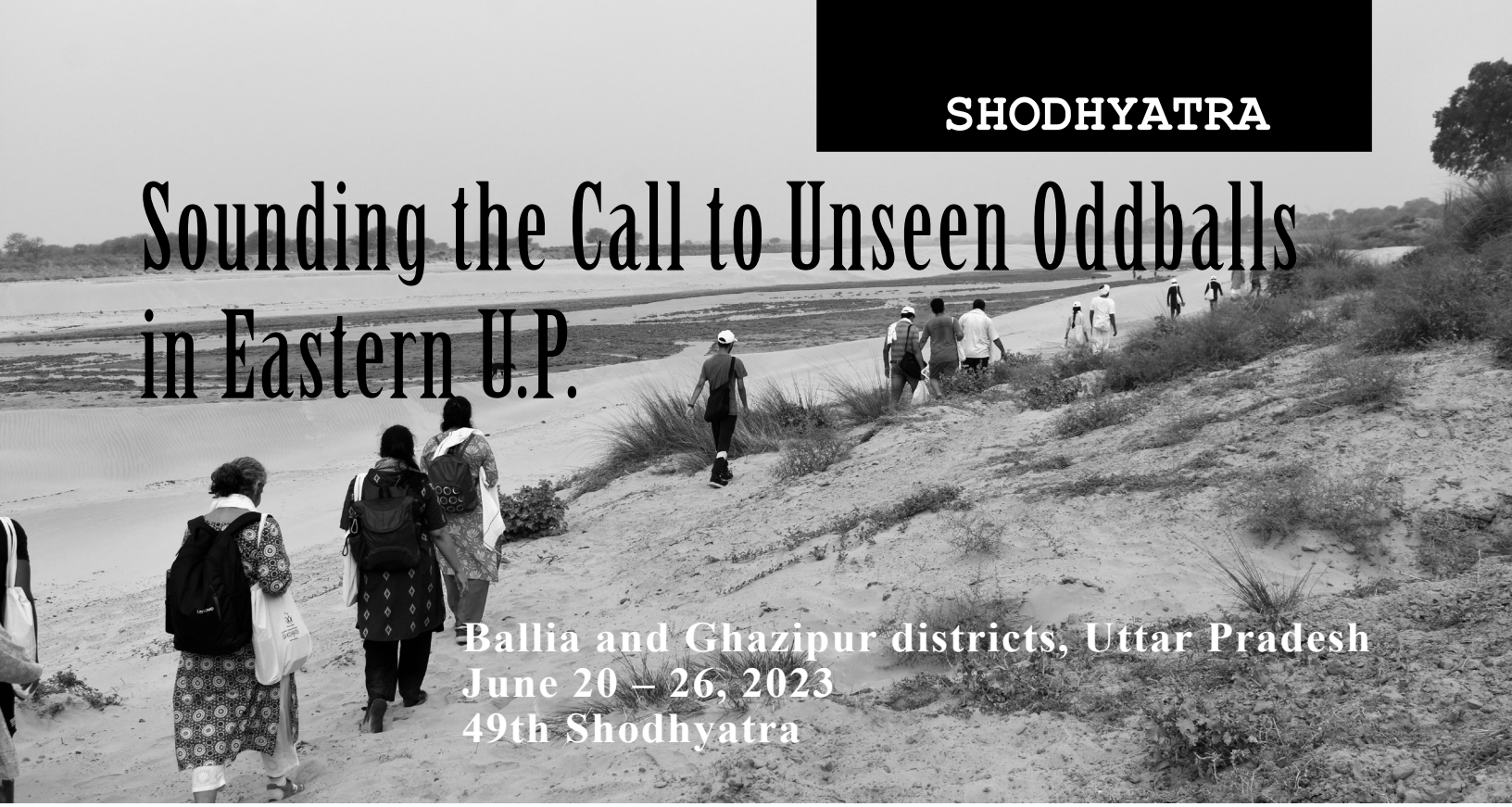
# Sounding the Call to Unseen Oddballs in Eastern U.P.



