

BEST PRACTICE - 1

Title of the Practice“ Experiential Learning Ecosystem”

Objective of the Practice:

‘Experiential Learning Ecosystem’ provides the students an excellent opportunity to develop analytical and entrepreneurial skills, knowledge through meaningful hands-on experience, confidence in their ability to design and execute project work. Experiential learning helps the student to develop competence, capability, capacity building, acquiring skills, and expertise in various domains. Under this initiative, RIMT University provides experience-based learning, generally, in all programs, however, specifically in three key areas- Indigenous Medicinal and Aromatic Plants Conservation, Mushroom Cultivation, and Rural Agriculture Work Experience (RAWE).

The main objectives of ELE are:

- ❖ To provide an ecosystem for reflection, critical analysis and synthesis that includes the possibility to learn from natural consequences, mistakes, and successes.
- ❖ Opportunities for students to take initiative, make decisions, and be accountable for the results and engage them intellectually, creatively, emotionally, socially, or physically.
- ❖ To acquaint students with on-going rural development programs, Indigenous medicinal system and state-of-the-art Mushroom cultivation technologies while familiarizing with socio-economic conditions/problems of the farmers.
- ❖ To impart diagnostic and remedial knowledge to the students relevant to real field situations through practical training.
- ❖ To promote conservation of plant genetic resources and resolve agricultural problems in global context.
- ❖ To develop communication skills in students using extension teaching methods in transfer of technology.

The Indian Traditional Systems of Medicine are one of the oldest systems of medical practice in the world and have played an essential role in providing health care service to human civilization right from their inception. These systems are based on definite medical philosophies and represent a way of achieving a healthy lifestyle with well-established principles on the prevention of diseases and the promotion of health. The basic treatment approach of all these systems is holistic and the pharmacological modalities are largely based on plants. Therefore, it is very important to inculcate young minds to realize the fascinating knowledge and tradition associated with these resources, and help them understand the immense potential these medicinal plants possess for the future. The conservation of plant genetic resources has long been realized as an integral part of biodiversity conservation. Therefore, promotion of cultivation of medicinal plants is the need of the hour for sustainable use of plant species.

Another objective of the practice is to develop human resources and train the youth for small scale agribusiness and entrepreneurship. This involves production, processing, marketing, trade and distribution of raw materials. In the present economic climate, entrepreneurial skills are very important for innovations and building a prosperous society.

Furthermore, RAWE helps the students to understand the rural situations, status of agricultural technologies adopted by the farmers to prioritize the farmers' problems and to develop skills & attitude of working with farm families for overall development in rural areas. It also develops confidence and competency among students for facing problematic situations and finding practical solutions for them. Soil testing is an integral part of RAWE. It also helps to motivate the youth to participate in various rural development programmes.

The Context

The word 'experiential' essentially means that learning and development are achieved through personally determined experience and involvement, rather than on received teaching or training, typically, in group, by observation, study of theory or hypothesis, and bring in innovation or some other transfer of skills or knowledge. Experiential learning is a business curriculum-related endeavor which is interactive. It is for building (or reinforcing) skills in project development and execution, decision making, individual and team coordination, approach to problem solving, accounting, marketing and resolving conflicts, etc.

The program follows an end-to-end approach. Carefully calibrated activities move participants to explore and discover their own potential. Both activities and facilitation play a critical role in enhancing team performance. The concept of experiential learning follows a cyclic pattern of integrated learning from experience through reflection and conceptualizing to action.

This includes:

- a) Basic instructions on what students will learn.
- b) Delivery of critical content of the chosen subject.
- c) Hands on training or learning by doing and
- d) Integration of what is accomplished during hands-on training including extended marketing facilities for economic benefit.

In the context of **Indigenous Medicinal Systems**, the World Health Organization in its “Traditional Medicinal Strategy 2014-2023” advocates scientific and evidence based use of herbal medicine in health care services. India has a rich tradition of Indigenous Medicinal Systems and about 80% of the population is still dependent on these systems of medicine for their daily health care needs. Ministry of AYUSH, Government of India is putting all the necessary efforts for mainstreaming of AYUSH (Ayurveda, Yoga & Naturopathy, Unani Medicine, Siddha Medicine and Homeopathy) therapies in National Health Care Program under National Rural Health Mission so that the target “HEALTH FOR ALL” could be achieved. Educational institutes play an important role towards raising awareness and popularization of plant based medicine in the society by nurturing young minds.

In the context of **Rural Agricultural Work Experience (RAWE)**, it is a clearly defined concept which is embedded with the concept of Participatory Rural Appraisal (PRA) as well as Participatory Learning and Action (PLA). The sharing of ideas and experiences has been incorporated in the concept of RAWE. The information regarding different areas had been collected through RAWE for utilizing it to solve the problems of local areas after analyzing and blending with the scientific information. It supports a strong rationale for solving the local problems with the help of local resources.

