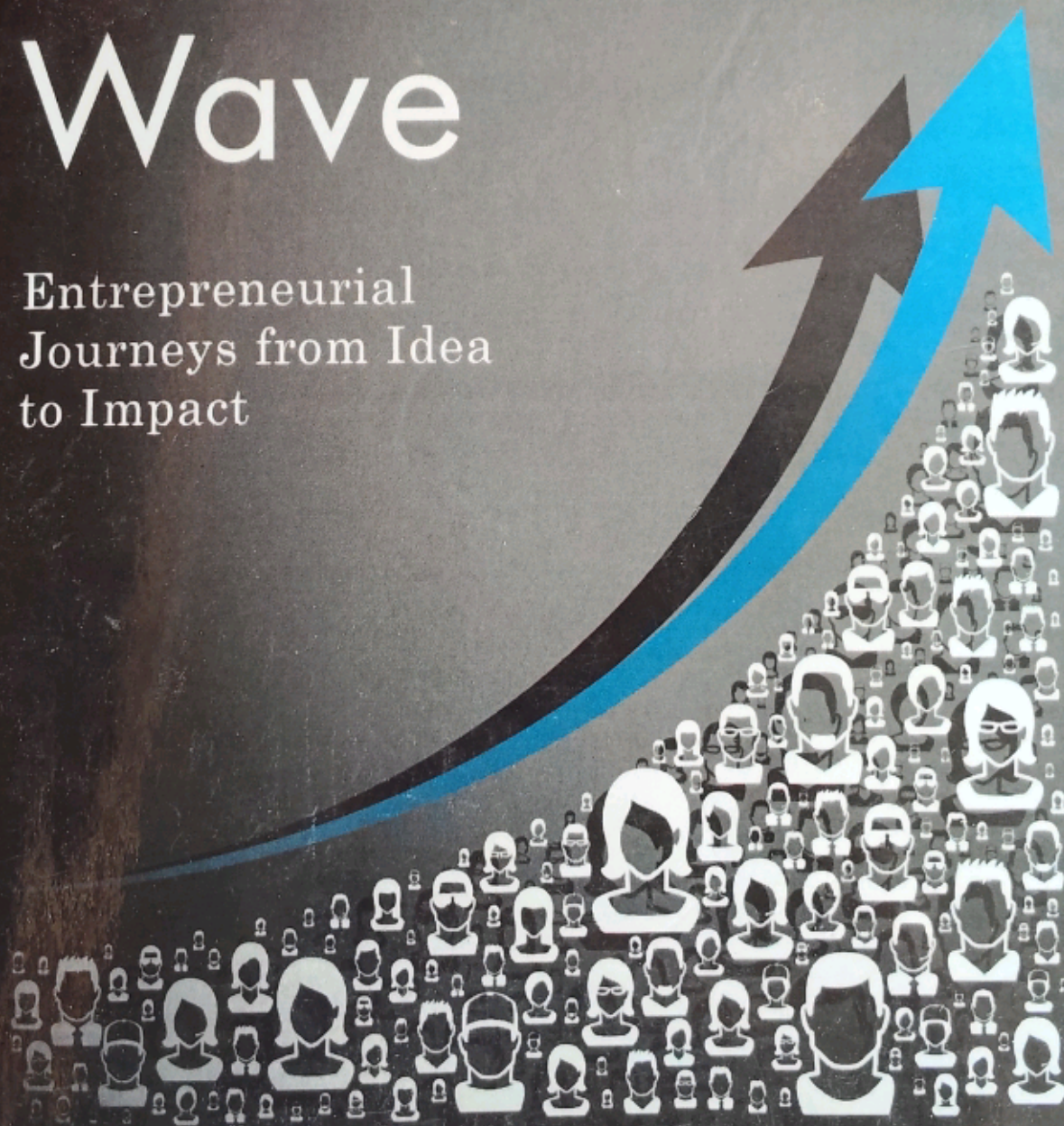


The Next Wave

Entrepreneurial
Journeys from Idea
to Impact

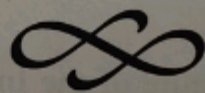


Maya Khandelwal

Saumya Singh

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from Idea to Impact



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PARTRIDGE

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plan is at work.
This book is a tribute to those unexpected gifts.
It's a collection of chance encounters and happy
accidents brought together by life's invisible hand.
The stories inside were not deliberately created but
discovered, like treasures found in unexpected places.

