



Monetising Modern Land  
Management with High res  
satellite imagery



# Overview

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# Hybrid Methodology – Survey + Hires

- Advantages of High Resolution Imagery
  - Lower cost vis-à-vis aerial
    - Readily available
    - No permissions required
  - Higher area coverage
  - Accuracy: Advancements in imaging technology (CMGs)
  - Use only for reference purposes
  - Georeferenced
  - True north oriented
- Augment with Ground Survey
  - Focus only on problematic parcels
    - 80% of land parcels are OK
    - Only 20% have issues
- Hybrid methodology
  - Lower cost
  - Quickly resolve issues
  - Pilot projects with other methodologies have failed
  - Hybrid methodology pilots have given very good results

# The Current DigitalGlobe Constellation

## **IKONOS**

Launched September 1999  
4 band multispectral  
85 cm resolution



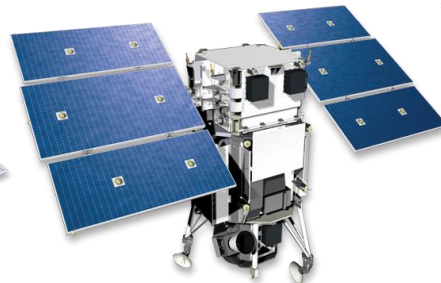
## **QuickBird**

Launched October 2001  
4 band multispectral  
65 cm resolution



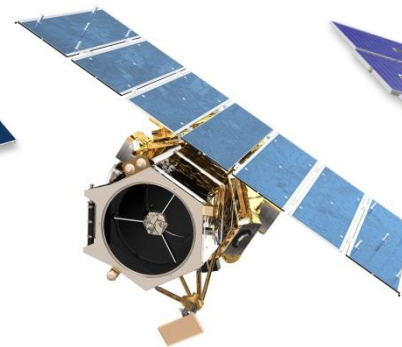
## **WorldView-1**

Launched September 2007  
Panchromatic  
50 cm resolution



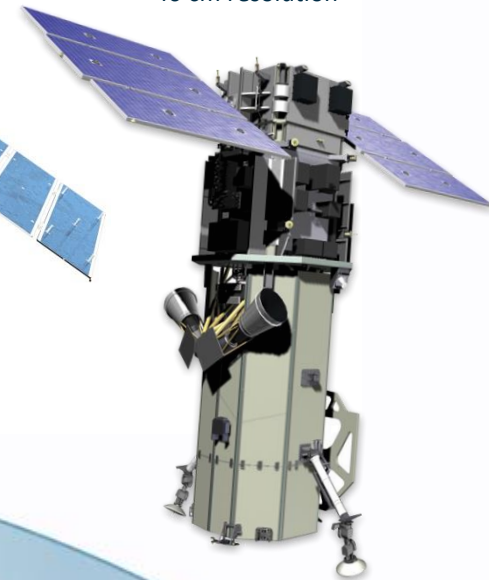
## **GeoEye-1**

Launched September 2008  
4 band multispectral  
41 cm resolution<sup>(1)</sup>



## **WorldView-2**

Launched October 2009  