The Practice

Experiential Learning helps the student to develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start their own enterprise and turn job creators instead

of job seekers. This is a step forward for the “Earn while Learn” concept. Experiential Learning is an important module for high quality professional competence and practical work experience in real life situations to graduates. The module with entrepreneurial orientation of production and production to consumption pattern is expected to facilitate producing Job Providers rather than Job Seekers.

The experiential learning ecosystem (ELE) will be offered for one semester in the final year. As the programme is enterprise oriented, students are expected to attend the activities of the enterprise even on institutional holidays with total commitment, and without any time-limit or restriction of working hours for ELE.

The various practices undertaken by the students in ELE included:

i. **Mushroom Cultivation Technology, Food processing, floriculture and landscaping, seed production technologies**

The practices such as mushroom cultivation technology, food processing, floriculture and landscaping, seed production technologies would help the students to develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start their own enterprise and turn job creators instead of job seekers. This embraces the earning while learning concept.

ii. **Bee keeping unit**

Beekeeping is a significant sustainable, and environmental sound activity involving integration of forestry, social forestry and agricultural supporting activity since it provides nutritional, economic, and ecological balance, while providing employment and income. Beekeeping is a low investment and skill Industry having the potential to offer direct employment to lakhs of people. Sustainability of this industry is therefore vital to the country's economic wellbeing and development. It plays a vital role in the livelihoods of the rural communities in four dynamic ways:- (i) it is an income generating activity; (ii) provides food and medicine - value of honey and other hive products are invaluable; (iii) it supports agricultural activities through cross pollination and increase in yield of crops; (v) It provides supplementary income to farmers.

It acquaint the students regarding identification of different stages of honey bees, life cycle of different cast of honey bees, seasonal management, bee flora bee

enemies, diseases and their management, starting bee keeping, migration of bee boxes, honey extraction and processing. It also imparts students with practical skills on examination of honey bee colonies providing artificial feed to honey bees, management of mites and wax moths.

iii. **Protected Cultivation**

Polyhouse is a type of greenhouse where specialized polythene sheet is used as a covering material under which the crops can be grown in partially or fully controlled climatic conditions. It was established in RIMT University in 2011. Modern-day polyhouses are built on G.I. steel frame and are covered with plastic, which is fixed on the frame with aluminum grippers. The white plastic film used for covering is of high quality; 200 microns thickness, with 3 years guarantee against degradation due to UV and weather. Mostly drip irrigation system is installed inside a polyhouse for watering purpose. Polyhouse here is used for planting floriculture and vegetable crops. Research activities of Master's students are carried in these polyhouses. Area under polyhouse is four canal. The significance of polyhouse:

- Polyhouse protects the crops from wind, rain, radiation, precipitation and other climatic factors.
- It creates microclimate surrounding the crops that help in maximum growth regarding production and quality.
- Polyhouse crops can give you maximum profit in a minimum area under cultivation. Crops can be grown throughout the year and will not have to wait for any particular season.
- It also reduces the pests and insects infestation.
- External climate will not have any impact of the growth of crops.
- Quality of produce is obviously higher in polyhouse

iv. **Medicinal Plants Garden**

The University has an eco-friendly campus with lush green lawns and bounty of trees providing a soothing green canopy. We have established a medicinal plants garden that houses several indigenous medicinal herbs acknowledged for their therapeutic uses in alternative and complementary medicine. The establishment of the medicinal plants garden has been a fun-filled learning activity for the students

where they get the opportunity to learn about the medicinal plants by actually planting the medicinal herbs and watching them grow in the garden, and by exploring information about them from various sources. The task of making the garden itself has been enriching in terms of making students realize the importance of team work such as detailed planning and allocation of tasks within a team. For the teachers, the herbal garden project has been useful in terms of ease with which they could integrate the concept with other subject matter activities, such as writing essays, poems and stories, making posters, drawing and painting, making herbariums, and even preparing herbal extracts in the laboratories.