ACKNOWLEDGMENT

IN LIFE, THERE'S a kind and mysterious force called serendipity. This book came to be not through careful planning but through the gentle nudges and unexpected moments created by the universe.

Destiny, quietly shaping our paths, leads us to places we never expected. It whispers, guides us through random events, and reveals beauty in unlikely circumstances. It's the chance meeting, the brief inspiration, and the unplanned detour that becomes the turning point.

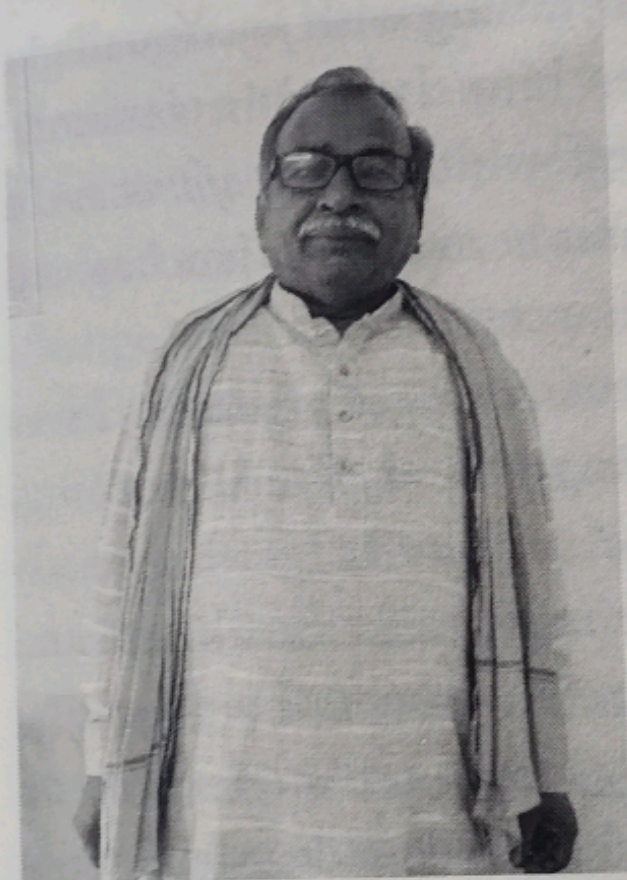
Reflecting on how this book was made, we're grateful for the serendipitous moments that shaped it. Each twist, turn, and spark of inspiration was a

gift from the universe, reminding us that a bigger plan is at work.

This book is a tribute to those unexpected gifts. It's a collection of chance encounters and happy accidents brought together by life's invisible hand. The stories inside were not deliberately created but discovered, like treasures found in unexpected places.

The Gobar Man

'I struggle even to pronounce the word, let alone understand its definition. In my 'desi bhasha,' I understand that 'avashyakta hi avishkar ki janani hai. Adami ke pair mein kanta chubha, tab chappal taiyar hua. Adami ke pair mein keechad laga, tab khadau bana. Chappal aur khadau mein kanton mein chalte samay uper mein nonchni lag jata tha, tab joota taiyar hua. Juta mein andar garmi se pareshani hoti thi, tab moza taiyar hua.' (When a thorn pricked a person's foot, the sandal was born. When mud stuck to one's feet, the wooden clog emerged. While walking on thorns in sandals and clogs, discomfort prompted the creation of shoes. And when shoes caused discomfort due to heat, the sock came into existence.) In short, a start-up to me is a 'naya avishkar,' 'vo bana dena jiska manav samaj mein abhav hai.'



