Generating a method for Salt farmers to create their own Iodine Salt with less equipment and resources. And also creating awareness of Gypsum, its uses and its market value to increase their earning

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INTRODUCTION

The Rann of Kutch is a seasonal salt marsh located in the Thar desert in Gujarat. It is also the land of the Agariyas, traditionally salt farmers, who have lived here for centuries. Working every day under a scorching sun from October to June, the Agariyas harvest 75 percent of India’s total salt produce. Despite their backbreaking, and often dangerous, labour, the Agariyas earn a paltry sum of ₹27 per ton whereas the retail price of domestic salt is ₹ 5500.

FIELD VISIT INSIGHTS

Salt pans:
Industries iodizing Raw salt:
FINALIZING PROBLEM

Keeping in mind the financial conditions and earnings of Salt farmers I thought of simplifying the process of iodization of salt so that farmers too can produce iodized salt and directly sell in markets or to big industries for more profit. And also, I thought of creating awareness for the most common mineral Selenite; form of Gypsum which is easily found there. Till now they used to throw that mineral.

PROOF OF CONCEPT
PROTOTYPING

Industries follow these steps from m machineries to iodize salt.

- Firstly, they wash raw salt so that impurities like, soil, mud, dust washes off.
- Then they send it to centrifuges in which, water and salt gets separates.
- Then we get salt in dry and powdered state then this salt is allowed to pass through belt on which iodine solution is falling drop by drop. There is a container just above the belt which contains 20mg of iodine per 200 ml solution.
- Then again, this iodized salt is sent to vibrator on which salt dries up and also, it turns it into fine particles.
- Then this salt is packed and sold to retailers.

I tried to simplify this process so that this can be done by farmers on their own.
It comprises of 4 parts:

1. This is for washing purpose. For making this I have used sticks and a thin cloth and to tie this up I have used thread. We just have to spread salt on this and wash from water which drives off mud, soil etc. To make this in Rann they will use, bamboo and a thin cloth like saree in place of this cloth and rope.
2. 2nd part is iodization. This bottle will be containing iodine solution and when we loosen its cap a little bit of water falls drop by drop in slanted pipe which already contains washed salt and this iodized salt will gradually collect in container below it.

3. Then this container will contain iodized salt and here we will beat salt which is in crystal form and make it powdered.

4. Then again, this type of structure is used to dry up salt. This can also be in multiple layers so that more amount of salt can by dried at one time.

5. Then they can pack this salt and sell it to retailers.

**USER FEEDBACK**

When I talked to salt farmers about my prototype, they told me some of the problems. Therefore, In the very beginning step, I came to know that my prototype got failed. First, they don’t have sufficient water to wash salt. Second, they don’t have much time to iodize salt. Third, this is for small
scale production, they produce approx. 7 to 8 tons of salt per day. So, this is quite impossible for them to iodize on their own scale.

FURTHER MODIFICATIONS

If farmers can get enough quantity of water then they can think upon this.

Apart from prototype I created awareness among salt farmers regarding the mineral Selenite which is most common to found over there.

Another thing we found there was Selenite. Selenite is a form of Gypsum which is present in sheet like structure. We can find it in high amount over there.
When they dig water wells, they found this Selenite and they used to give at free of cost to anyone or throw away. If they sell these minerals, they can earn a lot from this.

Uses of Selenite:

1. Selenite is a light carrier.
2. Selenite crystals can be cleansed and recharged by leaving them under the moonlight. The white light of selenite matches the white light of the moon.
3. Selenite is a protective stone that will help in keeping negative energies away.
4. Selenite is great at clearing the energy in a space.
5. Selenite helps in getting peaceful sleep.
6. Selenite's healing energies can reduce pain, soreness, or blockages in your body by placing it on the affected body part for 30 minutes.
7. Put selenite in each corner of your house or a room to create a safe, uplifting space.
8. Selenite can help you stabilize your emotions and feel calm.
9. Selenite can assist in feeling a sense of tranquillity and mental clarity.
10. You can wave a selenite wand up and down your entire body, breathing calmly, while visualizing its bright light restoring your vitality.
11. Meditating with selenite can help you enhance your spiritual practices.
12. Also, when we talked to Salt farmers, they told us that they use Gypsum during menstruation to cure pain. This is also mentioned in a book called De Natura fossilium (Textbook of Mineralogy) by Georgious Agricola.

https://books.google.co.in/books?id=qNO8-vcob88C&pg=PA92&lpg=PA92&dq=gypsum+menstrual+flow&source=bl&ots=RY1xuRi3er&sig=ACfU3U39zttean8_7VhZoCfiDpmNsIGjoKA&hl=en&sa=X&ved=2ahUKEwj4ntTYmejiAhVJQo8KHF_B3BiEQ6AewDXqECakQAQ#v=onepage&q=gypsum%20menstrual%20flow&f=false

Its market price is about Rs 650 for 200gm

https://www.amazon.in/ASTROGHAR-White-Selenite-Crystal-Rough/dp/B077XWRWPR