The practice is in accordance with the initiative of Government of India for establishment of AYUSH Wellness Clinics as it imparts knowledge to students of all disciplines about identification, processing and conservation of medicinal plants. There are more than 80 species of different medicinal plants. Some significant plants are listed below:

Sr. no.	Common Name	Botanical Name	Medicinal uses
1	Aak white	<i>Calotropis gigantea</i>	The leaves are said to be valuable as an antidote for snake bite, sinus fistula, rheumatism, mumps, burn injuries, and body pain. The leaves of <i>Calotropis procera</i> are also used to treat jaundice.
2	Akarakarabha	<i>Spilanthes acmella</i>	It has anti-inflammatory, diuretic, and aphrodisiac effects. The leaves are used as food sources. The flowers of <i>Spilanthes</i> have earned it the name “toothache plant” for their numbing and pain-relieving effects.
3	Amaltas	<i>Cassia fistula</i>	Useful in joint pain, migraine, chest pain and blood dysentery. Amaltas root is also useful in fever, heart diseases, retained excretions and biliousness. It is also used in cardiac disorders biliousness, rheumatic condition, haemorrhages, wounds, ulcers and boils and skin diseases.
4	Amla	<i>Emblica officinalis</i>	It improves immunity, Useful in hair care, reduces stress, eye care, treat Anemia, blood purifier, improves digestion, anti ageing, improves mental function/
5	Anjeer	<i>Ficus carica</i>	It has been used in traditional medicine for a wide range of ailments related to digestive, endocrine, reproductive, and respiratory systems. Additionally, it is also used in gastrointestinal tract and urinary tract infection.
6	Aparjita	<i>Clitoria ternatea</i>	Aparajita can be used in various diseases like Goitre, edema, Skin disorders, Digestive disorders

7	Arind	<i>Ricinus communi</i>	It has has been used in traditional medicine such as abdominal disorders, arthritis, backache, muscle aches, bilharziasis, chronic backache and sciatica, chronic headache, constipation, expulsion of placenta, gallbladder pain, period pain, menstrual cramps, rheumatism, sleeplessness, and insomnia.
8	Arjun tree	<i>Terminalia arjuna</i>	It is used in the treatment of fractures, ulcers, hepatic and showed hypocholesterolemic, antibacterial, antimicrobial, antitumoral, antioxidant, antiallergic and antifeedant, antifertility and anti-HIV activities. T. arjuna is reported that to possess strong hydrolipidemic properties.
9	Ashok tree	<i>Polyalthea longifolia</i>	This plant is used as an antipyretic agent in indigenous systems of medicine. Pharmacologic studies on the bark and leaves of this plant show effective antimicrobial activity, cytotoxic , antiulcer activity, hypoglycemic activity, and hypotensive effect
10	Ashwagandha	<i>Withania somnifera</i>	The overall medicinal properties of Withania somnifera make it a viable therapeutic agent for addressing anxiety, cancer, microbial infection, immunomodulation, and neurodegenerative disorders.
11	Atibala	<i>Abutilon indicum</i>	It is useful in gout, tuberculosis, ulcers, bleeding disorders, and worms. It can be used as Digestive, laxative, expectorant, diuretic, astringent, analgesic, anti inflammatory, anthelmintic, demulcent and aphrodisiac. Decoction used in toothache and tender gums.
12	Bach	<i>Acorus calamus</i>	The rhizome is used to make medicine. Despite safety concerns, calamus is used for gastrointestinal (GI) problems including ulcers, inflammation of the stomach lining (gastritis), intestinal gas (flatulence), upset stomach and loss of appetite (anorexia).
13	Badi Dodak	<i>Euphorbia hirta</i>	It is used for breathing disorders, dengue fever , digestive problems, severe diarrhea (dysentery), and many other conditions, but there is no good scientific evidence to support these uses.
14	Bahera	<i>Terminalia bellirica</i>	It is used to protect the liver and to treat respiratory conditions, including respiratory tract infections, cough, and sore throat
15	Bamboo	<i>Bambusa arundinacea</i>	n traditional Chinese medicine, bamboo shoots are used to ease labor and the expulsion of the placenta by inducing uterine contractions. A poultice of the shoots is often used for cleaning wounds and healing infections. Bamboo shoot decoction taken along with honey is used to treat respiratory disorders.
16	Bel	<i>Aegle marmelo</i>	It possesses antidiarrhoeal, antimicrobial, antiviral, radioprotective, anticancer, chemo preventive, antipyretic, ulcer healing, antigenotoxic, diuretic, anti fertility and anti-inflammatory properties.
17	Belladonna lilly	<i>Amaryllis belladonna</i>	This plant are used to treat colds, coughs, and as an external application or wash for wounds, scrofula and hemorrhoids.
18	Bellyache bush	<i>Jetropha gossypifolia</i>	<i>Jatropha gossypifolia</i> leaves are considered to have anti-inflammatory, antimicrobial and insecticidal properties. The root and stem have anti-inflammatory and antimicrobial properties. The seeds and fruits can be used against influenza and as a sedative, analgesic or anti-diarrheal agents.