Founder: Hemlal Mahato

Company: JSPR AGRO PRIVATE LIMITED

Area of operation: Agriculture

Inception: 2018

MEET HEMLAL MAHTO.

At first glance, you might not realize how articulate and enthusiastic he is. It's a delight to witness the childlike excitement that shines through the exterior of this sixty-eight-year-old as he passionately showcases his entrepreneurial ventures. It's akin to a child proudly showing off a new toy, brimming with joy. You might find it fascinating to see him dressed in authentic rustic attire, wearing an off-white *kurta pajama* and a *gamcha*. He carries his paraphernalia in a jute bag and scans the scene with curious eyes.

'When I was about seven or eight years old, I was not very keen on attending school. Every morning, I would go through the routine of getting ready for school, pestering my mother for breakfast, and helping with the dressing. One day, as I was getting ready, I noticed a bowl of urea on a stone pedestal outside our house. It had melted under the sun. It was meant for sprinkling in the field, with some for later use on indoor plants. Unexpectedly, two of our goats approached and drank the liquid urea. In my innocence, I exclaimed, '*Cheeniya fail gaye*,' mistaking it for spilled sugar because I didn't recognize it as urea. To my shock, both goats collapsed right before my eyes. As a child, I was terrified and couldn't fully understand what had happened. This experience left me deeply shaken, associating urea with poison ever since.'

A single incident like this can drastically change

an entrepreneur's life direction, giving them a mission to follow. Witnessing a significant problem, such as poverty or environmental degradation, can spark a desire to find a solution. This event shifted his focus, inspiring him to pursue a purpose-driven goal. This new mission brought clarity and motivation, driving him to work harder, innovate, and overcome challenges. The incident brought a deep personal connection to the cause, transforming his life into a force for good. He aligned his values with his professional endeavors, creating a legacy of meaningful change and contributing to the betterment of the world through his commitment to the cause.

Hemlal comes from an agricultural family. As he progressed through classes three and four, his teachers often warned the students about the dangers of chemical fertilizers, reinforcing his belief that urea was harmful. When he reached high school, this belief was further solidified. He became convinced that discontinuing urea in farming was essential. Despite the widespread adoption of chemical fertilizers, he felt compelled to seek alternatives.

'With determination, I sought guidance from Aloo Anusandhan Sansthan in Patna. I faced financial constraints. Fortunately, my uncle, a train driver, provided me with a certificate stating that I was his son, allowing me to travel for free on the train. My aunt used to provide me with pocket money regularly. With food no longer a concern, I could rely on meals available at the loco shed, taking advantage

of my free train pass. This arrangement allowed me to eat without worry, and I even found a place to sleep in the shed. I kept my pass securely around my neck, placing it safely on my chest as I slept.'

Having completed his matriculation in 1979-80, Hemlal didn't pursue further education. He was seventeen. He was strongly determined to address the issue of harmful fertilizers affecting their crops.

'In 1984, amidst the turmoil following the assassination of Prime Minister Indira Gandhi, I got snails from the research institute in Patna. I learned they could turn cow dung into organic fertilizer, rich with nutrients like DAP, Urea, and Potash. I then studied the differences between chemical and organic fertilizers, considering their pros and cons for farming.'

Given the tense atmosphere and widespread unrest, normal life became challenging in those days. However, despite the difficulties, Hemlal collected some cow dung from his local area to house the snails. With no mobile phones available, whenever necessary, he had to rely on his bicycle to travel sixty to seventy kilometers to the Jhajha station. His efforts garnered attention, and he soon came to be regarded as a 'hero' for the unconventional methods of farming he employed.

