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Extension model for Value chain Development in Spices in Namsai district, Arunachal Pradesh



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Namsai District-Arunachal Pradesh-Geophysical features

The Namsai district of Arunachal Pradesh is a foothill district. It was formed out of Lohit District in 2014 and became the 18th District of the state. The district is situated at the north easternmost part of the country and lies between 95.45 to 96.20 E longitudes/ 27.30 to 27.55 N latitudes with a geographical area of about 1587 sqkm. The district is surrounded by Tinsukia district of Assam in the West & South West, Changlang district in the South & South East, Anjaw & Lohit in the East and Lohit in the North.

As per the population census 2011, the district has a population of 95950 with male - female ratio of 984.19 per thousand and a population density of 60.46 per sqkm. The main stream of economy of the district comes from land and forest based activities. Namsai district has a population of 95,950 and has an area of 1587 square kilometres with a literacy rate of 54.24 percent. Namsai has secured first rank in the education sector among a total of 117 aspirational districts in the country as per the ratings provided by Niti Ayog. It is inhabited by a sizeable proportion of the tribes of Tai Khampti, Singpho, Deori and Mishing.

The activities under Tribal Sub Plan component of ICAR Indian Institute of Spices Research were initiated in 2016.

Climate and Soil

Namsai has a warm and temperate climate. The summers have much more rainfall compared to winter. The average annual temperature is 22.8 °C. Precipitation here averages 2728 mm. Maximum rainfall of 750-800 mm is recorded during July-August with a relative humidity of 80%. Maximum and minimum winter temperatures are 25° C and 10° C, respectively. During summer the temperature rises up to 35° C. The vegetation acquires the general characteristics of the tropical wet semi-evergreen forest of Himalayan mountain ecosystem. The dominant soil type in Namsai district is sandy loam. Some areas feature alluvial soils, particularly in low-lying areas. The soil profile in Namsai includes depressions and swamps that remain submerged during the rainy season, with surface soil generally being a clay mix. Inceptisols, Entisols, Ultisols and Alfisols are also found in the region.

Agriculture - Status and Statistics

Namsai district in Arunachal Pradesh located in the hill valleys adjacent to Tinsukia district in Assam, has a strong agricultural base particularly for spices like ginger, turmeric and large cardamom. Given the fertile soil resources rich in organic matter, the traditional tribes Khmaptis and Singhphos follow a low external input agriculture with minimal use of chemical inputs. The interventions by the government in last decade has brought 3945 ha of land under permanent cultivation, putting an end to

the age old tradition of shifting cultivation hampering the progress of communities and causing disruptions to the environment. The pace of development in agriculture sector has increased since 2018 by several convergent initiatives by the public institutions for micro enterprise development, farmers institution building (Farmer collectives for aggregation) and training and capacity building of farming communities

Land Use and Cropping:

- Geographical Area: Namsai district has a total geographical area of 158700 hectares.
- Net Area Sown: Out of the geographical area, 47874 hectares are under net area sown.
- Cropping Intensity: The cropping intensity, which is the ratio of the area sown to the net area sown, is 103%.
- Area Under Irrigation: 4360 hectares are under irrigation.
- Area Under HYV (High-Yielding Varieties): 1464 hectares are covered under HYV.
- Area brought under fertilizer (NPK): 1500 ha
- Consumption of fertilizer: 708 qt
- Government Agriculture Farm: There is one government agriculture farm in the district.
- Per Capita Net Area Sown: The per capita net area sown is 1.8 hectares.

- Forest Cover: The forest cover of the district is 47.23%.
- Agro-climatic Suitability: Namsai district is suitable for growing tropical, sub-tropical, and sub-temperate crops.

Testimony of Inclusive Development- Aspirational district programme

According to data released by the Niti Ayog under the Aspirational District Programme (ADP). Namsai's meteoric climb in developmental rankings, moving from the 97th position in 2018 to 12th in 2024 among 112 aspiration districts is a standing testimony. The district's combined score has improved by 37.64%, showcasing considerable improvement across the health, education, and infrastructure sectors. Niti Ayog's reflection on development track is that Namsai's success story demonstrates the transformative potential of targeted development schemes. "Namsai's journey illustrates how cooperation, convergence, and competition can overcome challenges and drive inclusive development. The rankings score of 8 as the overall rank indicated 27th in health sector, 10th in education but a much lower rank of 82 in agriculture. The lower ranking of agriculture in a unique and favourable agro climate highlights the need for further growth to unlock the potential in primary sector and step up value addition in primary and a secondary processing.

