



Figure 1. Farm women working in the corn and rice fields at Rajendranagar, Telangana India by Shirisha Junuthula/MANAGE, India.

# Knowledge Assessment on Nutrition-Sensitive Agriculture Scale (KANSAS) for Extension and Advisory Services (EAS) staff in India

## OVERVIEW

- Making agriculture nutritionally sensitive is an important priority for agricultural development in many developing countries.
- While the traditional role of EAS staff has focused on adoption of new agricultural technologies and improvement of agricultural productivity, they are well placed for dissemination of healthy nutrition attitudes and practices in rural agricultural communities.
- However, EAS staff lack the requisite knowledge and skills to promote NSA. Systematic assessment of knowledge gaps is needed to build capacity for NSA implementation.
- We develop a standardised scale (KANSAS) - validated qualitatively and quantitatively through expert consultation - for systematic assessment of knowledge gaps of EAS staff on NSA.
- The use of KANSAS can facilitate the development of training and capacity building programmes for EAS staff.

## RATIONALE

Extension Advisory Services (EAS) providers can be an excellent entry point for sharing nutrition knowledge and developing healthy nutrition attitudes and practices in a culturally appropriate manner in farming households. Several studies emphasise the important role and potential of agricultural extension and advisory workers in improving the nutrition outcomes of agricultural interventions<sup>1,2</sup>. However, many studies have shown that EAS staff in Africa, South Asia, and Latin America and the Caribbean<sup>3</sup> need training to build their capacity for promoting Nutrition-Sensitive Agriculture (NSA). This requires systematic assessment of their knowledge of NSA and their skills, attitudes and sensitivity to NSA. Such an assessment can support the training and capacity development of EAS staff for effective promotion of NSA<sup>4-8</sup>.

However, there is no standardised and validated tool available in literature to assess the NSA knowledge and gaps for the training of EAS staff in India. This is a major constraint in development, design and implementation of training programs for the promotion of NSA. There are also no clearly established priorities for NSA training for EAS staff.

We developed a validated, standardised scale for assessing the knowledge of EAS staff in relation to NSA. The scale was validated qualitatively and quantitatively through a consultation with a panel of experts. The scale can be used by governments and policy makers as standard throughout the country to assess the training and capacity building needs of EAS staff.

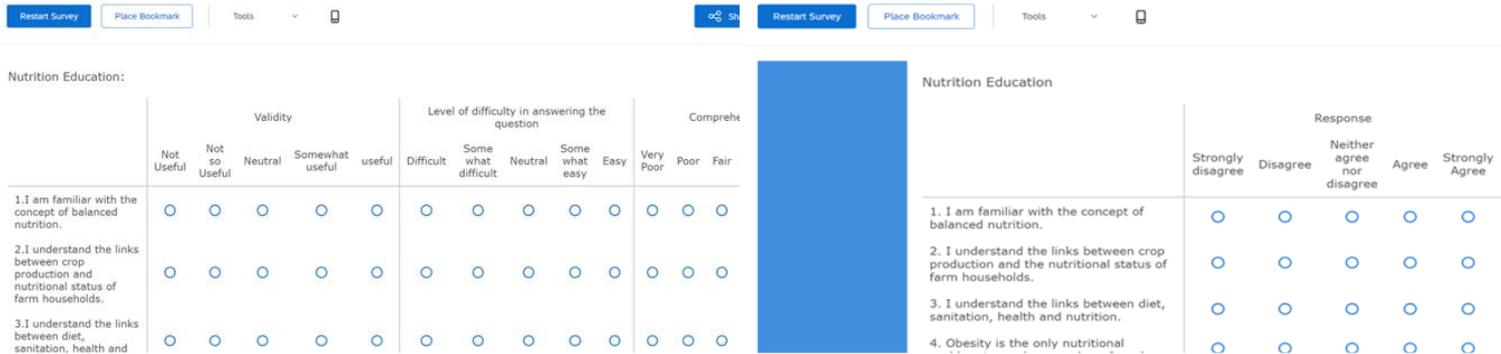


Figure 2. Screenshot showing the questionnaire used for experts' opinion (left) and screenshot showing the questionnaire used for respondent's data (right).

