



Rapid-Response Satellite Earth Observation
Solutions for International Development Projects

**Estimating the Magnitude and Spatial Distribution of Informal Trade in
Central Asia**

RfP n.0014 – Executive summary



Estimating the Magnitude and Spatial Distribution of Informal Trade in Central Asia

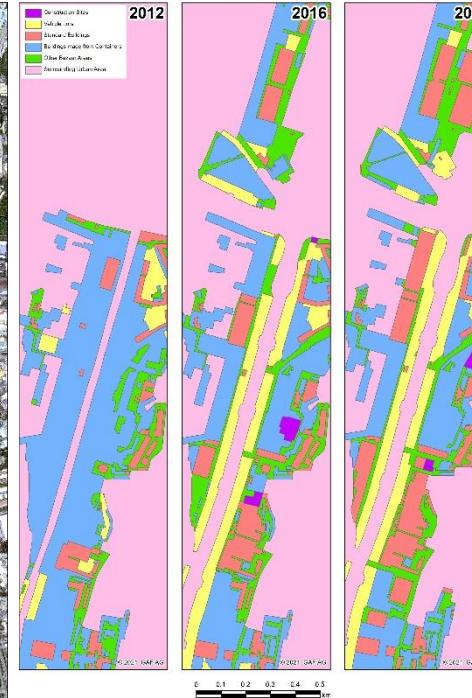
Objective: To test how to use remote sensing methods to observe the peri-urban landscape of inland bazaars as a conduit to estimate current and past informal trade (non-standard or bazaar commerce).

Two bazaars in the study:

1. Dordoi Bazaar (Bishkek, Kyrgyz Republic)
2. Barakholka Bazaar (Almaty, Kazakhstan)

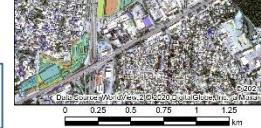


Estimating the Magnitude and Spatial Distribution of Informal Trade in Central Asia: Service 1 – Spatial Indicator extraction from EO data



↑ Dordoi. 5 Indicators mapped at 9 observation dates

Barakholka: 5 Indicators mapped at 12 obs. dates →



Estimating the Magnitude and Spatial Distribution of Informal Trade in Central Asia: Service 2 - Predictive analysis

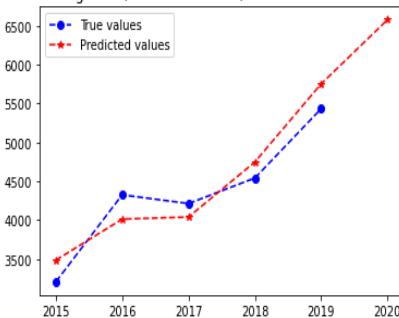
Test 1: Dordoi Bazaar

Input: EO-data, data form WBG

Input data period: 2015-2018

Prediction period: 2015-2020

MLP Regressor, score fit: 76.519, dist 2019: 319.43574203



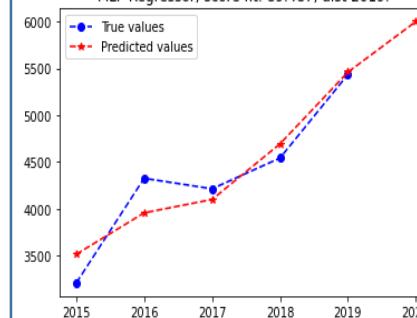
Test 2: Dordoi Bazaar

Input: EO-data, data form WBG

Input data period: 2015-2019

Prediction period: 2015-2020

MLP Regressor, score fit: 89.487, dist 2019:



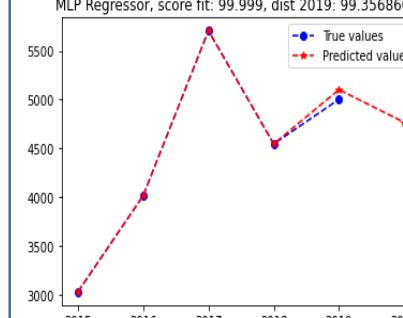
Test 3: Barakholka Bazaar

Input: EO-data, data form WBG,
ancillary data

Input data period: 2015-2018

Prediction period: 2015-2020

MLP Regressor, score fit: 99.999, dist 2019: 99.35686066



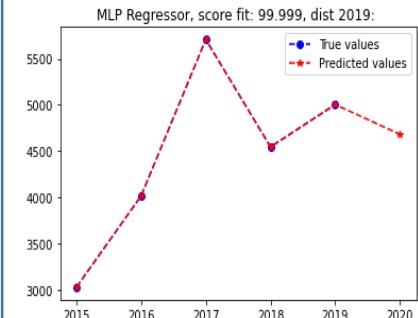
Test 4: Barakholka Bazaar

Input: EO-data, data form WBG,
ancillary data

Input data period: 2015-2019

Prediction period: 2015-2020

MLP Regressor, score fit: 99.999, dist 2019:



Prediction scenarios

Scenario 1: Dordoi bazaar using EO data and WBG data

Scenario 2: Barakholka bazaar using EO data, WBG data
+**ancillary data**

X-axis: year

Y-axis: informal trades M\$

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