19	Bhang	<i>Canabus sativa</i>	Cannabis sativa L. has been used for medicinal purposes for example for the treatment of pain, spasms, asthma, insomnia, depression, and loss of appetite.
20	Bohr	<i>Ficus benghalensis</i>	various plant parts of Ficus benghalensis L. such as stem bark, aerial roots, underground roots, vegetative buds, leaves, fruits and latex have been used in various nervous disorders i.e. seizure, insomnia, anxiety
21	Brami	<i>Centella asiatica</i>	Used to heal wounds, improve mental clarity, and treat skin conditions such as leprosy and psoriasis.
22	Brami	<i>Bacopa monnieri</i>	It has been used for centuries in Ayurvedic medicine, either alone or in combination with other herbs, as a memory and learning enhancer, sedative, and anti-epileptic.
23	Chngeri grass	<i>Oxlis corniculata</i>	It possess anti-inflammatory, anxiolytic, anticonvulsant, antifungal, antiulcer, antinociceptive, anticancer, antidiabetic, hepatoprotective, hypolipidemic, abortifacient, antimicrobial and wound healing properties.
24	Chitrak	<i>Plumbago zeylanica</i>	The roots are used to treat migraine, jaundice, skin diseases, urinary calculi, seminal weakness, and internal abscesse. The root is used to treat contusion of extremities, cancer, rheumatoid arthritis..
25	Crown of thorns	<i>Euphrbia milii</i>	It is widely used in folk medicine for the treatment of warts (South Brazil), cancer and hepatitis (china). It has been reported that Euphorbia milii possesses antifungal and antinociceptive property, acts as natural molluscicide, can curb the spread of schistosomiasis.
26	Curry patta	<i>Murraya koengii</i>	The green leaves are used in treating piles, inflammation, itching, fresh cuts, dysentery, bruises, and edema.
27	Dalchini	<i>Cinnamomum varum</i>	It has been reported to have anti-diabetic, antibacterial, antioxidant, anti-inflammatory, and anticancer effects.
28	Danda thohr	<i>Euphorbia royleana</i>	It is traditionally used for treatment of many ailments including paralysis, ear pain, and loose motions
29	Datura	<i>Datura metal</i>	The seeds are analgesic, anthelmintic and anti-inflammatory and as such, they are used in the treatment of stomach and intestinal pain that results from worm infestation, toothache, and fever from inflammation.
30	Dhak	<i>Butea monosperma</i>	Flowers are used in many ailments like eye disease, chronic fever, enlargement of spleen, leucorrhoea, epilepsy, leprosy, antifungal activity, anti-inflammatory activity, liver disorders antifertility activity and gout etc.
31	Elaichi	<i>Elettaria cardamomum</i>	It has been used to control of asthma, teeth and gum infections, cataracts, nausea, diarrhea, as well as cardiac, digestive and kidney disorders.
32	Giloe	<i>Tinospora cordifolia</i>	has an importance in traditional ayurvedic medicine used for ages in the treatment of fever, jaundice, chronic diarrhea, cancer, dysentery,

			bone fracture, pain, asthma, skin disease, poisonous insect, snake bite, eye disorders.
33	Guava	<i>Psidium guajava</i>	popular traditional remedy for gastrointestinal infections such as diarrhea, dysentery, stomach aches, and indigestion
34	Gudmar	<i>Gymnema sylvestre</i>	<i>Gymnema sylvestre</i> may help you fight sugar cravings and lower high blood sugar levels. The plant may also play a beneficial role in diabetes treatment, as it may help stimulate insulin secretion and the regeneration of pancreas islet cells — both of which can help lower blood sugar.
35	Gular	<i>Ficus racemosa</i>	Useful for various diseases/disorders including diabetes, liver disorders, diarrhea, inflammatory conditions, hemorrhoids, respiratory, and urinary diseases.
36	Hadjor	<i>Cissus quadrangularis</i>	<i>Cissus quadrangularis</i> is used for diabetes, obesity, high cholesterol, bone fractures, allergies, cancer, stomach upset, painful menstrual periods, asthma, malaria, wound healing, peptic ulcer disease, weak bones, weak bones (osteoporosis) and as body building supplements as an alternative to anabolic steroids.
37	Har shingar	<i>Nyctanthes arbo-tristis</i>	The popular medicinal use of this plant are anti-helminthic and anti-pyretic besides its use as a laxative, in rheumatism, skin ailments and as a sedative.
38	Harar	<i>Terminalia chebula</i>	Harad may show heart-protective, liver protective, anti-bacterial, antifungal, and anti-viral properties. In addition, it may benefit health conditions like cancer, diabetes, inflammation, and stomach disorders.
39	Imli	<i>Tamarindus indica</i>	It is used in wound healing, abdominal pain, diarrhea, dysentery, parasitic infestation, fever, malaria and respiratory problems. It is also commonly used in tropical countries because of its laxative and aphrodisiac properties
40	Indian Mallow	<i>Abutilon indicum</i>	It is useful in gout, tuberculosis, ulcers, bleeding disorders, and worms.
41	Insulin	<i>Costus igneus</i>	Leaves are believed to lower blood glucose levels.
42	Jamun	<i>Syzygium cumini</i>	The bark is acrid, sweet, digestive, astringent to the bowels, anthelmintic and used for the treatment of sore throat, bronchitis, asthma, thirst, biliousness, dysentery and ulcers. It is also a good blood purifier.
43	Kachnar	<i>Bauhinia variegata</i>	This plant possess antibacterial, antidiabetic, analgesic, anti-inflammatory, anti-diarrheal, anticancerous, nephroprotective and thyroid hormone regulating activity.
44	Kalmegh	<i>Andrographis paniculata</i>	It is one of the most popular medicinal plants used traditionally for the treatment of array of diseases such as cancer, diabetes, high blood pressure, ulcer, leprosy, bronchitis, skin diseases, flatulence, colic, influenza, dysentery, dyspepsia and malaria for centuries .
45	Kaner	<i>Thavetia peruviana</i>	It is used in the treatment of external wounds, infected area, ring worms, tumours
46	Keli	<i>Canna indica</i>	It can be used to treat menstrual pains. The root can be used to treat gonorrhoea and amenorrhoea.