Spice sector highlights

Spices is an important commercial crop in Arunachal Pradesh and many small and marginal farmers depend their livelihood on spices. The area under spice cultivation in Arunachal Pradesh has decreased by 10.81 percent annually, while production has increased significantly by 5.07 percent annually. The instability index for area was low (4.55) while production showed medium instability (16.11) respectively. To bridge the existing gaps in production and yield and harness the full potential of spices production in the region, government policies should emphasize more on infrastructural development and targeted research to maximize the region's potential for premium spice production. Public – private collaboration and institutional convergences should be encouraged to increase scientific knowledge in production of important spices across the region. It is also realized that focus on agro-processing units is crucial for postharvest management and value addition of spice products that have high potential for exports. Training, exposure and capacity building through farmers collectives are necessary for sustaining the livelihood of the farmers in the region.

Genesis of Spices cultivation promotion in Namsai

ICAR- IISR in collaboration with the Spices Board and AICRPS centre, Pasighat initiated demonstration of Organic cultivation in turmeric in Namsai district, Arunachal Pradesh. The activities which marked the beginning of the programme were as follows:

- Training and capacity building programmes for officers and field staff of Spices Board in Arunachal Pradesh on GAP on three crops –Ginger, Turmeric and black pepper. (17-19th 2016)
- Facilitation by spices board for organizing farmers collectives in Mhadevpur and Lathao mobilizing a membership of 500 turmeric growers in 2017
- Varietal trials in ginger and turmeric by AICRPS, Pasigarh to identify suitable varieties to the region. (2017-2019)
- Establishment of Model Pepper Garden by Spices Board in Erlonivillage, Mahadevpur, Namsai (2018).
- A joint workshop with Spices board during 25-27th November with the agendas; Strengthening of strong FPO of turmeric already in operation- Mahadevpur and Lathao through capacity building and training, Collection of samples of turmeric including local varieties for chemo profiling, Introduction of location specific varieties like Mega turmeric and their area expansion and Establishment of community nurseries of black pepper
- Front line demonstration by IISR of three varieties of turmeric-Rajinder Sonia, Megha turmeric and IISR Prathibha identified suitable for the region in 10 selected farmers fields covering 10 ha. in 2019. IISR facilitated supply of seeds.
- Introduction of Bold ginger Nadia variety in Namsai District Arunachal Pradesh-400 Kg. In Collaboration with AICRPS centre, Pasigarh to the FPO. (2019-2020)-4 tonnes

- Demonstration of GAP technologies developed by IISR; Trichoderma capsules, Encapsulated PGPR for turmeric and Micronutrient mixtures for foliar spray. 1250 numbers of capsules each of *Trichoderma* and PGPR and 500 kg of micronutrients were used to cover about 300 acres of large-scale demonstration (2020-2021). Mission mode with NEH financial grants of IISR. The demonstrations were supervised by the field offices of the Spices Board.

In one of the success story, a progressive farmer by the name Ganesh Bahadur Limbu had planted turmeric in 1.5 acre area of Rajendra Sonia Variety. He had totally practiced scientific method of cultivation such as making proper lining, putting vermicompost in the field, two times weeding, making the bed higher and applying of micronutrient, his production was enormous. On planting 800Kg (8 quintals) of seed, the production was approx. 18000 Kg (180 quintals) which is 22.5 times the seed given to the field. Therefore, on getting Rs. 11 per Kg, his revenue came close to 2 lakhs in compare of Rs. 70,000/- (it includes one time seed purchase @Rs. 30 per Kg) invested on field. Therefore, it can be concluded that if proper care is given, turmeric can be highly profitable for the farmers.

Genesis to Micro Enterprise – Namsai Spices and Agro Products Private Limited

- The activities under Tribal Sub Plan component of the Institute. were initiated in 2016-17. A stake holder

workshop involving field officers from the office of the Spices Board from all North eastern states and Spices growing farmers in Namsai District was organized in 2016.

