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

RATIONAL

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\textsuperscript{1,2}. However, many studies have shown that EAS staff in Africa, South Asia, and Latin America and the Caribbean\textsuperscript{3} 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\textsuperscript{4–8}.

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.
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.

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

REFERENCES