**Ballia and Ghazipur districts, Uttar Pradesh**
**June 20 – 26, 2023**
**49th Shodhyatra**

*Setting out for the 49th Shodhyatra, 33 travellers from across India walked beside the placid waters of river Ganges. It was difficult to imagine that in merely a month's time, farmers would be coping with devastating floods that engulf the region every year. The local community embodies the indomitable spirit of "Revolutionary Ballia", showing resilience to natural disaster, the blistering heat, market shocks, apathy from the administration, and socioeconomic challenges. At times, they are even up against the soil, fondly called 'premi mitti' for its vacillation between extremes across seasons. Walking 68 km through 25 villages from Mubarakpur, Ballia to Joga Musahiba, Ghazipur, Uttar Pradesh, yatris met with communities intrigued by the possibility of adopting innovation more concretely in their everyday lives. It was a special treat to interact with the 10 yatris from Swatantra Talim, a Lucknow-based education and innovation-focused organisation (more info: www.swatantratalim.org). With the assistance of Rajesh Yadav, Dr. Ram Kumar Rai, Mrityunjaibhai, Jitendra Rai and Dibakar Rai, the yatra was organized by the Honey Bee Network (HBN) anchored by SRISTI, and supported by GIAN and other volunteers of HBN.*

Col. Akshay Yadav, a HBN volunteer from Bihar who had joined a previous *Shodhyatra*, was enjoying his cup of coffee on a wintry morning at Prague, Czech Republic. As he thanked the barista while paying, his eye was caught by a display of health products, among which were packets of flax seeds. He examined one and was pleasantly surprised to find a "Made in India" mark. He noticed the QR code of an FPO. Intrigued, he called the number at the back and spoke with Dr. Ram Kumar Rai, a farmer-entrepreneur from Ghazipur. The Shivansh farmers-producers organization (FPO) formed by Dr. Rai was carving its niche in European markets through flax-export. After Col. Yadav connected him with HBN, Chetan Patel of SRISTI paid a visit to his farm. With the discovery of more innovators in the area, it was settled - the next *Shodhyatra* would be hosted here, with Dr. Rai's assistance.

**Farmers recommended drinking their traditional antioxidant-rich tender bamboo leaf tea.**

When we arrived, we found *bhuaa* (corn silk) all along the roadsides of Ballia and Ghazipur. The Honey Bee philosophy of enriching communities through abundant and abandoned bioresources applied quite aptly. The *yatris* shared knowledge of the many health benefits of corn silk tea, in exchange for the community's wisdom. At Kathauli, farmers recommended their traditional antioxidant-rich tender bamboo leaf tea; the learning journey had begun. An elderly farmer, Kabindranath Yadav, examined the golden *bhuaa* with fresh eyes saying, "*Unknowingly, we've been throwing away something so valuable!*" This sentiment was echoed by others when hearing stories of farmers who had used *Ipomoea carnea* weeds[1], common in Ballia and Ghazipur, to repel pests. Only Pappu Yadav at Dhanetha and Ravindra Prajapati at Basaniya had managed pests by spreading cuttings of the weed in their field's drainage channels. However, neither had shared

this knowledge with others.

Theirs are not isolated cases. During the fifth Shodhyatra through Banaswara district, Rajasthan in 2000, we inquired why a local knowledge-rich teacher had not shared solutions to stem termite attacks in orchard crops with others. His response was, "*because there is no context.*" (*see HB 11(3):19-20, 2000*).

Over twenty years later, this remains relevant as individuals like Pappubhai and Ravindrabhai still lack proper context, channels, or motivation to share their valuable knowledge within their communities. Often, innovators are met with skepticism or ridicule. Interestingly, *Ipomoea carnea* is known in the districts as "*behaya*" translating to "shameless", in deference to its ability to proliferate with even very little moisture. Could we perhaps encourage knowledge holders to be a little *befikre* (worryless) when it comes to dissemination? Could the rest of us be even more so when it comes to testing out an innovative practice?