- Following this workshop, an action plan for introduction of improved varieties of turmeric suitable for the location was developed and implemented. The other components of the programme were supply of organic inputs for organic cultivation and establishment of black pepper demonstration plots and black pepper nurseries.
- With the support of SpicesBoard, a farmer producer organization namely Namsai Organic Spices and Agric Products Company Limited was started with a total of 575 farmers spread over 22 villages in the district. Two varieties of turmeric namely Megha turmeric and Rajendra Sonia were introduced in 2016. At present a total production of 125 tonnes has been obtained out of which 100 tonnes was supplied as seed material to Department of Agriculture
- In September 2017, a workshop for farmers for imparting training on organic cultivation of three spices, turmeric, ginger and pepper was organized in collaboration with AICRPS centre, Pasigarh.

Farmer participation through grass root collectives -The Growing Impact

- Namsai Organic Spices and Agricultural Products producer Company limited was established on 2018-04-17, exemplifies a Private held entity with a focus on the Farming and product processing, it is classified under non-government company, 'Company limited by shares'. Operating under the jurisdiction of the Arunachal Pradesh Registrar of Companies. It showcases a robust financial foundation with an authorized share capital of INR 1000000, alongside a fully subscribed and paid-up capital of INR 204000. The company has marked its presence in a key commercial hub with two sales outlets for a variety of branded products.
- In 2022, a major stride forward was product development through value addition and setting up an exclusive market outlet for the produce as well as the products of beneficiaries. In September 2022, a common processing facility for processing of turmeric, allovera and mushroom for a cluster village was set up at Namsai. The nodal agency who provided technology back stopping for machinery and installation was PPDC, a product development centre under MSME and funding was provided by NABARD. Vegetable washer, cutter, boiler and drier assembly machinery was installed.

- NOSAAP is known for its organic turmeric and black pepper.
- NOSAAP is the applicant for GI registration of Khaw Tai (Khamti Lahi Rice), a traditional rice from the Khamti tribe.
- NOSAAP has been involved in value-added processing of local agricultural products, including pickles and jams, and also cultivates other crops like ginger, according to Facebook.
- NOSAAP emphasizes organic farming and sustainable agriculture, which is reflected in their product offerings and farming methods, according to a Facebook post.



Black pepper model garden, Namsai



Capacity building workshop in Namsai for Spices Board field staff



Field method demonstration-GAP-Bio capsules



Spices Processing unit-Namsai Organic spices and Agroprocessing Ltd



Rajinder Sonia FPO farmer member field



Turmeric seed produced by Namsa iOrganic Producers Organisation- FPO, Arunachal Pradesh-Var Rajinder Sonia

Media and market push: NOSAAP

- NOSAAP participated in the Poi Pee Mau festival from 1-3rd Dec 2024 in Nalung Village, Namsai to exhibit cum sales of various local value-added products along with Handloom and Handicrafts products supported by NABARD.



- NOSAAP received sanction letters for GI authorized user and Rural Mart scheme from Smt. Nirmala Sitharaman, Hon'ble Union Minister for Finance and Corporate Affairs in presence of Shri Chowna Mein, Hon'ble DCM Arunachal Pradesh, Shri Tapir Gaon, Hon'ble MP, Chairman NABARD, Chairman SBI and other dignitaries on 1st October 2024 in Multipurpose Hall, Namsai.



- NOSAAP participated in World Food India exhibition cum BSM held from 19th Sept' to 22nd Sept.'2024 at Pragati Maidan, Delhi.



- Display of NOSAAP products such as Khaw Tai and Turmeric Powder in North East Festival, Ho Chi Minh City, Vietnam by Trade and Commerce Dept., Arunachal Pradesh.



- Training Program on Micro Food processing of Bakery products launched at Mudoi Village, Diyun Circle on 21st August 2023



- Participation in Summer Fancy Food Show in Javits Centre, New York, USA



- Participation in an Exhibition held on account of G20 event in Namsai where several products of NOSAAP were displayed.



