



# Good Practice Notes



## CAPACITY DEVELOPMENT OF AGRICULTURAL INPUT DEALERS IN INDIA THROUGH THE DAESI PROGRAMME

### 5 Key Points

#### 1. Context

In India, Agri-Input Dealers are one of the major sources of information on farming accessed by farmers.

- More than 280,000 agri-input dealers in India
- Dealers are spread to the last mile and easily accessible to farmers
- Majority of the dealers do not have any formal agricultural education or receive any training on aspects related to agriculture

#### 2. Objective

The Diploma in Agricultural Extension Services for Input Dealers (DAESI) programme aims to transform input dealers into para-extension professionals, thereby strengthening the agricultural extension system.

#### 3. Methodology

- Contact classes by Agricultural Experts at the district level on Sundays or market holidays for 48 days, including field visits spread over a year;
- The National Institute of Agricultural Extension

Management (MANAGE) is implementing the programme with the help of State Agricultural Management and Extension Training Institutes (SAMETIs) and Nodal Training Institutes (NTIs);

- Diplomas are awarded to the successful input dealers by MANAGE.

#### 4. Results - Highlights

- Trying to make sure that dealers deliver advice based on scientific principles
- One of its kind initiative
- Highly successful in states like Karnataka due to active participation of SAMETIs, College of Agriculture, Krishi Vigyan Kendras (KVKs) and other NTIs
- Tremendous scope for scaling up

#### 5. Recommendation - Highlight

Strengthen this initiative in other Indian states and across other countries

The National Institute of Agricultural Extension Management (MANAGE), established in 1987, is an apex level autonomous institute in India involved in capacity development of extension professionals. It is an organization of the Ministry of Agriculture and Farmers Welfare (MoA&FW), Government of India (GoI). It offers services in training, consultancy, management education, research & information.

### Introduction

In 2003, in order to strengthen the technical competency (agriculture) of input dealers and to facilitate their role as para-extension professionals, the National Institute of Agricultural Extension Management (MANAGE), launched a self-financed 'One-year Diploma in Agricultural Extension Services for Input Dealers (DAESI) Programme'.

Realizing the importance of the program, the Government of India (GoI) has made DAESI a Central Sector Plan Scheme (under the XII<sup>th</sup> Plan). Since October 2015, MoA&FW, GoI, has started implementing this programme for input dealers in all the states of India.

Thus far, DAESI has covered the input dealers of fourteen out of twenty-nine states in India – Andhra Pradesh, Telangana, Tamil Nadu, Maharashtra, Odisha, Jharkhand, Karnataka, Uttar Pradesh, Rajasthan, Chhattisgarh, Madhya Pradesh, Bihar, Himachal Pradesh, and West Bengal. It has awarded diplomas to 16,032 agri-input dealers in 414 batches (as on 31 March 2019) across these 14 states. Currently, 19,120 dealers are enrolled for this diploma, in 478 batches (as on 31 March 2019) across 18 states in India.

## Rationale and Objectives

India has approximately 2.82 lakh agri-input dealers who are not only the main suppliers of inputs and credit to the farming community, but also the main source of information for farmers<sup>1</sup>. While purchasing different inputs required for farming operations, the farmer naturally tries to find out from the input dealer about the usage of inputs, both in terms of quality and quantity. However, most of these input dealers neither have any formal education in agriculture nor have they received training on selection and use of agro-inputs. Therefore, if these input dealers are trained on basic agricultural aspects, they can give better advice to farmers, specifically in response to their queries related to agriculture, especially on selection and use of appropriate agricultural inputs.

It is in this context that the National Institute of Agriculture Extension Management (MANAGE) designed and launched a one-year diploma course titled 'Diploma in Agricultural Extension Services for Input Dealers (DAESI)' in 2003. DAESI imparts relevant and location-specific agricultural education to equip these input dealers with sufficient knowledge to transform them into para-extension professionals that will enable them to address the day-to-day problems faced by farmers at the field level.