(*Honey Bee first published on the pest management potential of Ipomoea carnea subsp. fistulosa in HB 3(1):13, 1992. HBN & SRISTI have compiled further uses from farmers all around the country. HB 24(4):17-18, 2013; 28(2&3):29-30, 2017; Eds.*)

### Waiting in the Wings

Dr. Ram Kumar Rai would speak with farmers about natural farming practices, including the use of local flora. We sought farmers' knowledge on the uses of available plants for medicine, crop management, craft, and of any other traditional or organic practice. *Madar* (*Calotropis gigantea* (L.) R.Br.)[13] was known to remedy wounds and joint pain, with some claiming that its latex could treat skin pierced by the thorn of a plant. *Madar* cotton could also be stuffed in pillows to provide relief from migraines. While communities knew traditional uses, few put them into practice. Many had not heard of *madar*'s ability to repel pests, with an exception again being Pappubhai who had soaked pieces of it in irrigation water for chilli crops.

### *JOURNEY MAP: KNOWLEDGE HOLDERS AND THEIR REMEDIES*

**Hridayanand Yadav, *Thamanpura*:** Mix mustard oil with paste of boiled *babool* leaves (*Acacia nilotica* (L.) Willd. ex Delile)[2], tamarind and onion. Cool and apply to heal broken bones faster.

**Anand Rai, *Amaon*:** Boil 1.5 kg of bark and leaves of *Arjun* tree (*Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.)[3] in 10 L of water into a tea. Helps heart health.

**Vijay Singh, *Daulatpur*:** Apply a salve made by boiling four leaves of *sinduvara* (*Vitex negundo* L.)[4] in one and a half cups of water, daily for 21 days to repair a broken bone.

**Meena Devi, *Pandepura Amrupur*:** Roast *sehund* (*Euphorbia neriifolia* L.)[7] leaves into a paste, mix with salt. Cures coughs and colds, especially for children.

**Jeetu Rai, *Dhanetha*:** Feed infants snail meat to strengthen them.[6]

**Jainarain Yadav, *Dhanetha*:** *Bhatwas* (*Gymnema sylvestre* L.)[5] leaf tonic treats watery and bloody discharge from animals' nose and mouths, a disease locally called "*jhakha*".

***Community at Kanuan*:** Apply the latex of *madar* (*Calotropis gigantea* (L.) R.Br.) on toenails to cure eye problems.

**Kamlesh Rajbhar, *Pandepura Amrupur*:** Feed two litres colostrum with 250 g salt to encourage dropping of placenta.

**Tarkeshwar Khushwaha, *Godi Khas*:** Drink boiled *doob ghaas* (*Cynodon dactylon* (L.) Pers.)[8], *madar*, and raw turmeric to cure stomach ulcers, and boiled *goom* (*Leucas aspera* L.)[9] to cure fever. *Bhatkatiya* (*Solanum virginianum* L.) acts as an antibiotic.

**Munna Yadav, *Godi Khas*:** Apply milk of burnt thorns of *nagfani* (*Opuntia ficus-indica* (L.) Mill.)[10] to reduce inflammation.

**Abhishek Rai and Umakant Rai, *Khardiha*:** Chirchiri (*Achyranthes aspera* L.)[12] stem is used as a *dantun*, and eating toasted seeds of the plant helps control diabetes. The roots are used in a remedy for scorpion bites.

**Manoj Pandey, *Khairabari*:** Juiced papaya leaves, or goat milk during dengue increases the platelet count. Chitvan or Saptaparni (*Alstonia scholaris* (L.) R. Br.)[11] milk heals wounds and skin infections.

*Dithori* (*Millettia pinnata* L.)[14] and *kanela* (*Thevetia peruviana* (Pers.) K. Schum.)[15] were similarly under-utilised. Many knew of *dithori* as a '*datun*' (teeth cleaner) and for healing wounds, and *kanela* for curing fevers and constipation. They were surprised to learn of their use in farming. An exception was Anand Rai of Amaon who sprayed a solution made by boiling *dithori* and neem leaves to prevent pests in eggplants. Farmers at Pipara Kalan brought cuttings of an unnamed plant whose leaf juice is consumed to control blood sugar. SRISTI is trying to get its scientific name identified, and has grafted eight saplings for testing.

