

**KICK-OFF WORKSHOP:**

UNRAVELING THE CAUSES AND IMPLICATIONS OF CROP PRODUCTIVITY GAPS IN  
UNDERPERFORMING REGIONS THROUGH INTEGRATION OF GEOSPATIAL,  
BIOPHYSICAL AND SOCIO-ECONOMIC FACTORS:

**A COLLABORATIVE RESEARCH PROJECT OF:**

WORLD AGROFORESRY CENTRE (ICRAF),  
SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES (SLU),  
LUND UNIVERSITY, SWEDEN,  
UNIVERSITY OF GHANA,  
UNIVERSITY OF NAIROBI,  
CHUKA UNIVERSITY, KENYA

Project funded by:

**FORMAS: SWEDISH RESEARCH COUNCIL**

**VENUE:** Venue June 8-9: Westhouse Hotel, Westlands, Nairobi

Address: Westhouse Hotel, Eldama Ravine Rd, (off-Peponi Road), Nairobi  
<http://www.westhouse.co.ke/contact-us> (Road map)

**PROJECT BACKGROUND/DESCRIPTION**

To cope with projected population and income growth the agricultural sector dramatically needs to increase production and productivity without compromising environmental sustainability. Recent research provides evidence of stagnating crop yields and regionally very heterogeneous crop yield patterns. In order to reverse this trend it is essential to identify underperforming regions and understand key causes of poor productivity. The general assumption is that regions where the yield gaps (difference between potential and achieved yield) are large, holds promise for productivity gains and increase in food security. This project focuses on Sub-Saharan Africa (SSA) where some of the largest yield gaps are observed. The aim is to understand the causes of observed large yield gaps and to integrate biophysical and socio-economic explanations for these. Crop yield maps will be created to study variations within and between villages, landscapes, and regions, spatially and temporally. Available socio-economic panel data will be combined with remote sensing and detailed investigations in selected villages in Kenya and Ghana with focus on soil conditions, management practices, labor availability and gender aspects. With this approach we can link geo-spatial data to socio-economic characteristics by relating crop patterns to household-specific factors, combining detailed investigations with large spatial coverage, and thus progressing beyond site-specific observations and conclusions

## **WELCOMING OPENING REMARKS: PRINCIPAL- CAVS.**

It gives me great pleasure to be with you at the opening session of the kick-off workshop addressing one of the priority development agenda for Kenya and indeed most African Countries: The need to achieve higher productivity in Agriculture and realize a food secure and prosperous country/continent.

The research focus is timely, in that, as we approach the sunset days of the Millennium Development Goals, planned to be achieved by end of 2015, Kenya /African Countries are still lagging behind in achieving one of the main Goalsø Targets of eradicating Poverty and hunger as well as being Food and Nutrition Secure. Part of the reasons for this is the continuing inability to narrow the yield gaps witnessed in many African countries. The yield gaps, arising from the scientific and technological breakthroughs, pushing the yield frontiers (potential) and leaving the on farm yields to be either stagnant or moving sluggishly remains a worrying phenomenon. Unraveling the causes for this phenomenon is clearly urgent and of great interest not only for policy makers but also for the people (farmers and their families) whose livelihoods are at risk and the research institutions such as CAVS mandated to build capacity for creating understanding on the undesirable situation. Moreover continued investment in crop research will only be justified if there is corresponding improvement in the wellbeing of the majority of the population engaged in farming, and are currently trapped in poverty.

Given the complex nature of the phenomenon of continued existence of yield gaps, it makes a lot of sense to take a multidisciplinary approach in unraveling the causes and to harness the contribution of relevant researchers, institutions and

organizations. Therefore the manner your team has come up with collaborators from relevant institutions and disciplines is laudable. I am particularly pleased that my College whose vision is to be the place to be on issues of Agriculture, Food and Nutrition, Veterinary and Environment is one of the collaborators.

Through this collaboration, it is anticipated clear opportunities will emerge to share experiences as well as resources. If such opportunities are exploited effectively, the goal of the project will be achieved faster, leading to win-win situation for all the collaborators and those who have funded the research.

In the Kenya, we are witnessing worrying yield gaps for the major staples: maize as little as 2 bags per acre being achieved on smallholder farms compared to the potential of more than 25 bags per acre in the same zones! Milk as little as 2 or less number of litres per cow per day compared to over 25 litres per day in same Agro-ecological zones! This clearly indicates that yield gaps promote the existence of 'Poverty Traps'!

Looking ahead, I would urge you to explore the role of infrastructure and market access, research and innovations, incentives and information, institutions and governance in unraveling the persistent yield gap phenomenon.

I wish you a productive workshop and all of us look forward to eventual path-breaking findings of your effort.

**THANK YOU.**

**PRINCIPAL-CAVS**