## KEY FINDINGS

1. EAS staff who have received no training in NSA have substantial knowledge gaps related to dietary diversity, biofortification, malnutrition and nutritional indicators.
2. There is evidence to show that there are significant differences in the knowledge levels of trained and untrained NSA. This suggests that training programmes have been and can be effective in addressing these knowledge gaps.
3. Among trained EAS staff there were no differences by gender in knowledge scores along the different dimensions of NSA. Among untrained staff, gender differences were significant only in respect of a few dimensions such as the role of women farmers.
4. EAS staff are not equipped with NSA knowledge and its components across the different regions of India. Addressing these gaps through capacity building will help in effective promotion of NSA.

## METHODS AND FINDINGS

### What will KANSAS measure?

Knowledge Assessment on Nutrition-Sensitive Agriculture Scale (KANSAS) is designed to measure the knowledge gaps of EAS workers in relation to nine dimensions of NSA. The relevant dimensions of NSA and their relative priority was established through an extensive expert consultation.

S.No	Dimension	No. of Questions/items
1	Importance of Dietary Diversity	8
2	Nutrition Education	13
3	Promotion of Kitchen and School gardens	10
4	Promotion of the role of women farmers	10
5	Promotion of diversification of crops	11
6	Promotion of value-added food products	11
7	Promotion of bio-fortification	9
8	Locally available nutritious crops	12
9	Malnutrition and Nutritional Indicators	11

Table 1. Dimensions of NSA intended to be measured by KANSAS.

### How was KANSAS developed?

We developed an instrument with 95 questions (items) covering the 9 dimensions of NSA. We consulted with experts in agriculture, nutrition, extension and policy research for qualitative and quantitative validation of the scale.

### Application of the KANSAS scale

The KANSAS questionnaire was administered to a sample of 100 field level EAS staff (50 staff trained in NSA and 50 untrained). Staff were selected in India from different backgrounds of agriculture and allied sciences. We used the responses to assess the internal reliability of the instrument using Cronbach's alpha. The responses were used to assess the knowledge gaps of EAS workers along the nine dimensions of NSA. Based on their scores EAS workers were classified as having high, medium and low knowledge of NSA. We also used statistical tests to examine the differences in the scores of EAS staff across gender and regions.

## POLICY INSIGHTS

- EAS workers serve as crucial link to farmers in the implementation of many agricultural development programmes. Traditionally, the focus of EAS workers has been on increasing agricultural productivity through the adoption of modern technologies or improved varieties. They can potentially play a key role in the promotion of NSA initiatives. However, they need

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## ACKNOWLEDGEMENTS

This work is funded through the Innovative Methods and Metrics for Agriculture and Nutrition Action (IMMANA) programme. IMMANA is co-funded with UK Aid from the UK government and the Bill & Melinda Gates Foundation and facilitated by the London School of Tropical Hygiene and Medicine (LSHTM). We are indebted to the subject experts and respondents for sparing their time to participate in this research. Shirisha Junuthula is grateful for her IMMANA Fellowship.

to be supported through appropriate training and sensitisation if they are to play an effective role in making agriculture nutritionally sensitive.

- The NSA knowledge assessment through KANSAS can facilitate the design of capacity building and training programs for EAS workers for promotion of NSA. The capacity building and training programs can be tailored to the specific knowledge gaps of EAS workers in different locations in India.
- The implementation of NSA in rural areas is possible through the agency of EAS staff. There is global interest of leveraging better Agriculture Extension and Advisory services as a basis for food and nutritional security. Connecting extension and rural advisory services with dietary health has the potential to improve nutrition outcomes through diversification of agricultural production at the household level (e.g. greater incorporation of fruits and vegetables in diets).
- Agricultural extension and advisory workers are probably the best placed agents to help provide nutritional education to farmers using participatory methodologies, and Information Communication Technologies (ICTs).
- The FAO has developed a compendium of indicators for nutrition-sensitive agriculture - Compendium of Indicators for Nutrition-Sensitive Agriculture ([www.fao.org](http://www.fao.org)) which are helpful in measuring awareness of NSA at the household or community level. The proposed KANSAS scale seeks to assess the awareness of NSA among EAS staff to facilitate capacity building for NSA initiatives.

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## CITATION

Junuthula, S., Kumari, V & Srinivasan, C.S.(2023). Knowledge Assessment with Nutrition-Sensitive Agriculture Scale (KANSAS) for Extension and Advisory Services (EAS) staff in India. IMMANA Fellowship.