The soil, as well, is believed to have restorative properties. *Karail*, the black soil of the region becomes more clayey as one moves north of the Ganga, and is used as a hair cleanser and softener.[16] Many farmers regard the earth as divine. During the first three days of the *Ardra Nakshatra* beginning around the 22nd of June, and the first three of *Chitra Nakshatra* around the 15th of October, they believe that Mother Earth is menstruating. The soil remains untouched for these six days every year, and cropping begins immediately after. Through such rituals, soil is given some time to rest and regain its vitality. Women and workers may get some rest too

**The crowd did not know any "innovators" but they could certainly name the oddballs!**

Besides asking about local plants, we also asked whether anyone in the village was an innovator. The crowd would almost invariably say no. The meeting in Ajorpur taught us an important lesson about how to frame this question. Instead, we asked if anyone in the village was

"***ulti-khopdi wala*** **(an oddball)?**" The crowd at Ajorpur enthusiastically responded, "*Shivji Rai!*" He had used week-long fermented buttermilk to treat leaf curl in green chilli crops, and despite skepticism from his neighbours, successfully applied it to okra and ridged gourd as well. By the end of the meeting, a few farmers were considering such alternative methods to reduce reliance on commercial inputs. Some farmers at Pipara Kalan sprayed buttermilk on their compost. This not only repelled pests but also revived the earthworm population, making the soil more fertile.

Residents of Panderpura Amrupur recognized the role of *aatchi* (*Morinda citrifolia* L.) leaf juice in treating inflammation and aches. However, people at other villages knew *aatchi* only for its soft yellow wood that was used to make cricket bats. *Yatris* shared research from the web enumerating the health benefits of its ripe fruit juice, particularly for the prostate and kidney. One hopes that with this new information, the community will use the fruit for their wellness, and perhaps even create a local processing industry.

**Seeking Entrepreneurs**

The very first evening, *yatris* met with 32 young women studying the beautician's course at a NSDC-affiliated skill centre. They shared sumptuous flavours of the region, including *baati-chokha*, mango chutney, *urad jalebi*, and *pyaaz pakodi*. With great interest, they learnt about various Honey Bee initiatives that have enabled young innovators to grow their ideas. We discussed organizing training workshops to make innovative bio-products, such as bamboo charcoal soap.

Women from 12 SHGs of Narohi, led by Ms. Pravin Rai, gave *yatris* a taste of local delicacies including *thekua*, a specialty of the Chatt festival, *aloo kachori*, and *sooji halwa*. They brought product samples, such as *sattu*, *besan dosa* batter, and pickles of jackfruit and yam. With husbands posted outstation, the women were often home alone, and decided to buck the trend by becoming entrepreneurs. They are ready to diversify their business with more novel and interesting ingredients and preparations, such as mango kernel and pickles of unusual vegetables. A suggestion was made that the 12 SHGs should cooperate, each creating their own niche, and focusing on non-competing products and markets.

Urmila Devi Enterprises, run by a FPO based in Godi Khas, produces a premium mustard oil under the brand Shree Pran. The eponymous Urmila Devi and her team brought out fresh *puas* and *puris* made of *mahua* flowers. They soaked dried *mahua* flowers overnight, made a paste which was kneaded into a wheat dough. For puris, they roll the dough out thick, and fry till golden brown. A wetter dough with less flour is used to make *puas*.

Despite encountering two women-led enterprises, women were markedly absent from most meetings. Thus, we were delighted to find a group of

15 women joining us at Pandepur Amrupur to share nuggets of traditional wisdom. Their curiosity was evident in the keenness with which they read about innovation, displayed on posters. A young Honey Bee innovator offered to host a workshop to teach them how to create enterprises around eco-friendly products like incense sticks from temple waste, and cow dung *rakhis* and idols. With cautious optimism, the women smiled their assent (*this workshop is yet to take place*).

We often discussed how to encourage more women to participate in meetings, especially in such regions where it was unorthodox for men and women to share a public platform. One suggestion was to mobilize women participants before beginning the *yatra*, and perhaps hold parallel meetings for women.

Mreetyunjaibhai, who has organized *padyatras* (journeys on-foot) for the Ekta Parishad movement, cautioned us against expecting to upturn centuries-old norms in a day. He invited us to stay with his family at Kanuan where we met his wife, Archana Devi. She spoke of the gradual change from being unable to step out alone to eventually joining Mreetyunjaibhai on a *padyatra*. The fruits of their efforts are evident in the next generation; their teenaged daughter and son eagerly joined us to discuss their ideas on progress, discovery and innovation. Indeed, it was our youngest yatri, Kabir, who opened our eyes to a fresh perspective, teaching us to draw joy and insights from scenes of everyday life. He has shared his own report of the yatra in the next few pages.

