

## CASE STUDY

### Godusbo Salt Producers Creatively Managing Salt Iodization, What made the Difference?

#### Background:



Somali is one of the nine regional states of Ethiopia. The region is located in the Eastern and South Eastern part of the country. The region is one of the largest regional states bordering Djibouti in the North, Somali to the east and Kenya to the South. There are nine administrative zones in the region. Jijiga is the regional capital located about 650 kms East of Addis Ababa.

Altitude ranges from 200 meters in the southern and central parts to 1800 meters in Jijiga zone in the NE. Annual rain fall is 150-1000 mm per year and temperature ranges between 19°C and 40°C. According to CSA 2013 report the region has an estimated total population of 5.32 million. Population are mostly pastoralists (60%) and agro-pastoralists 25%. The remaining 15% are sedentary riverine farmers. The region is endowed with plenty of cattle, sheep and camels. Natural gas is under exploration and development.

Somali is also the second largest salt producing area in the country after Afar regional state. Salt is traditionally mined in Afder Zone, Hargelle Woreda specifically at Godusbo locality also called Chewbet (Godusbo locally means Gods land). Godusbo a very small rural town located at about 28 km east of Hargele, the woreda capital.

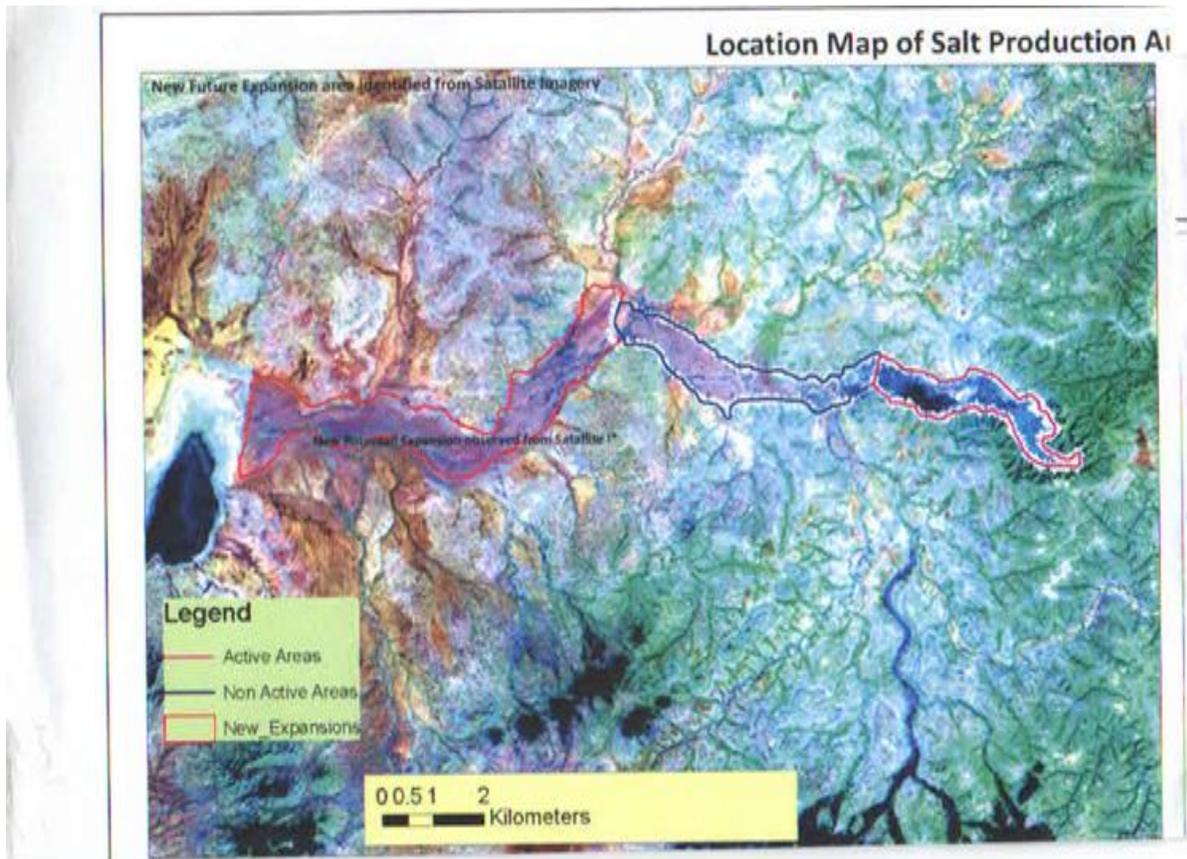
On average Godusbo lies at a distance of over 1200 kms from Addis Ababa. It can be accessed through three separate routes (AA - Negelle - Filtu - Chereti – Hargele or Addis Ababa - Giniri- Rayitu- Chereti- Hargele or Addis Ababa – Jijiga- Deghabur -Godey-Godusbo. All routes are partly paved (asphalted) and the remaining halves are poor gravel roads. Accessibility becomes even more difficult during rainy seasons as the roads become muddy, slippery and flooding is a real risk.