He began a program named *Vishva Manav Samudaya Hetu Zahar Mukh Vayu. Jal, Evam Bhojan, Adharit Karyakram*. As part of this, he created a *Pran Vayu* powder to cleanse the air. He quickly grasped

the difficulties faced in water-deprived regions. He focused on water purification efforts in Palamu district, particularly under the *Jal Jeevan Mission*. Palamu was often called the Rajasthan of Jharkhand due to its arid conditions and water scarcity. He was assigned to this area as part of the mission because of these challenges. Koyal River and nearby boreholes were drying up. The temperature could soar as high as 48 degrees Celsius, intensifying the water crisis. Clean drinking water was a luxury, with juice being more readily available than potable water.

In Maithon, Hemlal focused on the severe lack of vegetation in some areas despite abundant water. The imbalance led to difficulties in controlling carbon dioxide and methane levels, contributing to pollution. He actively researched these challenges and collaborated with over fifty aid organizations to find solutions. He discovered that four cities in Jharkhand—Dhanbad, Bokaro, Jamshedpur, and Ranchi—were heavily affected by pollution.

It is a common phenomenon that villagers with entrepreneurial talents often go unnoticed due to their lack of education, poor communication skills, and use of local dialects. This can lead to a loss of confidence, resulting in wasted potential. Regardless of their status, education, or language, they must find ways to gain the recognition they deserve. Being an entrepreneur involves having the instinct to forge a unique path, expressing oneself confidently, and overcoming obstacles. By cultivating these qualities,

individuals can make a significant impact on their communities and beyond.

Hemlal also faced significant challenges due to his limited knowledge of English. He felt embarrassed attending workshops and seminars with distinguished delegates worldwide. However, once he overcame his inhibitions and presented himself authentically, he discovered that his fears were unfounded. Despite speaking in a dialect, having a rural accent, and using imperfect English, he was listened to with rapt attention. He realized that what mattered was the substance of his message, not how he delivered it.

‘I chose to work in Dhanbad. My dialect was a problem, though. During the Startup India program in Ranchi, I struggled with English because I wasn’t very good at it. I worried that people might not like my programs. ACIC, IIT (ISM) Dhanbad helped me a lot, especially with English paperwork, which was tough. I remember attending an important meeting in Pune, where I struggled because I couldn’t speak English well. Thankfully, I had a translator to help. I learned from other leaders’ perspectives how they could also feel the adverse effects of chemical fertilizers. These fertilizers seep into the soil over time, leading to water pollution. In the past, people enjoyed long lives despite drinking water from natural sources like wells and reservoirs. Nowadays, people drink purified water but still face challenges with low immunity.’

‘With ACIC’s support, I have made significant progress in all my endeavors. ACIC provided me with a

grant, enabling me to work on securing land for further experimentation with my farming services. Additionally, I received a grant of fifteen lakh rupees from the HDFC Smartup Parivartan Grant and another grant of ten lakh rupees from Maithon Power Limited. I am also awaiting the Start-up fund from the government.'

Dhanbad, being a coal mining area, has predominantly barren land, making this a challenging endeavor. The *Punarbharan Prayog* conducted here by Hemlal was one such endeavor. He aimed to maximize greenery in mining regions through this experiment.

Punarbharan Prayog is an innovative initiative focused on the sustainable management and replenishment of natural resources, particularly groundwater. This scheme aims to rejuvenate and recharge depleted aquifers through various methods such as rainwater harvesting, construction of recharge wells, and restoration of traditional water bodies. The program promotes community participation and awareness to ensure long-term water security and ecological balance.