8 band multispectral  
46 cm resolution<sup>(1)</sup>



# Upcoming DigitalGlobe Constellation Additions

## WorldView-3

16 band  
multispectral  
31 cm  
resolution<sup>(1)</sup>



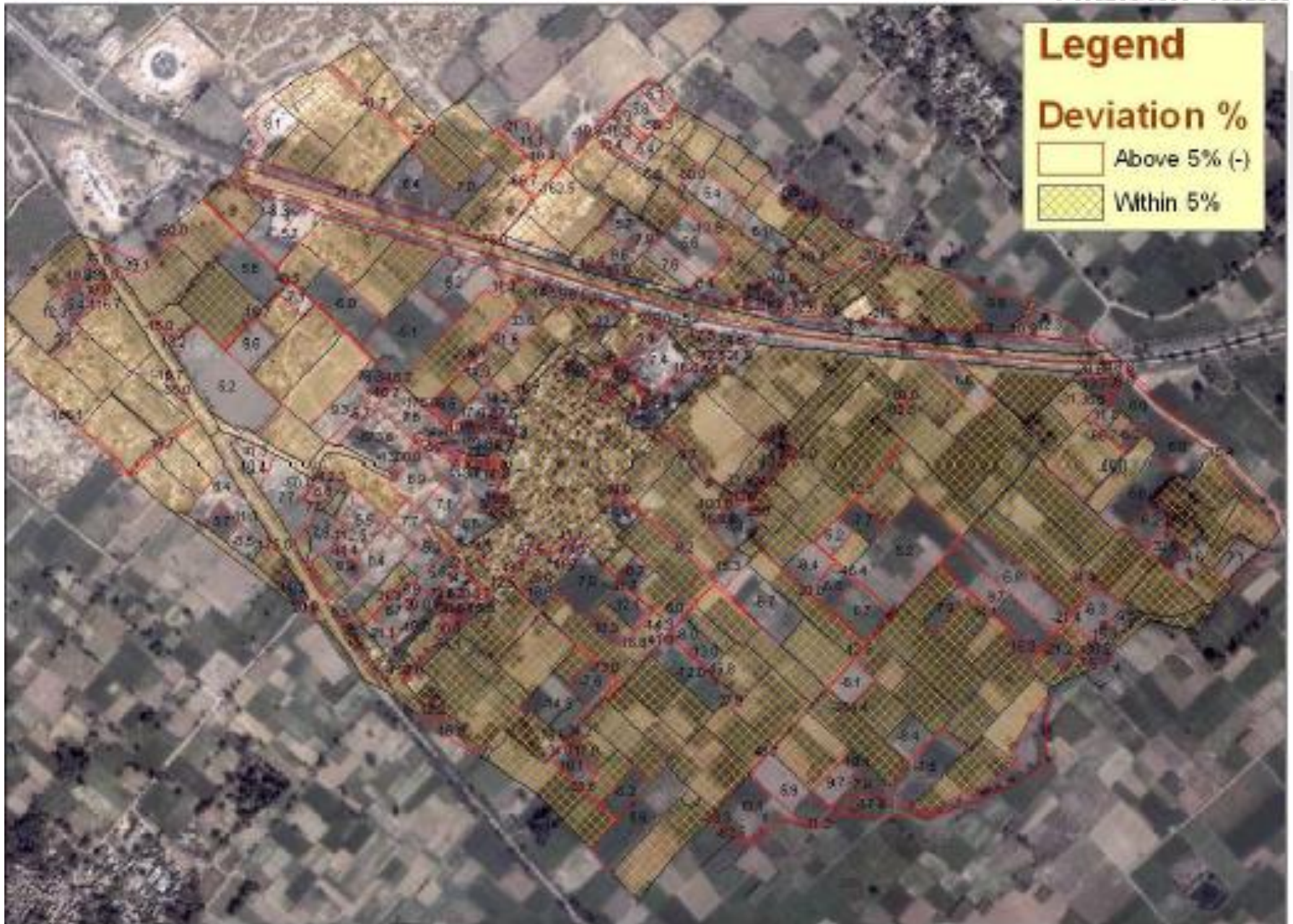
## GeoEye-2

4 band  
multispectral  
34 cm resolution<sup>(1)</sup>



1:4,000 Scale





- Conversion of farm land to Brick klin
- Missing field boundaries





## Area Marked in the Inset



<u>Area of the Numbered Parcels (approx.)</u>	
1.	0.657 Hectares
2.	0.402 Hectares
3.	0.391 Hectares
4.	0.736 Hectares



# ACCURACY : Haryana, Orissa, Konkan, NDVA, NHAI, RITES, Maharashtra, Delhi, RAPDRP, West Bengal

- Control Points has been collected at 4X4 Km grid.
- Few controls points has been used for triangulation.
- Few points has been used as check points for accuracy check.
- One AOI which is approximately of 8K Sq Km was processed as one block.
- The accuracy achieved was
  - X = 0.22 Mts
  - Y = 0.26 Mts
  - Z = 0.46 Mts
- Additional checking was done using stereo visualization.
- Further check was done by identifying few parcels on orthorectified Imagery and measured the distance in all four directions and diagonally by GIS tools and measured the same on the ground which are with the limit of < 5%.

# ArcGIS Online Premium Services





[www.digitalglobe.com](http://www.digitalglobe.com)