Reportedly the first salt farming in the area started by an Italian person during Haile Selassie's rule around 1965. During the Dereg (Military Regime) two nationals started salt mining but this lasted only a short period. During the current government one Pakistani national entered agreement with the federal Ministry of Mines to further explore and develop salt production in the area. The company once again discontinued at an early stage reportedly due to poor infrastructural facilities in the area (poor road, water and electric, telephone and banking services).

The report by Menji International Company who conducted the actual technical assessment and mapping in April 2010 reported the following major features of the locality:-

- An estimated total salt production area of 6.1 sq. km. Of this 3.5 sq. km contained active working wells. The rest 2.6 sq. km is considered non active production area (abandoned wells). There were over 5240 active wells and pans at the time of the assessment.
- Salt manufacturing at Godusbo is based on sub soil brine obtained by digging wells to a depth of about 1.5 to 3 meters. Brine is manually drained from wells to salt pans. Availability of brine is not uniform at all place.
- During rainy seasons the area will be flooded from runoff water in the surrounding area and flooding from crossing rivers. Salt production in Godusbo is limited to 8 dry months in a year.
- The average production of non-iodized salt for the years 2008 and 2009 was more or less similar and amounted to 126,932 MT/annum.
- The estimated potential production (@ 75% of the theoretical value) was 581,011 MT/annum

- Normally three types of salt is produced at Godusbo
  - whitish salt with smaller crystals, less impurities and low moisture used for iodization (human consumption)
  - relatively brownish color salt with impurities and moisture
  - Brownish salt with coarse crystals. The latter is produced from loosely compacted pans and wells of high percolation (the latter two are mostly used for animal feed).



SATELLITE MAP OF GODUSBO SALT PRODUCTION AREA

As the last resort the responsibility of producing salt fell on the shoulders of some determined local residents of Godusbo and their supporters. In 2002 salt production started by local residents who organized themselves into few salt producers associations. Between 2002 and 2010 the number of salt producing associations formed has increased to about 13 and it is still open to new membership. Accordingly the total number of association members has also grown from around 700 to over 1700 persons. Upon request from the FMoH in 2010, MI sponsored the mapping and technical assessment of the Godusbo salt production site in order to establish a data base for the start of iodization activities

Wollelah Salt Production Cooperative was formed in 2011 by union of the 13 salt producers associations with over 1762 individual members. Wolellah has been registered at the regional level and certified as a cooperative. The cooperative had a registered cash capital of 5 million Birr. These 13 associations are exclusively working on production of raw salt only.