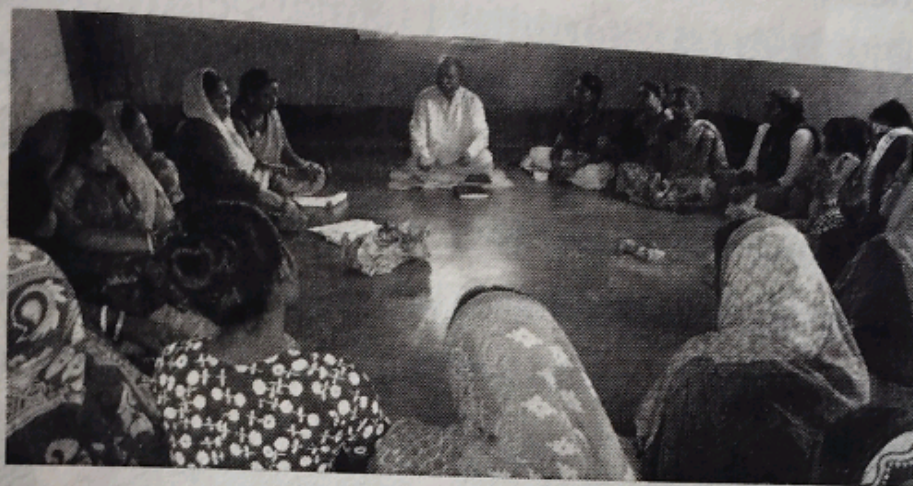
'I was also curious about how seeds naturally spread in forests. I hypothesized that ancient people carried seed balls with them, scattering them as they traveled, leading to a diverse range of trees in jungles with varying colors, sizes, and qualities. In contrast, today, we tend to damage greenery for commercial use. Sad it is. I focused on cultivating the *Sahjan* plant, known for its medicinal properties and effectiveness in treating various diseases. Once planted, *Sahjan*

could be harvested for five to six years continuously. I also learned about a *Sahjan* variety that yielded twice yearly and fetched a significantly higher price than the standard variety. Additionally, I promoted the growth of Napier grass, which matured in just two months and commanded a high market price. Once planted, Napier grass required minimal maintenance for seven to eight years. I emphasized the importance of *Ashwagandha*, a valuable medicinal plant, in this regard. My experience as an associate at *Krishi Anusandhan Sansthan* informed me about the quality of different crops that could contribute to greening the planet.'

Furthermore, Hemlal collaborated with the government to transform farmers, traditionally known as '*Anna-data*' (food providers), into '*Urja-data*' (energy providers), a vision that requires thorough planning and coordination. A farmer works hard in his fields but doesn't make much money because middlemen take a big chunk of his earnings. On the other hand, businessmen often earn more even though they don't do the actual farming. When farmers see themselves as important energy providers, they can understand their role in society better and see why education matters. This can help them tackle problems like pollution and poor soil health. This is where even the government can come in handy in providing the basics to MSMEs and start-ups. Hemlal believes that both 'plow' and 'pen' are equally important for a country to prosper.

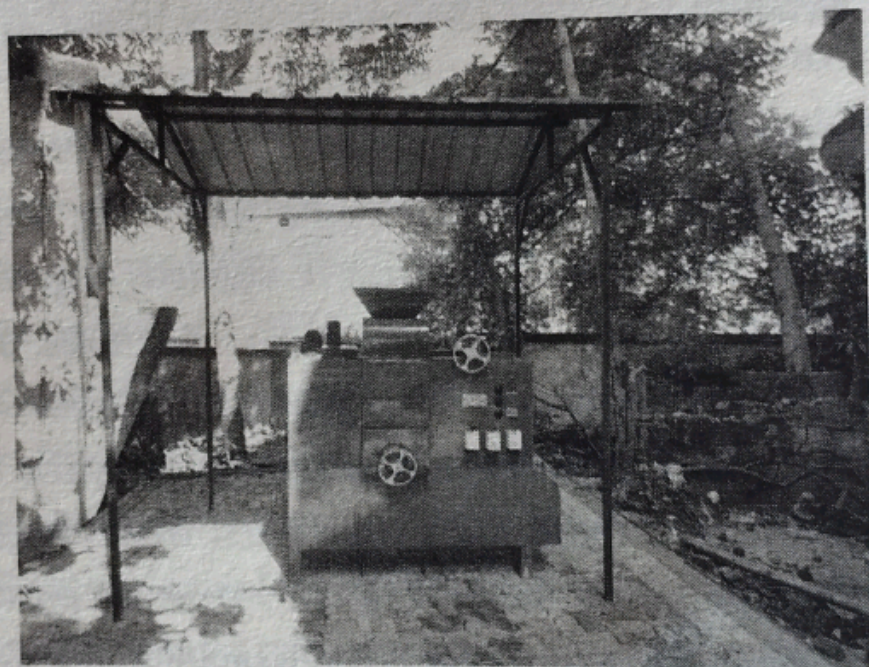
Hemlal has been involved with over six hundred self-help groups and around twenty-five