**Endnotes:**

1 Behaya is an underexplored larvicide, and can be effective in controlling malaria, filariasis, and other vector-borne disease. (Al-Husseini et al., 2022)

2 Babool has been used in Western African ethnomedicine to treat tuberculosis (roots), smallpox (bark), ulcers (leaves), and indurations of liver and spleen (bark and gum). Powdered pods were used by Nubians in South Egypt to regulate blood glucose. (Rather, Islam & Mohammad, 2015)

3 Arjun tree bark has lipid lowering effects, and can reverse smoking-induced endothelial dysfunction, wherein arteries contract despite there being no blockage. (Maulik & Katiyar, 2010)

4 *Sinduvara* helps treat sores (oil), ulcer discharge and neutralize snake venom (leaves), reduce fevers (flowers and roots), and stimulate menstruation (fruits). (Fauziya Basri et al., 2014)

5 *Bhatwas* or *bhant* is antimicrobial, antihelminthic, hepatoprotective, and has significant antioxidants. Certain tribes of Eastern India use it to treat colic and scorpion bites. (Debayan Bhattacharjee et al., 2011)

6 Snail meat is a rich source of calcium, zinc, and iron. Freshwater snails are consumed in Philippines, Taiwan, Mexico, Mediterranean countries, as well as Bangladesh and parts of Northeast India. Caution and proper processing of snails are important as snail may contain nematodes. (Ghosh, Jung & Meyer-Rochow, 2016)

7 *Sehund* is anti-psychotic, radio-protective, and an anaesthetic. (Priya Chaudhary et al., 2023). Tribes in Southern Rajasthan spread its dendrons in fish habitats to immobilize their catch. (Prabhakar Joshi, 1986)

8 *Doob* grass roots are distilled into a coffee in Uzbekistan, and in Bulgarian folk medicine, the rhizome features as diuretic, laxative and expectorant. (Gafurova & Rustamov, 2024)

9 The leaves of *goom* help treat rheumatism, snake bites, psoriasis, and some chronic skin conditions. The flowers and leaves can both be used as in bio-insecticides. (Enjamoori V. Kumar et al., 2019)

10 The sweet fruits of *nagfani* have been studied for their cancer-inhibiting activity. It is also used in diabetes management and to improve liver health. (Kaur, Kaur & Sharma, 2012)

11 *Saptaparni* has been used as a galactagogue, and to alleviate post-pregnancy fever. (Khyade, Kasote & Vaikos, 2014)

12 *Chirchiri* has shown anti-parasitic activity in ruminants, effective against cattle tick and *Paramphistomum cervi* in sheep. (Saurabh Srivastav et al., 2011)

13 Besides wound healing, *madar* has antimicrobial, analgesic, anti-pyretic, and insecticidal properties. It may also prove useful for cancer treatments (Kumar, Karthik and Bhaskara Rao, 2011).

14 *Dithori* seeds not only show nootropic activity, but also help counter anaemia, bronchitis, rheumatic arthritis, and haemorrhoids. (Akshay G. Fugare et al., 2021)

15 *Kanela* seed oil has strong anti-termite properties, and the plant's toxins show efficacy against rodents, insects, fungus, and various microbial disease. (Theurkar S. Vasant et al., 2014)

16 SRISTI has collected samples of the black soil, and analysis is ongoing.

# SOUNDING THE CALL TO UNSEEN ODDBALLS IN EASTERN U.P.

*Walking farther into the heart of districts Ballia and Ghazipur, 33 yatris learnt of scientific and creative community-driven solutions. In our previous issue, we introduced Dr. Ram Kumar Rai. Along with several farmers of the Shivaansh FPO in Joga Musahiba, he has created an enterprise based on flaxseed cultivation and helped foster a spirit of innovation. Yatris encountered multiple women-helmed agro-product microenterprises but paradoxically found that women were largely absent from meetings, except in two or three villages. Cultural norms still come in the way of fuller participation in knowledge platforms and other spaces.*