## Objectives of DAESI

To orient the input dealers on location-specific crop production technologies;

To build capacity of input dealers in efficient handling of inputs;

To impart knowledge about laws pertaining to regulation of agricultural inputs;

To make input dealers an effective source of farm information at the village level (a one-stop shop) for the farmers.

## Methodology

MANAGE is implementing the programme with the help of SAMETIs. In turn, SAMETIs organize the program through various NTIs, such as agriculture colleges, KVKs, Agricultural Technical Management Agency (ATMA), and Non-Government Organizations (NGOs), etc., at the district level with the help of resource persons drawn from universities, research organizations, departments, and freelancers.

## Key Institutions

The scheme's guidelines lay down the eligibility criteria for selection of the NTI by the SAMETI.

### Eligibility criteria for selection of NTI

Any public or private institution having the following credentials is deemed eligible for selection as NTI:

1. At least three years' experience in organizing training programmes and implementation of Central/State Govt. schemes related to agriculture;
2. Availability of relevant infrastructure (classroom facility, teaching aids including computer, LCD projector, etc.) and ability to mobilize appropriate resource persons to handle sessions and field visits;
3. Should have an official (on its rolls) with knowledge of agriculture, having three years of experience in conducting related training programmes;
4. Private organizations/NGOs must have an annual turnover of a minimum of INR 500,000 (USD 7500) for the last 3 years.

The first step in implementing the programme is selection of NTIs on pre-determined criteria by a three-member committee constituted at the state level. The selected NTI enters into a tripartite agreement with ATMA and SAMETI for organizing the DAESI programme by entering into a Memorandum of Understanding (MoU). Each institution plays an important role at different levels while they operationalize the DAESI (Table 1).

<sup>1</sup> [https://shodhganga.inflibnet.ac.in/bitstream/10603/63594/13/13\\_chapter%205.pdf](https://shodhganga.inflibnet.ac.in/bitstream/10603/63594/13/13_chapter%205.pdf). P 55.

**Table 1: Institutional set-up for operationalizing DAESI**

Role of Institution	MANAGE	SAMETI	NTI
Implementation	Overall management at national level	Implementation at state level	Nodal agency at district level
Curricula	Curriculum development	Customizing it to the state (translation into the local language)	Fine tuning to the district (adding locally relevant content)
Key personnel	Consultants External experts	Nominate one of the faculty as Nodal Officer for Coordinating DAESI at state level	Hires facilitators and resource persons for conducting contact classes
Key tasks	<ul style="list-style-type: none"> <li>Approves batches/NTI</li> <li>Release Gol subsidy component to SAMETIs</li> <li>Monitor the programme weekly through Skype /phone/ Whatsapp calls and collect weekly reports through consultants</li> <li>Organizes training programme for the facilitators for operationalization of DAESI (253 facilitators have been trained in seven batches so far)</li> <li>Oversee examinations</li> <li>Practical examination (spotting and viva-voce) by the external expert</li> <li>Award diploma to the successful candidates and issue certificates</li> <li>Hold review meetings</li> <li>Conduct refresher training programme for the DAESI-trained input dealers</li> <li>Publish quarterly e-bulletin on DAESI</li> </ul>	<ul style="list-style-type: none"> <li>Selection and monitoring of NTIs</li> <li>Organize trainings for the facilitators</li> <li>Conducts review meetings with NTIs and facilitators</li> <li>Release fund to NTIs</li> <li>Monitor the programme through Nodal Officer</li> <li>Supervision of exams</li> <li>Generate weekly/monthly reports and examination results and submit to MANAGE</li> <li>Collection of Utilization Certificates and submit to MANAGE</li> </ul>	<ul style="list-style-type: none"> <li>Mobilize input dealers for DAESI programme through ATMA</li> <li>Trained facilitators organize DAESI programmes at the district level. Prepare programme schedule, scrutinize applications, maintain attendance registers, conduct field visits, provide examination centres/classroom facility</li> <li>Set question papers</li> <li>Conduct examinations</li> <li>Evaluation of answer scripts/ records &amp; assignments</li> <li>Submission of weekly reports, monthly reports and results to MANAGE for award of the diploma</li> <li>Organize graduation ceremony for award of diploma</li> </ul>

### Key Personnel

Agri-professionals are hired to work as ‘Facilitators’ for organizing the DAESI programme. The facilitator is located at the allotted district. The facilitator is appointed on a ‘contract basis’ for one year, and his/her contract is renewed based on performance.