farmer-produce companies. They seek his advice, and he only communicates with them through scheduled appointments. Additionally, he is affiliated with the *Gram Bharati Sanstha*, through which the government mandates him to conduct training sessions.



‘Initially, I got eleven villages in Ghirni Prakhand to set up self-help groups, which was a big step for me. With government help, I started organizing these groups and setting up their accounts. Some people laughed at me, saying I was selling ‘gobar, eight rupees per kg.’ intentionally avoiding using the term ‘vermicompost.’ Deterrents have been there. Many. I have been persistent in my efforts. I recently provided vermicompost to three hundred beds out of four self-help groups. I processed this at our processing unit, located about seven kilometers away from my home. I involved women from Ghirni in crop production, resulting in good yields that motivated us. Now, we’re preparing to cultivate a three-hundred-acre land using organic methods only. We’re also growing *Ashwagandha* and *Sarpagandha* organically. Thankfully, we’re receiving support from agricultural experts and officers.’

Dr. S.K. Gupta, a senior Professor in the Department of Environmental Science & Engineering, was recommended and appointed by the Atal Community Innovation Center (ACIC) as a mentor to Hemlal. As a catalyst, Professor Gupta played a crucial role in transforming Hemlal's entrepreneurial journey. He invented the Rapid Organic Waste Stabilizer, a technology capable of converting solid organic waste into fertilizer within 3-4 hours. This invention was patented and subsequently deployed for field trials at Hemlal's site to assess its performance.



The machine was installed in the field, and after extensive trials, Hemlal found it highly effective. Beyond converting solid organic waste into fertilizer, Hemlal uses the machine for other purposes, such as drying and dehydrating *agarbatti* (incense stick) paste.

This was likely the primary reason for establishing the ACIC at the Indian Institute of Technology (IIT),

anticipating numerous similar benefits. In a tier-two city surrounded by tribal or rural communities, the nature of problems is different. The efforts of those working at the established technical institute are focused on addressing these unique challenges. Additionally, it offers incubated companies and their leaders the opportunities for hands-on learning to tackle their real-world challenges.

Currently, Hemlal is developing an organic DAP, for which the entire system and formula have already been finalized. The next step is acquiring the machine, which will be installed soon. It will be a machine making a ton of organic DAP daily. Fortunately, he has secured a promise of free electricity for the machine due to its high energy consumption.



‘While my younger son is a certified state master trainer in organic farming and mushroom farming, my elder one is a state master trainer in goat rearing. As a family, we’re fully committed to the cause. We’re grateful for the ecosystem we’ve built that understands our goals and is supportive.’

Hemlal’s mind drifts into nostalgia as he captures the very beginning of his journey-

‘Since the day I witnessed my two goats collapsing before my eyes, till this day, I have consistently spoken about this toxin on every platform available to me, including discussions about DAP, Potash, Urea, and more. Wherever I go, I bring up this topic. The suppliers of Urea, Potash, and DAP regard me with disdain because the farming methods I promote could potentially harm their businesses. ‘*Unki rozi roti hai ye,*’ they say. Many people in my village believe I am promoting cow dung and compost solely for financial gain. To the extent that when they see me in my car, they jokingly refer to it as the ‘cow dung vehicle’ or ‘*gobar gadi.*’ Palamu, which is five hundred kilometers away from my home, takes seven to eight hours to reach by car. Imagine if I were to travel these long distances on a motorcycle!’

‘How much can a clay lamp illuminate? When you seek greater brightness, a petromax lamp comes into play. But to illuminate the entire global community, a force as mighty as the sun is required,’ says Hemlal.