47	Khair	<i>Acacia catechu</i>	The bark and roots are used in treating sore mouth, body pains, gravel, bronchial asthma and indigestion. The bark is especially useful as astringent, and a cure in cough, diarrhoea and indigestion, cancer, piles, sore throat, ulceration, eczema and certain forms of leprosy
48	Khurasani ajwain	<i>Hyoscyamus niger</i>	Henbane is used for ailments of the bones, rheumatism, toothache, asthma, cough, nervous diseases, and stomach pain.
49	Kikar	<i>Acacia nilotica</i>	Its bark and branches are excellent for gums. These are used to strengthen gums and stop gingivitis and whiten teeth. It also helps to alleviate other ailments like diarrhoea, arresting bleeding and allaying skin irritation...
50	Kumari	<i>Aloe vera</i>	Traditionally, this medicinal plant has been employed to treat skin problems (burns, wounds, and anti-inflammatory processes). Moreover, Aloe vera has shown other therapeutic properties including anticancer, antioxidant, antidiabetic, and antihyperlipidemic
51	Lajwanti	<i>Mimosa pudica</i>	The herb has been used in the treatment of urogenital disorders, piles, dysentery, sinus, and also applied on wounds.
52	Lasooda	<i>Cordia dichotoma</i>	Leaf of plant traditionally shows the therapeutic uses and actions such as anthelmintic, astringent, diuretic, demulcent, purgative, expectorant, tonic, ulcer and cough.
53	lemon	<i>Citrus aurantifolia</i>	It is widely used because of its antibacterial, anticancer, antidiabetic, antifungal, anti-hypertensive, anti-inflammation, anti-lipidemia, and antioxidant properties; moreover, it can protect heart, liver, bone, and prevent urinary diseases.
54	Lemon grass	<i>Cymbopogon citratus</i>	The plant is used as a fragrance and flavoring agent and in folk medicine as an antispasmodic, hypotensive, anticonvulsant, analgesic, antiemetic, antitussive, antirheumatic, antiseptic and treatment for nervous and gastrointestinal disorders and fevers.
55	Long pepper	<i>Piper longum</i>	It is used to treat chronic bronchitis, asthma, constipation, gonorrhoea, paralysis of the tongue, diarrhea, cholera, chronic malaria, viral hepatitis, respiratory infections, stomachache, bronchitis, diseases of the spleen, cough, and tumors.
56	Mako	<i>Solanum nigrum</i>	It is used to treat pneumonia, aching teeth, stomach ache, tonsillitis, wing worms, pain, inflammation and fever, tumor, inflammation, and also as hepaprotective, diuretic, antipyretic
57	Mango	<i>Mangifera indica</i>	Various parts of plant are used as a dentrifice, antiseptic, astringent, diaphoretic, stomachic, vermifuge, tonic, laxative and diuretic and to treat diarrhea, dysentery, anaemia, asthma, bronchitis, cough, hypertension, insomnia, rheumatism, toothache, leucorrhoea, haemorrhage and piles.
58	Marod phali	<i>Helicteres isora</i>	It is used as a folk medicine to treat snake bite, diarrhoea and constipation of new born baby.
59	Mexican prickly poppy	<i>Argemone mexicana</i>	It is useful for the treatment of several diseases including tumors, warts, skin diseases, inflammations, rheumatism, jaundice, leprosy, microbial infections, and malaria.
60	Mehendi	<i>Lawsonia inermis</i>	It is not only a colouring agent, but it also possesses various biological activities such as antioxidant, antimicrobial, antidiabetic,