#### Facilitator selection criteria

Graduate/post-graduate in Agriculture/Horticulture with five years’ experience in these sectors. Preference is given to agriculture graduates having experience of around 20 years in the Department of Agriculture, SAUs or KVKs, with sufficient field experience. The candidate should have adequate knowledge about the agricultural activities undertaken in the districts, experience in organising training programmes, and should be capable of mobilizing input dealers for the DAESI programme.

**Programme:** DAESI is spread over a period of 48 weeks, with 40 classroom sessions and eight field visits to various institutions and farmers’ fields. The classroom sessions and field visits are conducted on Sundays or local market holidays. The field visits are intended to acquaint the input dealers with location-specific field problems and expose them to relevant technologies. They are trained to identify pests, diseases, and nutritional disorders. Study material is provided in the local language and multi-media instructional devices are used in the classrooms.

#### Participants

A minimum of 40 candidates is enrolled for a batch. The enrolment may be done through:

- the facilitator by contacting the input dealers individually;
  - officials of the Agriculture Department/ ATMA; and
  - dealers’ associations.
- DAESI has been designed in such a way that input dealers can pursue the programme without it adversely affecting their day-to-day business. All the practicing input dealers who have

appeared in 10th grade and all the candidates sponsored by the input agencies/agri-business companies/agri-cooperatives, etc., are eligible to enroll for the course.

**Content:** The curriculum covers a gamut of credits catering to technical, extension management, personality development, and legal aspects. These are spread over 13 Modules. The table below (Table 2) describes the modules in detail.

**Table 2: DAESI Curriculum**

Modules	Contents/Topics
Agro-ecological situations	Overview of agri production systems; agro-ecological situations & systems; weather parameters & their impact on agricultural production; suitable cropping systems; relevance of agro-meteorological information for crop production;
Soil health management	Soil profile, types, characteristics, properties; importance of soil testing, method of soil sampling & its applications; problematic soils & their management; soil deficiencies(macro/micro); integrated nutrient management; liquid fertilizers, plant growth regulators;
Rainfed farming	Crop planning in rainfed areas; water management; natural resource management for dryland agriculture; climate change & adaptation strategies; integrated watershed management;
Seed & seed production	Difference between seeds & grains; importance of quality seeds; seed treatment; types of seeds; seed storage & maintenance; principles & practices of seed production; seed certification process;
Irrigation techniques & management	Basic principles; water use efficiency system & methods in irrigation; installation, management & budgeting (micro irrigation systems -drip/sprinkler);
Weed management	Importance of weed management, types of weeds, integrated weed management (physical, chemical, biological);
Farm implements & machinery	Scope & importance of farm mechanization; utility, source and cost of various farm implements & machinery; repairs and maintenance; custom hiring centers;
Pest & disease control in agriculture	Importance; harmful vs beneficial insects; insect & disease symptoms; pesticides (classification, new generation); compatibility of agro chemicals, storage pests & their management; harmful effects of indiscriminate use of agri-inputs; integrated pest management; residual analysis; first aid;
Crop production technology of major local crops	Paddy; cereals (jowar, bajra, maize); pulses; oilseeds; commercial crops; vegetables; medicinal and aromatic plants; floriculture; landscaping and lawn maintenance (major crops grown in the district);
Acts, Rules & Regulations related to agricultural Inputs	Seed Act; Insecticide Act; Fertilizer Control Order; Essential Commodity Act; Consumer Protection Act; APMC Act; Sales Tax/VAT; benefits of above Acts, Rules & regulations pertaining to agricultural inputs to farmers and for traders;
Schemes related to the agricultural sector	Major flagship programmes of Central/State Governments related to agricultural development;
Extension approaches & methods	Communication skills; negotiation; motivation; counseling; extension reforms; cyber extension; market-led extension; extension methods (training, demonstration, exhibition, kisan melas) - purpose & procedure for organizing each;
Other optional areas (location specific)	Rural credit; crop insurance; use of plastics; nursery management; precision farming; system of rice intensification; ornithology; stress management; values & ethics in business; Kisan Call Centre.

