

## Evaluation of the Agricultural natural Resources in the Algerian steppe

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### INTRODUCTION

El Bayadh province represents 40% of the Algerian steppe. Besides the land availability; this region has significant water resources composed mainly of groundwater reservoirs which makes it's potential in a terms of availability of agricultural natural resources very high. These resources have always been a crucial element in development. It is firstly the fuel economic activities for people in the region regarding agro-pastoralism and secondly, ecologically, these resources represent a control measure against desertification and important element that fills the ecological functions of the steppe ecosystem. However, due to its geographical location and like other steppe zones of Algeria, El Bayadh is facing climate risks that effect on development perspectives.

Thus different diagnoses and analyzes show that the pressure on natural resources are already high, and they will increase if serious efforts are not made. These last years, several development programs have been implemented. But it is clear only a few of them have given satisfactory results to the problems of overgrazing, desertification, land conflicts due to ownership of land Arch, anarchic and illegal plowing and weakness and irregularity of the production ... etc.

**Therefore, for purposes of natural resources assessment in general and the agriculture resources particularly, our study is conducted in this region. The work aims to evaluate the current state of these resources. The assessment process was achieved by the analysis of wide variety of existing natural resource data and technical reports assembled by the main sector actors.**

### METHODS AND MATERIALS

#### Study areas

The territory of El Bayadh covers an area of 71697 km<sup>2</sup> it situated in the longitude 0° to 2° E and latitude by 31 ° to 34 ° N. It is divided into three geographical parallel bands to the Mediterranean Sea: the area of high steppe plains, the area of the Saharan Atlas and the pre-Saharan region. This region has two types of climate semi-arid and arid.

#### Data sources and Methods

The performed analyzes were mostly based on meteorological data, soil, water resources used in irrigation and crop production. Meteorological data, including precipitation and temperature from 1980 to 2015, were obtained from the meteorological station of El Bayadh. Data of land use; cultivated area, crop structure, irrigated area and crop yields have been taken from the agriculture chamber and forestry direction database.

To highlight the current situation of natural resource compared to potential agro-pastoral region, we proceed to the treatment of various information obtained statistical offices of the various agencies responsible for agriculture. The evolution of land surfaces, the availability water resources, and climate conditions with the were compared Yield production.

cultivation and availability of pasture. We analyzed data for 22 commune in the region for the period 2010 to 2014.

Another one in the south with low natural and agricultural resources extends over a large area; agricultural yield in this region is varied and remains less than the real agro potential. Fig 1.

On the temporal plant, the results have shown significant variations in agricultural potential and yields Production. Fig 2

It was highlighted a first group of areas with high efficiency of the agricultural natural resource tion where the yield production exceeds the biopotential. The second group were areas in which the yield corresponds biopotentials. The third group entered those areas, where the crop production is less than the biopotential. The last group represent the unproductive land .

### RESULTS AND DISCUSSION

At the spatial plant, the results allowed us to distinguish and classify two areas; One with high agricultural potential located in the north with favorable climatic conditions, yet, this region is still threatened by desertification.