**Photographic illustration of raw salt production and transportation out of the sites**



Operation under the cooperative continued until end of August 2014. In September 2014 once more the cooperative was transformed in to a Share Company entitled Afder Wolelah Salt Trade Share Company. The SC has been officially registered and certified by relevant federal authorities including EFMHACA. The SC has a registered cash capital of > 20 mill Birr. If capital assets (2 modern storage facilities with capacity of > 40,000 quintals, 5 trucks, iodization machines etc...) are included the capital can double this amount

PHOTO: CONSULTANT WITH SC CHAIRPERSON AND ACCOUNTANT

FIGURE 1 CONFERENCE HALL INTERNALVIEW



Photo View: Storage facility with capacity of >20,000 quintals (left) and Conference hall (right)

The main difference between working under a cooperative and SC is markedly significant. Under the cooperative the distribution of iodized salt was limited to Somali region and parts of the neighboring Oromia region and the SNNPR only. The currently formed SC however entitles them to distribute iodized

salt to most parts of the country if not all. Another very interesting aspect is the active role the cooperative/SC is playing in supporting socio- economic development of the area. Just to mention a few:

**Education:** In order to create learning space and opportunity for local girls and boys go to school

- Recently seven class rooms have been built and furnished (2 blocks) in the nearby government school
- Other 3 class rooms and a separate office have been built in a local private school

**Health:** to increase access and improve quality of health service at the local government HC

- Construction of a bridge on the road taking to the nearby HC is on process. This will facilitate access and delivery of ambulance service for residents of Godusbo town
- Special funding mechanism has been created (each truck loaded with salt leaving Godusbo will pay 200 Birr/trip) to provide about Birr 20,000 / month to support the HC to effectively run ambulance service
- Materials for equipping the delivery room have been purchased and ready to be handed over to the HC to encourage more women to deliver at the HC

**Basic livelihood services**

- Salt production in the area provides job opportunity for > 20,000 daily laborers (mostly local)
- In addition to distributing iodized salt the SC has already started supplying the local community with food and basic house hold items (food, oil, sugar, etc...) at fair price.

## The Iodization break through at Godusbo

Despite several constraints (infrastructural, organizational and capacity etc.) similar to other salt producing sites in Afdera and Dobi, salt producers **at Godusbo** are making tremendous progress and contribution for the realization of salt iodization in Ethiopia. Their experience in iodization is relatively short compared to other places but their achievement is truly exemplary.

Therefore the objective of this case study in brief is to

1. To document and analyze the major success factors and challenges
2. To high light the lessons learned that can be possibly applied in solving problems else where
3. Finally recognize their successes

Godusbo officially launched salt iodization in May 2012 shortly after enactment of the salt regulation #204 /2011. Initially iodization started by using 5 manual knapsack sprayers purchased by the cooperative. Necessary training/orientation on salt iodization and knapsack use were provided by team of experts from FMoH and partner agencies.

In terms of improving the iodization capacity at Godusbo, a total of three glotra machines were donated over the years by UNICEF (each has iodization capacity of 5-7 tph) .One Davey machine was also donated by GAIN (capacity of 10-12 tph). The 4 machines actually started running in 2013. These 4 machines if made fully operational will create a functional iodization capacity of about 60 ton/ hr {on average 480 MT/day (8 work hours/day) and 12,500MT/month (24 working days) and 99,800 MT/year (8 production months only)}. This is well enough to iodize all salt currently being produced at Godusbo with adequate quality. Knapsacks have been abandoned once machines started running.



DAVEY IODIZATION MACHINE IN OPERATION (PHOT FROM FILE)

## The Iodization process at Godusbo

The 4 medium size iodization machines (3 glotras plus one Davy) are installed at 2 close locations at a close proximity but outside the actual salt production sites. The machines are properly sheltered and managed. A total of 16 fully employed personnel (monthly salary ETB 3000 each) are assigned for iodizing the raw salt directly transported to the iodization facilities. Iodized salt is normally loaded to trucks (400 quintals capacity) for distribution or temporarily stored in two properly built storage facilities with capacity of >25,000 quintals each. Another larger store is on process of construction.