MANAGE has developed the course content with the help of experts covering all topics in 12 Modules; and has also brought out a book as Study Material for the participants/ input dealers of the DAESI programme. Each SAMETI has been tasked with translation of the course material/ book in a particular state's local language for use as study material in the DAESI programme of that state. Apart from this, minimum 30% of the location-specific course material is prepared by the facilitator with the help of resource persons at the district level.

**Evaluation:** In order to qualify for the diploma, the candidate should have minimum attendance of 80%, and secure at least 40% marks. The performance of the input dealers is evaluated based on bi-monthly quizzes, half-yearly and annual examinations, and a final practical examination comprising of skill demonstration, identification of specimens of pests, diseases, and nutritional disorders followed by a viva-voce by an external examiner from a university and research stations (see Table 3).

**Table 3: Evaluation Sheet for DAESI candidates**

Category	Type	Marks	Sub total (Marks)
Theory Exams	Quizzes	20	100
	Mid-term Exam	30	
	Final Exam	50	
Records & Assignment	Field Record	10	30
	Records for sketches	10	
	Presentation of assignment	5	
	Problem-solution Record	5	
Practical Exams	Spotting	10	20
	Viva-voce	10	
<b>Grand Total</b>			<b>150</b>

Failed candidates are given an opportunity to appear only for the 'Final Theory Exam' along with the input dealers of the immediately following batch. In case there is no subsequent batch, the NTI conducts a special exam for the failed candidates within a period of six months based on the same syllabus. The results are declared based on the marks obtained by the individual candidates. A candidate having 40 marks and above is considered 'Pass', 60-80 is 'First Class', and above 80 is 'Distinction'.

**Costs:** The course initially started as a self-financed course with a fee of approximately INR 20,000 (USD 300) per candidate. After DAESI became a Central Sector Plan Scheme, it is subsidized to the tune of 50%, by the Ministry of Agriculture & Farmers' Welfare (MoA&FW), Gol, per input dealer. However, where agribusiness companies are involved, the company will contribute half (INR 10,000, around USD 150) and the balance will be contributed equally by MoA&FW and the input dealer (@ 75 USD each). Out of the fees earmarked for each candidate, the NTI gets USD 260 per candidate for organising the programme. The balance amount of USD 40 per candidate is apportioned among NTI, ATMA, SAMETI and MANAGE (only INR 500 each for MANAGE, SAMETI and ATMA, remaining INR 18,500 will go to NTI) to be used as coordination charges. However, wherever there is higher demand for DAESI batches than the allocated state budget, many input dealers take the course on self-finance mode by paying the entire course fee of USD 300 from their own pocket.

## Key Findings

- Initially confined only to southern states, now 18 states are implementing this scheme;
- Recognizing the value of this programme, it has been converted into a Central Sector Plan Scheme;

- More than 19,000 input dealers are currently being trained across the country and 16,000 input dealers have already completed the course. Hence, around 35,000 knowledge workers are now supplementing the efforts of the extension system at the grassroots level;
- A third-party evaluation<sup>2</sup> (Ingrain Technologies) of the programme noted that "the DAESI has been able to bring about change in perspectives of agri-input dealers by equipping them with relevant scientific information and mechanisms of communicating and extending crop specific and location specific advisory to farmers";
- As the programme is dependent on the SAMETI for smooth functioning, the effectiveness of the programme is linked to the functioning capacity of the SAMETI;
- Networking of a number of training institutes and involvement of coordinating agencies at state and district level helped in upscaling the programme and thus covering a large number of input dealers. Moreover it also helped in providing location-specific content in respective local languages;
- MANAGE is also trying to promote establishment of an 'Extension Corner' in the DAESI trained input dealer's shops where farm publications related to major crops of a particular area, and schemes related to state and central governments are displayed for the farmers.