*While discovering pockets of creativity along the 49th Shodhyatra, it became evident that there was little awareness of these innovations in neighbouring villages – even of one homegrown brand which had reached the shelves of Prague. The Yatris met with many Shatayus and elder community members who imparted wisdom in their recollections of strife and strength during nation-building. They were generous in sharing the secrets to their evergreen health. It was a special treat to interact with the 10 yatris from Swatantra Talim, a Lucknow-based education and innovation-focused organisation (more info: www.swatantratalim.org). With the assistance of Rajesh Yadav, Dr Ram Kumar Rai, Mreetyunjaibhai, Jitendra Rai and Divakar Rai, the yatra was organized by the Honey Bee Network (HBN), anchored by SRISTI, and supported by GIAN, and other HBN volunteers.*

En route to Daulatpur, we met Sri Suresh Rai who received state-level recognition in 2015 for a record-breaking yield of 390 quintals per hectare of Sukhsagar onions. Sukhsagar seeds originated in Belgium, came to Bengal and are now common in Ballia and Ghazipur. A Mechanical Engineer, he is one of few people in the village filtering out iron from water. The solution lies in using an iron pipe and brass filter, replacing the usual plastic. Though many of his neighbours have expressed scepticism, he often receives visitors who wish to taste the sweet, purer water from his pump. Sending us on our way, he showed us a cushion woven with paddy straw, and fed us *laddoos* made of homemade jaggery, *besan*, ginger, pepper and turmeric.

**Un-shun Innovation**

Divakar Rai did not let the "leg-pullers" dissuade him. He repurposed a power seeder machine for fertigation, and over four years built a fertilizer-cum-seed driller from second-hand parts. He has also added a third row to a sprayer machine, greatly improving efficiency. He lends these cost and labour-saving machines to farmers near his home in Awathahi, as well as neighbouring villages in Ghazipur. Jitendra Rai, a farmer from Lochain, had built an onion storage facility which has the advantage of allowing some control over the temperature and humidity. The 15 x 30 sq. ft. room has four large exhaust fans, and an iron grill mesh resting five inches above ground on bricks, with one sq. ft. spacing. Halogen bulbs in the fans provide warmth during colder months. He is a proponent of scientific farming and uses field data to improve output for himself and other farmers.

Dr Ram Kumar Rai started an FPO, named Shivansh after his son, to help more farmers adopt organic farming practices and expand their businesses. The black soil of the region is ideal for flax, yet many farmers had ceased cultivation due to harvest challenges and uncertain markets. Dr. Rai halved the RPM of a thresher and removed some blades so it would process flaxseed with minimal loss. He shared the machine with the FPO, and they

are exporting these organically grown seeds to Germany, Austria, Hungary, and the Czech Republic. Throughout the *yatra*, he encouraged farmers to grow flaxseeds and create a business around it, for which he offered his guidance. After all, it was flaxseeds (and the spirit of cross-pollination within HBN) which first connected us to Dr Rai (*see HB 34(4):3, 2023*).

His export journey began when Birendra Kumar, a friend of his elder brother living in Luxembourg, asked for 10 kg of flaxseed. On his next visit to India, Birendraji asked for 50 kg and paid one lac rupees, while the local price was Rs. 50 per kg. Dr. Rai was flabbergasted at the difference. In 2018, he joined a farmer delegation to Europe and discovered that flaxseed was selling at Rs. 3,000 per kg. His eyes were opened, and so began his endeavours in export that fetched his FPO a much higher income.

Dr Rai tests grain properties at a laboratory in IIT-BHU, Varanasi, to comply with maximum residue level (MRL) of pesticides for export. He has experimented with creating omega-3 capsules from flaxseed, as an affordable vegetarian alternative to cod liver oil. He is testing their shelf-life, which he has found to be at least two years. He has also helped develop a green chilli powder with technology sourced from the Indian Institute of Vegetable Research (IIVR), under ICAR. They received a process patent in 2019 for this innovative product. Dr Rai exports the powder to the U.A.E., Qatar and Oman.

We encountered other instances of innovation in the district, including a bike-powered *sattu* machine, a few indigenous mechanisms for digging borewells, a manual pipe winch, and farmers growing Hariman Sharma's HRMN 99 apples. A host of curious youngsters joined us at Dhanetha and shared their innovative ideas with us. Deepak Gupta suggested installing LED streetlights to make manholes and other road obstacles visible. Children at Pandepura Amrupur had hung a tin box on a tree. They used this as a "bell" to drive birds away and keep the seating platform below clean.