			anticancer, anti-inflammatory, antiparasitic, antidermatophytic properties, anticancer, antiviral, wound healing, immune modulatory, hepatoprotective, tuberculosta
61	Mogra	<i>Jasminum sambac</i>	It has been used to treat dysmenorrhoea, amenorrhoea, ringworm, leprosy, skin diseases and also as an analgesic, antidepressant, anti-inflammatory, antiseptic, aphrodisiac, sedative, expectorant.
62	Mushakapoor	<i>Cinnamomum camphora</i>	It has been reported to be used traditionally for the treatment of heart conditions, colds and fevers, respiratory complaints such as pneumonia, inflammatory conditions, infections, diarrhea, and hysteria.
63	Neem	<i>Azadirachta indica</i>	Leaf and its constituents have been demonstrated to exhibit immune modulatory, anti-inflammatory, antihyperglycaemic, antiulcer, antimalarial, antifungal, antibacterial, antiviral, antioxidant, antimutagenic and anticarcinogenic properties.
64	Niajbo	<i>Ocimum basilicum</i>	It has been used as a traditional medicinal plant for the treatment of headaches, coughs, diarrhea, constipation, warts, worms, and kidney malfunctions.
65	Nirgundi	<i>Vitex nogundo</i>	It relieves muscle aches and joint pains. The Ayurvedic and Unani Pharmacopoeia of India has documented the use of the leaf, seed and the root to treat excessive vaginal discharge, edema, skin diseases, pruritus, helminthiasis, rheumatism and puerperal fever.
66	Patherchat	<i>Bryophyllum pinnatum</i>	The leaves of the plant are widely used by tribal and other populations for treatment of stones.
67	Pipal	<i>Ficus religiosa</i>	It is used traditionally as antiulcer, antibacterial, antidiabetic, in the treatment of gonorrhoea and skin diseases.
68	Pitpapra	<i>Fumeria indica</i>	It is used as a blood purifier in skin diseases, styptic and febrifuge and is also used in the disorder of liver in folk medicine
69	Pomgranate	<i>Punica granatum</i>	Used to treat high blood pressure, high cholesterol, oxidative stress, hyperglycemia, and inflammatory activities.
70	Pudina	<i>Mentha arvensis</i>	The leaves medicinally used for stomach problems and allergy. It is also used for the treatment of liver and spleen disease, asthma and jaundice. The infusion of these leaves is used in indigestion, rheumatic pains, arthritis, and as remedy for inflamed joints.
71	Puthkanda	<i>Achyrenthes aspara</i>	It is used in the treatment of boils, asthma, in facilitating delivery, bleeding, bronchitis, debility, dropsy, cold, colic, cough, dog bite, snake bite, scorpion bite, dysentery, earache, headache, leukoderma, renal complications, pneumonia, and skin diseases.
72	Reetha	<i>Sapindus mokerossi</i>	It has medicinal uses in managing conditions like pimples, excessive salivation, chlorosis (anaemia due to iron deficiency), migraines, epilepsy, eczema, and psoriasis. In addition, Reetha, in powdered form, can be used to manage dental caries, constipation, common cold, nausea, and arthritis
73	Sada bahar	<i>Chatharethus roseus</i>	It has antioxidant, antibacterial, antifungal, antidiabetic and anticancer properties.
74	Sagwan	<i>Tectona grandis</i>	The essence of teak (inner black part) is inflammation (relieving swelling) and pain relief, poisoning and burning. The juice of the