Media Outreach of NOSAAP



MEDP on Bakery Food Processing for SHGs concludes at Mudo

SRG, Lakshmi Devi, the Managing Director of the organization, expressed her appreciation for the support of the Government of India, Ministry of Rural Development, and the Arunachal Pradesh Government, in implementing the MEDP on Bakery Food Processing for SHGs. She also mentioned that the MEDP on Bakery Food Processing for SHGs was a successful initiative, which provided a platform for the SHGs to showcase their products and skills. The MEDP on Bakery Food Processing for SHGs was a two-day event, which was held at Mudo. The event was attended by a large number of participants, including the SHG members, the officials of the Government of India, Ministry of Rural Development, and the Arunachal Pradesh Government. The event was a great success, and it was a pleasure to have everyone present. The MEDP on Bakery Food Processing for SHGs was a great initiative, which provided a platform for the SHGs to showcase their products and skills. The MEDP on Bakery Food Processing for SHGs was a two-day event, which was held at Mudo. The event was attended by a large number of participants, including the SHG members, the officials of the Government of India, Ministry of Rural Development, and the Arunachal Pradesh Government. The event was a great success, and it was a pleasure to have everyone present.

NOSAAP promotes youth participation in agriculture through football

March 21, 2021



NAMSAI, 20 Mar: The All Namsai Area Youth Association recently organized a football tournament here with the theme 'Be fit & healthy (Say no to drugs)'. The tournament was kicked off by DGN Chown Mein on 13 March. Thirty-two teams from nearby districts participated in it.

The objective of the tournament was to create awareness among the youths of the state against growing drug addiction.

NABARD launches LEDP in Namsai

December 24, 2020



NAMSAI, 24 Dec: NABARD DDM Kamal Roy launched an 'Azolla-based livelihood enterprise and development programme (LEDP)' here on Thursday in the presence of ARSLM staff, the Mahadevpur Livestock FPO, SHGs promoted by the ARSLM, and members of the Namsai Organic Spices and Agricultural Products (NOSAAP) Farmers-Producers Company (FPC).

"The project will focus on skill development training on cultivation of azolla and its value addition to 150 selected members of SHGs and livestock FPO members," Roy informed in a release.

The project is being implemented by the NOSAAP FPC in collaboration with the ARSLM and the Namsai KVK.

Arunachal: SDP to promote Tourism launched by NABARD in Namsai

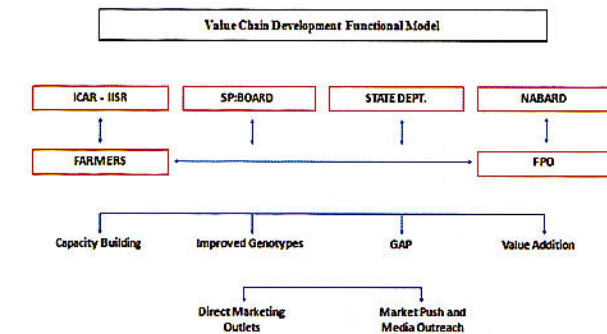
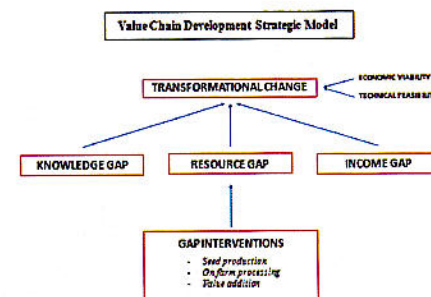
Jan 26, 2021



NAMSAI: Two Skill Development Programmes (SDP) on Food & Beverage Services (Cheffing) and Travel Consultant were launched on Wednesday, 26th March 2021. The programme was supported by NABARD, Arunachal Pradesh Regional Office. Manager and implemented by Bethel Life Care Charitable Trust (BLCT) in collaboration with NOSAAP and ARSLM Namsai.

Extension Model for Value chain development in spices in Arunachal Pradesh

The North eastern agro ecosystem is endowed with abundant natural resources like soils rich in humus, irrigation water availability etc. However due to the remoteness of village clusters and poor communication and transport infrastructure the farming communities still practice traditional and conservative agriculture. Many locations are ecologically sensitive in terms of climate vulnerability and abundant bio diversity that needs to be conserved. The gaps in resource use by farmers and knowledge level on viable farming need to be addressed to enhance income from farming. It is in this context a strategy for value chain development of spices with holistic “farm to fork” approach was sought after. The functions and interventions of institutions or organizations were converged to achieve broader objectives of economic viability and sustainability.



Recognition - The reasons

In July 2022, ICAR - IISR bestowed Spice Award 2022 in connection with Institute Foundation Day.

The citation appreciated the following:

- Enabled the efficiency of technology dissemination to small farmers, promoting adoption of Good Agriculture Practices in Spices, developed Sustainable Value Chain in spices.

