ( <b>Wet/Moist/Dry</b> )	
10.	Date of sowing & Harvesting ( <b>Approximate, Expected</b> )	
11.	Other Information (Dominant crop in the sub-region/Any Stress/Weed/Operations/Irrigation/Farm Details etc.)	

## For further queries

### Please contact

#### Director

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## For technical guidance

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