			leaves increases the blood. The oil of teak seeds is Kesya (hair enhancer) and Kandudhna (itching erase).
75	Satavari	<i>Asparagus racemosus</i>	It is very effective in treating madhur rasam, madhur vipakam, seet-veeryam, som rogam, chronic fever and internal heat.
76	Scholar tree	<i>Alstonia scholaris</i>	The therapeutic use of <i>Alstonia scholaris</i> has been described in both codified and non-codified drug systems for the treatment of malaria, jaundice, gastrointestinal troubles, cancer and in many other ailments.
77	Sirin	<i>Albizia lebeck</i>	This plant are used for the treatment of ailments such as migraine, conjunctivitis, diarrhea, jaundice, skin problems, asthma etc
78	Sita ashok	<i>Saraca asoka</i>	It has been traditionally used in Indian system for treatment of uterine, genital, and other reproductive disorders in women, fever, pain, and inflammation.
79	Snake plant	<i>Sensevieria zeylanica</i>	It help reduce the impact of airborne allergens like dust and dander by releasing oxygen and providing moisture to the air. It is a significant benefit because poor indoor air quality has been linked to many health conditions such as asthma and allergies.
80	Swiss cheese Plant	<i>Monstera deliciosa</i>	It is used for the treatment of arthritis and insect or snake bites.
81	Suhanjana	<i>Moringa oleifera</i>	<i>Moringa oleifera</i> may lead to modest reductions in blood sugar and cholesterol. It may also have antioxidant and anti-inflammatory effects and protect against arsenic toxicity. Moringa leaves are also highly nutritious and should be beneficial for people who are lacking in essential nutrients.
82	Sukhchain	<i>Pongamia pinnata</i>	It has been applied as crude drug for the treatment of tumors, piles, skin diseases, and ulcers. The root is effective for treating gonorrhea, cleaning gums, teeth, and ulcers, and is used in vaginal and skin diseases
83	Tulsi	<i>Ocimum sanctum</i>	It has been suggested to possess antifertility, anticancer, antidiabetic, antifungal, antimicrobial, hepatoprotective, cardioprotective, antiemetic, antispasmodic, analgesic, adaptogenic and diaphoretic actions.
84	Varuna	<i>Crataeva nurvala</i>	It attains its name in Sanskrit because of its effect on the bodily fluids and urinary system. It is recommended by the Ayurveda in the treatment of various urinary problems including stones in kidney, ureters and bladder.
85	Yellow berried nightshade	<i>Solanum surratense</i>	Used for curing fever, cough, asthma and diabetes in south Indian traditional medicines

v **Rural Agricultural Work Experience (RAWE)**

The intrinsic essence of RAWE is that the experience learnt by the rural people within their local situation with the help of their own local knowledge, amalgamated with the

recommended package of practices for solving their own problem by in-sighting their local resources available in their own situation. Furthermore, it helps the students primarily to understand the rural situations, status of agricultural technologies adopted by farmers, prioritize the farmers' problems and to develop skills and attitude of working with farm families for overall development in rural areas. It consists of general orientation and on-campus training by different faculties followed by village attachment/unit attachment in university/ college/ Krishi Vigyan Kendras or a research station. The students are attached with the agro-industries to get an experience of the industrial environment and working. The students obtained data on the following:

- (a) Details regarding location of the farmer with proper knowledge on family background, land holding, human resource (total no. of family members, no. of family members above and below 18 years of age).
- (b) Farm resource (no. of hand pumps, well, farm implements like harrow, cultivator, thresher, trolley, seed drill etc.)
- (c) Proper knowledge about the markets in the village(Primary market/secondary market/local market/regional market/national market/short period market/long period market/wholesale market/retail market cash market/forward market perfect market/monopoly market/monopolistic market/competitive market/regulated market/unregulated market/urban market/rural market etc.).
- (d) Study on important diseases of crops in farmer's fields.
- (e) Idea about the yield of the crops cultivated by the farmers including the animal products obtained.
- (f) Practiced field preparation.
- (g) Application of manure and fertilizer for horticultural crop plantation.
- (h) Lastly, students also gathered knowledge about article writing, farm publication and about the economic importance of various fruits, spraying pesticides in farmer's fields.

Experiential Learning is a major step forward for high quality professional competence, practical work experience in real life situations to graduates, production oriented courses, production to consumption project working, facilitates producing job providers and inculcates entrepreneurial orientation. In India, the agricultural education system aims at producing skilled and expert human resources. Thus, it is made an essential requirement that before obtaining the under-graduate

degree in agriculture, the students will be exposed to the experiential learning situations to know about the various entrepreneurship enterprises in agriculture. Based on the study, students are required to use their innovative idea and propose alternative development strategies on different aspects of agriculture.

Evidence of success

Final year students actively participated in this program and visited farms. Students performed the various practices and also maintained records in daily diaries, submitted assignments and gave presentations. Students got exposure on various aspects which can enhance their entrepreneurship abilities like:

- a. Protected cultivation and post-harvest technology.
- b. Study about different types of greenhouses: their shape, construction material used, including irrigation facilities used in greenhouses.
- c. Basic knowledge on bee-keeping which can be opted as a suitable source of income.
- d. Production and multiplication of commercial spawn for mushroom cultivation.
- e. Preparation of compost and casing material for button mushroom production.
- f. Harvesting of mushrooms.
- g. Processed mushroom products like mushroom pickles, mushroom biscuits etc.