**Women Know, Dairy Woes**

Throughout the *yatra*, many farmers told us of the persistent disease and parasites plaguing their animals. While some had used common traditional remedies to successfully treat bloat and mastitis, few knew how to get rid of ticks and leeches which would reattach to animals after the prescribed medication wore off. We shared the knowledge of other farmers who had placed soaked tobacco leaves on the ground of the animal shed to kill these parasites (*possibly since the nicotine in tobacco is a contact poison, see HB4(2&3):20, 1993. For various ways to counter ticks, see HB12(3):5, 2001; Eds.*). The lumpy skin disease virus had spread in the area and was without any cure. Livestock owners were suggested preventive measures such as isolating infected animals and feeding them peppercorn, black salt, and black cumin.

Cattle-rearing is especially important in this farming belt, and the income from dairy often helps farmers tide over crop failure. After a few meetings where women had been absent or silent, they would come forward afterwards, seeking remedies

for diarrhoea, wounds, and other common afflictions affecting cattle, whom they care for as much as their children. At Narohi, we decided that some *yatris* would visit different houses in the village to learn women's unique knowledge and yield a fuller picture of the village. Mananiya devi and Sadhna devi at Kathauli had stitched colourful *benas* (hand fans) and baskets using moonj grass, scrap cloth and recycled plastic. Bamboo, declared by one person as a farmer's best friend, features heavily in craft, as well as architecture, utensils, toys, etc.

**Local Culinary Creativity**

The visits allowed us to learn recipes for *gojhas* from Shanti Devi and Saraswati Devi of Ajorpur, *karmi saag* from Mananiya Devi at Kathauli, and *pitodes* from Radhika Devi and Suman Kharwar at Amaon. *Gojha*, also known as *farra* or *ulta, is made* by adding asafoetida, salt, green chilli, and garlic to a paste of soaked chickpeas. Crescent-shaped wheat dough stuffed with the paste is boiled for 20-30 minutes. A few drops of oil and a bowl at the base prevent sticking. They may be sauteed, cut and served with chutney. *Karmi saag*, or water spinach is cleaned, shredded, and mixed with cumin, asafoetida, salt, and dried red chillies, and fried in mustard oil. Sauteeing for another 10-15 minutes without a lid maintains the greenness. *Pitodes* are made by rolling taro leaves in a thick paste of *besan*, salt, green chillies, dry mango powder, and jeera powder. Kept together by toothpicks, these are boiled for 30 minutes, then cut, and may be fried.

**Live Long, Consume Local**

We continued the longstanding tradition of learning from Centenarians, the *shatayus* about their habits and practices leading to their long and rich lives. The elderly farmers at Mubarakpur claimed that their village was special in that everyone in their village was vegetarian, and this was what kept everyone at the peak of health. They also stated that drinking the milk of desi Gangatiri cows has helped, mentioning a local legend, 'Chaudhary Sadhuji' who is believed to have reared 150 Gangatiri cows.

Hariharji, an elderly former *pehelwan* at Mattiha gaon had no home of his own, so a few families took care of him. He seemed sustained by recalling fast-paced folk tunes he had been singing since his youth, satirizing social and political structures. At Lochain, Ram Murahat Yadavji works his fields every day all by himself, and said with a grin, "*If you can find anyone who works harder than me on the fields, I'll leave farming!*" 95-year-old Sri Sarju Rai proudly informed us that he still had all his original teeth. He has been eating hearty and simple foods, and exercising daily. Throughout most of his life, he has eaten *saathi*, a pink-streaked short-grain rice

with a sweet aroma that has lost its erstwhile popularity. He also used to drink milk twice a day and claimed that men would eat about half a kilo of *ghee* daily. Like his grandfather, he had been a pehelwan in his youth, and trained by lifting very heavy logs of wood.

A centenarian, Suvachan Rai, commanded the attention of everyone at the meeting at Joga Musahiba. He described lentils with rice as his ideal meal and recommended eating millets such as sweet *sama* rice (barnyard millet), ragi and bajra. Suvachanji used to drink milk thrice a day, walked 10 km daily, and still walks wherever he goes. He is a lifelong teetotaller, vegetarian, and only eats homemade foods.