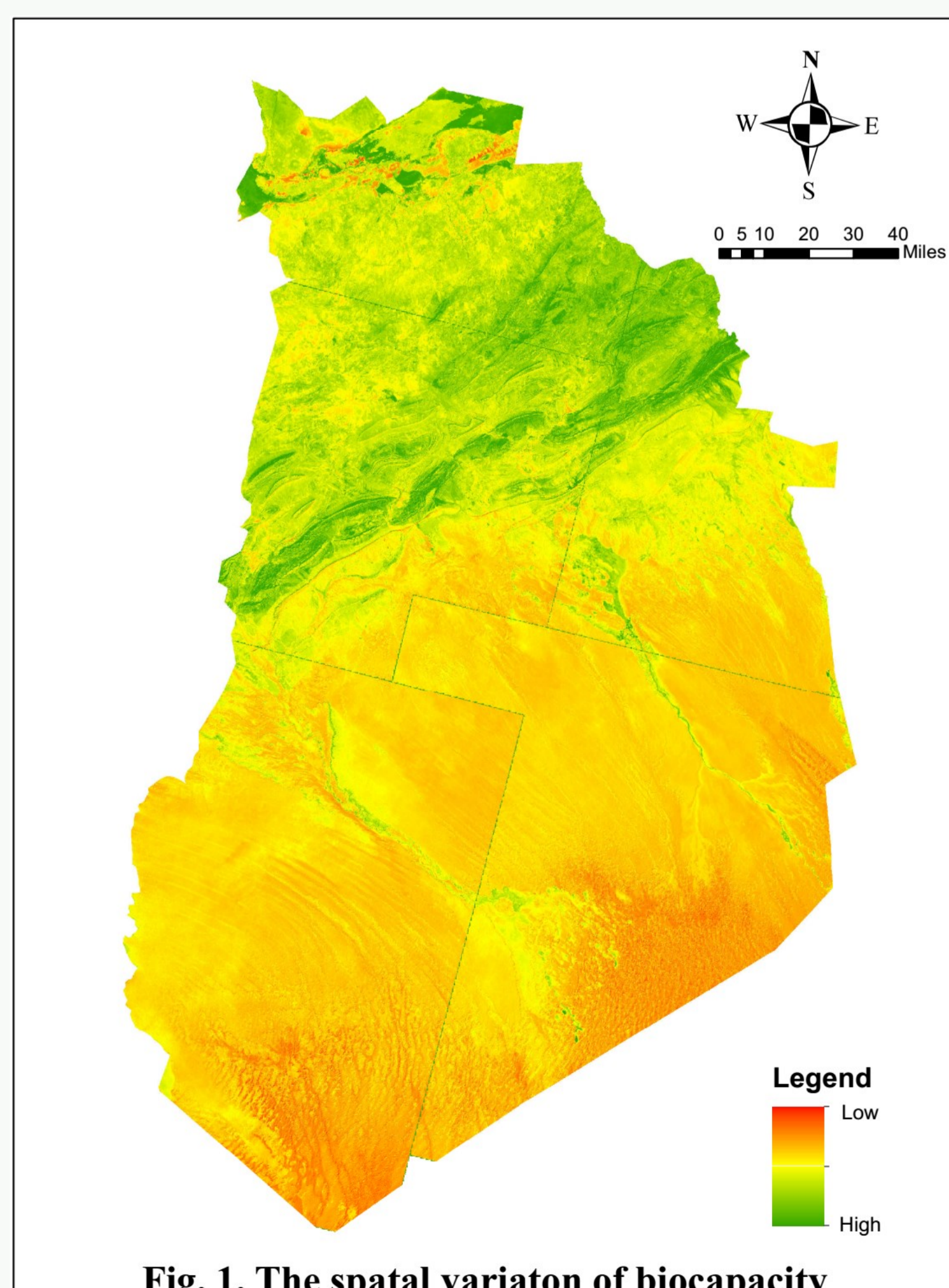


Fig. 1. The spatial variaton of biocapacity

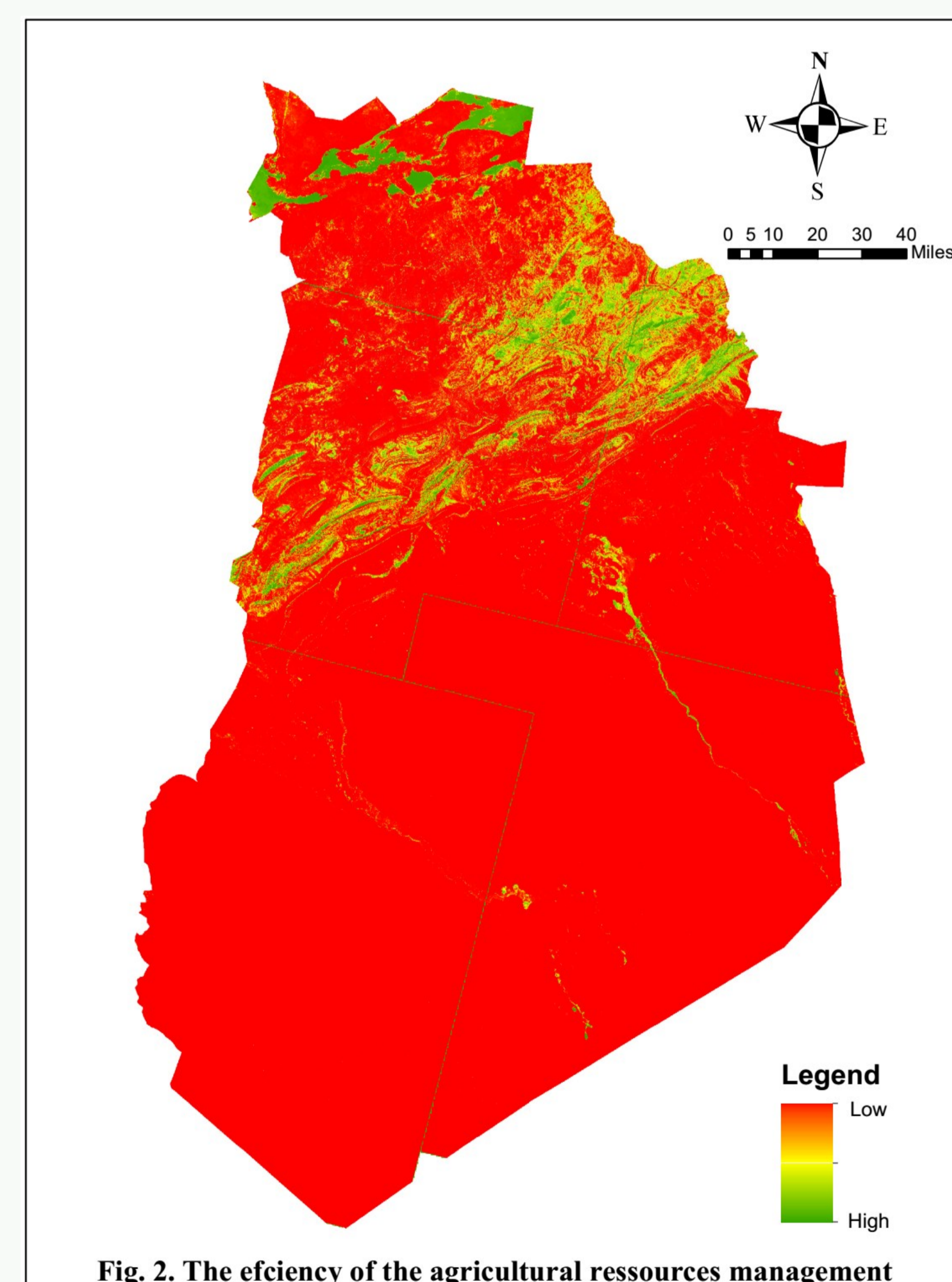


Fig. 2. The efcieny of the agricultural ressource management

### CONCLUSION

In conclusion, it can be noted from the different analyses of multi-source data that several combined factors affect on the availability of agricultural resources. The most areas of El Bayadh steppe has low efficiency agricultural land ressource. Despite this, some others are productive thus we suggest the amelioration the productivitiy in such high productive area.