## Monitoring, Evaluation and Learning

MANAGE monitors the progress of the programme with the help of consultants and SAMETIs. The consultants also generate weekly updates using Skype (classrooms are equipped with web cameras), photographs of classroom/field work sessions, WhatsApp groups (each batch has a WhatsApp group), and phone calls. These consultants are based out of Hyderabad but travel to scrutinize attendance registers maintained by NTI, problem-solution register, field registers, sketch books maintained by the input dealers, and are also present at the time of examination of each batch. MANAGE has also had one third-party evaluation (Ingrain Technologies) of the DAESI programme.

## Challenges

- It is a challenging task to manage the implementation of a national scheme like DAESI with limited manpower of 3-4 consultants;
- Persuading the trained input dealers to establish Extension Corners and involve them in various extension activities requires continuous motivation along with active involvement of the Department of Agriculture;
- There are delays in issuing certificates after course completion. This creates problems for dealers who have to submit it for getting their license;

<sup>2</sup> 2013. Ingrain Technologies. Evaluation and Impact Assessment of DAESI Programme. 3rd Party Evaluation conducted by Ingrain Technologies.

- There is a need to include a training module to enhance communication skills of input dealers;
- Management Information System (MIS) needs to be set up for better monitoring, evaluation and learning;
- Course curricula was formulated five years ago and will need revisions in time to remain relevant. Curricula needs to be revised based on the feedback of the agri-input dealers as well as domain experts;
- Cost norms were established in 2015. They should be updated to meet the present inflation/costs. Currently all the institutions are barely able to meet their costs under these norms;
- Less than 5% women were trained under this programme, though this is a challenging prospect as there are not many registered women input dealers.

## Impact

Not only did this programme create new knowledge workers but it also enhanced their knowledge and helped them use some of the advisories on their own farms. About 70-80% of agri-input dealers are themselves farmers and this course has improved their own farming practices. It has also enhanced competencies of the input dealers. Likewise, it has been instrumental in creating linkages between input dealers and other line departments/actors at the district level (like the KVK, etc.).

A third-party evaluation (Ingrain Technologies) commissioned by MANAGE found out that post-DAESI the takeaways were:

- An increase in the confidence levels of 73% of trained dealers; enhanced customer base for 81% of trained dealers;
- Increased adherence to regulations/regulatory norms during sale of agri-inputs by 95% of trained dealers;
- 90% of the agriculture development officials felt that the trained agri-input dealers are actively participating in providing extension services to farmers;
- Farmers are satisfied with the advice given by the DAESI-trained input dealers.

## Success Factors

- A structured programme, with clear demarcation of roles for different institutions at three levels along with a well-defined standardized procedure has enabled smooth functioning of the DAESI programme;
- Government buy-in has enabled the sustainability of the programme;
- Use of tools such as web cameras, WhatsApp group have made monitoring possible from remote locations;
- A government ruling that marked 31 January 2019 as the deadline for having a diploma by input dealers generated more demand for the DAESI programme. (A diploma is mandatory for input suppliers as the Government of India took a decision to ensure that only qualified persons run shops trading in agricultural inputs such as insecticides, pesticides, and fertilizers, as is the case with pharmaceutical dealers and retailers)<sup>3</sup>.

## Conclusion and Recommendations

This programme has the scope for ensuring that quality information and advice reaches farmers. It is also instrumental in provision of scientific advisory by input dealers – rather than random advisory – along with input supply. The DAESI programme enables input dealers also to understand the rules and regulations around input supply, which should be mandatory for any input supplier. DAESI has immense potential for scale and replication across India (states like Haryana are yet to come forward) and also in other countries.

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<sup>3</sup> <https://www.thehindu.com/news/national/karnataka/complete-diploma-or-be-stripped-of-licence-agricultural-input-dealers-told/article17488065.ece>