**Reflections on the River**

Awadh Behari Rai at Mubarakpur likened the Shodhyatra to the Bhoodan movement, recalling the fervour he saw in Acharya Vinobha Bhave's march past his home when he was in class II. This same fervour was evident in the Swatantra Talim yatris, including Rahul, Ridhi, students Rakesh, Sachin, Vijay, Chandan, Kuldeep, Shivam, Pooja, and seven-year-old Kabir. On the night of their departure, they presented a short play about Savitri and Jyotiba Phule's inclusive education movement, with songs, props, and puppetry. They enjoyed learning photography, speaking to new people, and collecting herbal practices to share with others back home. All *yatris* were inspired by their energy and initiative (*It is worth browsing Kabir's imaginative rendering of his report on the yatra, included in the previous issue. HB 34(4):10-12, 2023; Eds.*)

Communities brought their fervour to meetings as well, engaging in spirited discussion and debate. Parthenium grass seemed to invade almost every farm, and pertinent questions were raised at Kanuan. Shyamji Rai, a young farmer had fruitlessly searched for ways to counter the menace.

He had read research on how each plant produces 500-700 seeds in a season, spreading as far as a five-kilometre radius. We discussed its use as mulch[1]. Alternatively, to stop its spread, one would first have to note differences between fields where it proliferates and those where it is absent. Another farmer at the meeting had observed that flooding in paddy fields seems to prevent it. Farmers at Musardeva planned to explore the potential of growing berseem grass (*Trifolium alexandrinum* L.) to inhibit parthenium.

The Shodhyatra hopes to foster a space for exactly such a spirit of inquiry and collaborative knowledge-building. The same meeting threw up an interesting dilemma when one farmer asked which organic practices to employ against pests in neem or other traditionally pest-repellent plants. Farmers at Godi Khas were at a loss on how to handle a monsoonal pest called '*das/dast*', described as a large fly that bores into the skin. While the HBN and SRISTI team hopes to revisit the area to find a solution to this insect, we put it to all our readers to join the endeavour by sharing their knowledge of any similar infestation and its countermeasures.

Tarkeshwarbhai, at Godi Khas, relayed the story of his unsuccessful campaign against alcohol many years ago. To demonstrate its dangers, he placed an earthworm in a glass of water, and another in a glass of alcohol. Seeing the worm disintegrate in alcohol, a local alcohol seller had the last laugh by quipping, "*Drink alcohol and it will kill all the worms in your stomach!*" We must clarify that we do not advocate the use of alcohol for any purpose; this remark is mentioned only to illustrate a local sense of dry (pun intended) humour.

In our call for all to adopt and disseminate grassroots innovations unapologetically (*see HB34(4):5, 2023*), might we have more success employing similarly witty and unexpected arguments? Coupled with proof of impact, could we innovate better strategies to overcome the inertia, fear, cultural factors, and other hindrances to adopting a beneficial innovation?

The Shodhyatra itself may be considered one such unorthodox strategy, generating intrigue amongst local people at the sight of so many outsiders passing their homes, and discussing innovation. In Ballia and Ghazipur, people were surprised to learn that their friendly neighbourhood weeds were potent solutions to agricultural problems. Often, they were equally surprised to discover that there were those among them using these practices. For about 35 years, the Honey Bee Network has hoped to translate this wonder into curiosity, and even an excitement for innovation. These pockets where innovation takes place in the shadows serve as a reminder that besides kindling the spirit of creativity, there is the need for many more channels that motivate innovators to experiment, try, fail, and try again – even in the face of indifference or ridicule.

(*Sometimes, bystanders can not understand how we learn during and after Shodhyatra. Dr. Ram Kumar Rai revealed recently that many farmers have experimented with the use of non-edible plants as a source of herbal pesticides. More details in the next issue: Eds.*)

*1 Parthenium surface mulch is allelopathic, suppressing weeds in soybean fields. (M.H. Siddiqui et al., 2018). Integrated weed management was effective in controlling parthenium populations in Uganda. This involved hand pulling, followed by slashing, hand hoeing, and foliar application of Gramaxone respectively. The subsequent treatments were applied after a gap of two weeks. (Martha I. Natukunda et al., 2020)*