Education is crucial for achieving your aspirations. However, if you have a strong passion for helping

others, even without extensive education, you'll discover ways to create an impact. Farmers, often with limited schooling, dedicate themselves to producing food and sustaining lives through diligence. Sadly, many youths in rural areas squander their potential on idle habits like gambling and drinking instead of pursuing education. It takes individuals like Hemlal with a resolute spirit to explore and innovate effectively despite the challenges life throws their way.

'Jugaad' is essential for an entrepreneur. Think of it as the secret spice that turns ordinary ingredients into an extraordinary dish called success. It's like cooking without a recipe book but still having a delicious meal because you're clever and resourceful. *Jugaad* in entrepreneurship is about being creative, finding unique solutions, and making things work, even with limited resources. It's like being a master chef in the kitchen, where every challenge is an opportunity to whip up something amazing!

Ah, picture this quirky scene: where the pockets are light, the degrees scarce, and the red carpet of education somewhat short, there blooms the magic of *jugaad*! These folks, with their knack for turning soda cans into solar panels and old tires into comfy swings, are the real wizards of everyday life. Meanwhile, in the land of silver spoons and scholarly privileges, wit often finds itself boxed within four academic walls, dreaming of the adventures beyond them.

'Hum jugaad par hi sara jeevan jeete hain.' For example, seven kilometers away from home, in my

processing unit, I have to hire people who cost me more than twenty thousand every month. To save on this expense, I plan to relocate to Maithon to avoid paying for electricity and receive additional facilities like three guards. In contrast, currently, I hire two guards who sleep during their working hours and still get paid. 'I pay them a hundred rupees each day just for sleeping.' Adding it up, it's two hundred each day for two guards, six thousand for a month. We have to do these little calculations and save money wherever possible. This is our *jugaad*, managing expenses somehow.'

Picture this rural wizard of practical wisdom, Hemlal, his face a canvas of purpose streaked with creativity. His eyes sparkle like gold coins in a treasure chest, always searching for the next big idea. With each step, his body speaks the language of trial and error and some taste of success. His smile is infectious. Hemlal leaves a trail of motivation in his wake. His essence is a blend of passion, resilience, and a touch of rural charm that captivates all who encounter him.

Understanding the fundamentals of entrepreneurship and exploring whether innovative thinking is the key ingredient, this is what Hemlal has to say:

'I struggle even to pronounce the word, let alone understand its definition. In my '*desi bhasha*,' I understand that '*avashyakta hi avishkar ki janani hai. Adami ke pair mein kanta chubha, tab chappal taiyar hua. Adami ke pair mein keechad laga, tab khadau bana.*

Chappal aur khadau mein kanton mein chalte samay uper mein nonchhi lag jata tha, tab joota taiyar hua. Juta mein andar garmi se pareshani hoti thi, tab moza taiyar hua. (When a thorn pricked a person's foot, the sandal was born. When mud stuck to one's feet, the wooden clog emerged. While walking on thorns in sandals and clogs, discomfort prompted the creation of shoes. And when shoes caused discomfort due to heat, the sock came into existence.) In short, a start-up to me is a '*naya avishkar*,' '*vo bana dena jiska manav samaj mein abhav hai*.'

Hemlal advocated for the *Goverdhan Yojna*, which aims to promote green energy initiatives, an adapted plan to utilize *gobar* gas for household purposes. *Goverdhana* is associated with Lord Krishna, who famously lifted a mountain on his shoulders. Some even mockingly called him '*murali-dhar*,' attempting to diminish his greatness. I work with '*gobar*' (cow dung) and '*gau-mutra*' (cow urine). Despite people using derogatory terms to describe my work, it doesn't bother me. Cow dung is the essence of my work, and I take pride in it. My four sons are also involved in similar work, aiming to create a world free from chemical pesticides and fertilizers, which are like poison. They also envision a '*zahar-mukt Bharat*' (poison-free India).