Figure: Substrate preparation for Mushroom preparation



Figure: Bagging of Oyster mushroom



Figure: Casing after spawn run



Figure: Pickling of mushroom



Figure: Drying of Oyster mushroom



Figure: Arranging trays for bee-keeping



Figure: Visit to PAU Apiary



Figure: Rearing of honey bees



Figure: Honey extraction

The students of all the programmes of the university have a continuous access and view of medicinal plants growing in the garden. Regular visits are arranged for students of pharmaceutical sciences, basic and Applied Sciences include Agriculture. Information about the medicinal properties and respective marketed formulations of these plants is provided to the students. The students are made to collect the leaves and flowers of the plants and examine their morphological and microscopic features in practical classes. Also, plants are collected for preparation of herbal extracts and extraction of volatile oil. The students are familiarized with techniques of cultivation and collection of medicinal plants. Special plantation drives for students of all disciplines are arranged on World Environment Day, World Earth Day and World Pharmacist Day. Many of the students, teachers as well as non teaching staff have obtained saplings and grafts from the garden and have planted them in their houses or neighborhood.





RIMT

Figure: Herbal Garden





Figure: Herbal Garden

The program is mandatory for all the final year students. The students record their observations in field and agro-industries on a daily basis and prepare their project report. At the end of the program students have to submit a RAWE report and give a viva-voce on the basis of which they are evaluated. The observations recorded by the students indicate that:

- a) The area is exclusively agriculture oriented; agriculture is the main source of livelihood.
- b) Except few, majority of the villagers belong to small and marginal categories of operational farming.
- c) Social compactness and awareness are satisfactory.
- d) Roads (muddy and concrete), electricity, and a training center are more or less available.
- e) Farmers follow diversified farming as well as cropping.
- f) Inadequate natural resources like water, forestry, etc.
- g) Very few people have service (Govt. & teaching) and business (shopping).
- h) Other activities for secondary sources of income include fishery, livestock, etc. are also practiced.

- i) Labour becomes a problem during peak harvesting season.
- j) Good evidence of crop diversification and biodiversity.
- k) Occurrence of usual pests and diseases has been observed.
- l) Encouragements for using organic manure through compost, vermicompost are increasing.
- m) Adequate knowledge of modern agricultural technology is needed.
- n) Farmers have shown to adopt new crop/enterprises if facilities are provided.



Fig: Land preparation by students



Fig: Land preparation by students



Fig: Land preparation by students



Fig: Land preparation by students



Fig: Land preparation by students



Fig: Cleaning of organic linseed

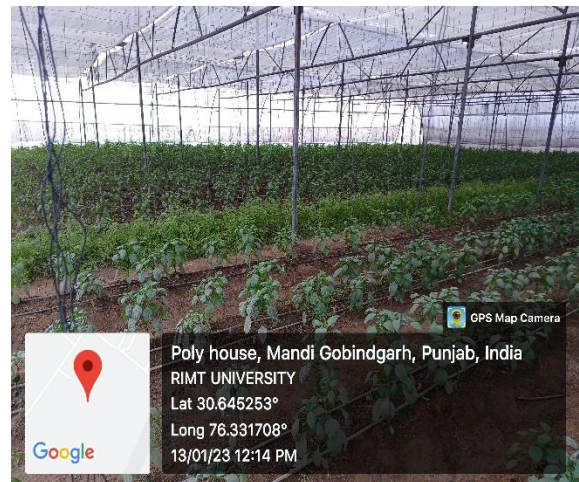


Fig: Sowing of black wheat under organic cultivation



Fig: Threshing of wheat by students

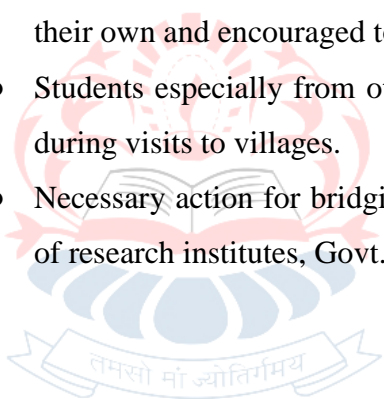
A Poly House with an area of 2024 m² has been established in RIMT University for cultivation of vegetables. The Poly House has Drip water supply system and divided into two portions for sowing different vegetables. These vegetables are used in mess.



Problems encountered and Resources Required

In general, appreciation for experiential learning is more of rhetoric in the existing undergraduate course curricula. Above all, facilities for learning by experience or hands-on training across agricultural universities are still in a rudimentary stage of development.

- There is no major constraint in growing and maintaining plants in herbal garden. There is plenty of space and resources available for cultivation. A gardener is employed permanently for the maintenance and supervision of a medicinal plants garden. The plants which are indigenous and well acclimatized with the climate of North Indian plains are easily grown here but exotic varieties are difficult to grow. Seasonal plants are not available throughout the year and they need to be planted fresh in every suitable season.
- Students had to be motivated and encouraged to perform various agricultural activities on their own and encouraged to regularly visit the fields.
- Students especially from other states face problems while interacting with local farmers during visits to villages.
- Necessary action for bridging the technological gap through the appropriate intervention of research institutes, Govt., KVK, NGO, NABARD, etc. are still to be done.



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BEST PRACTICES