### Iodization quality control

- RTKs were being used at the start of iodization
- Currently iodization quality is checked using WYD Iodine checker. Reagents are supplied by FMHACA or private agencies at cost
- One quality technician and two assistants and the quality subcommittee are responsible
- Quality testing is done in the following manner:-
  - 30% samples of randomly collected samples / hour of production
  - 30% samples from loaded trucks are checked before release of product
  - Quality certificate is issued for trucks carrying iodized salt to markets



FIHOTO FROM FILE): QUALITY TECHNICIAN IN OPERATION USING WYD IODINE CHECKER

## Source of inputs

- Raw salt is produced by individual association members according set production plan. No excess production and stockpiling occurs.
- SC/Cooperative buys raw salt with agreed provisional price
- Quality committee inspects quality of raw salt and makes decision regarding acceptance or rejection. Raw salt color, moisture and gross impurities are checked physically and prepared formats are completed and signed by the quality committee for release of pavement.
- Once the procurement process is completed, the salt is transported directly to iodization center using truck assigned by the cooperative (owned or rented) using different bags
- Packaging materials: 50 kg sacks with pp internal lining are produced by a factory at Adama (by competitive bidding). There exists a standard specification for purchase of packaging sacks. That is 100 gm/sack (80 gm for external lining and 20 gm for interior pp lining).
- Prepaid potassium iodate is collected from FMOH on monthly basis (300 kg /month) as per estimated existing production capacity
- Laboratory reagents (solution A and B) are purchased from private suppliers as per advice from EFMHACA

## Distribution and marketing of Iodized salt

This is also systematically done. Areas covered include most places in Somali region and parts of southern and eastern Oromia, Harari and part of SNNPR.

- Six selected distributors signed contract agreement with the Cooperative/SC to distribute iodized salt agreeing to set of conditions (criteria/guideline). These distributors are mostly interested and competent persons selected from association members themselves
- 3 Sub-Offices and storage facilities exist at Dire Dawa, Adama and Hawassa to facilitate movement of iodized salt, check unnecessary over stocking/hording and control price escalation (Iodized salt should be sold at a reasonable price of around ETB 300/100 kg (other producers sell iodized salt at much higher price)

In short the approach practiced at Godusbo is believed to be very creative, practical and effective. The associations simply produce raw salt only while the cooperative/SC is responsible for iodizing and distributing iodized salt.

## The success factors at Godusbo and lessons learned

Most and above all their success relates to their strong commitment to iodization, good leadership, better coordination and hard work of the members. The unreserved support provided by FMOH and partners agencies is also noteworthy. The association/cooperative/share company deep heartedly acknowledge this fact. It is also their firm belief similar support and encouragement will continue until the goal of USI is achieved in Ethiopia to which they are highly committed.

Below are some of the organizational and functional arrangements currently in place that are considered exemplary. Salt producers at Godusbo are well organized and better committed to salt iodization. The 13 salt producers associations through time formed one cooperative which in turn has recently transformed into a share company (SC)

- Functional administrative/technical structures and practices-
  - General Assembly: Constituted of >1762 members organized in to 13 salt producers associations in five work sites/areas. All association members are exclusively from kebelles around the salt production site (Godusbo), Hargelle woreda, Afdera Zone and only few were from Somali Regional State. The homogeneity of the members has helped to establish better understanding and build trust (same ethnic groups, same language and culture). This was a good starting point and has really facilitated progress made so far. Hope the same situation prevails.
  - A functional governing board constituted of 13 members exists. These are further divided in to the following 4 functional committees :-
    - 1.1. Responsible for procurement of packaging materials including raw salt(3 persons)
    - 1.2. Responsible for distribution and sale of iodized salt(6 persons)
    - 1.3. Responsible for iodization and quality control (2 persons )
    - 1.4. Responsible for KIO<sub>3</sub> supply ( 2 persons)
- Roles and responsibilities are clearly assigned and shared responsibility / accountability exists. The 13 association members produce raw salt only and do not involve in iodization activity. Raw salt produced by individual associations is subject to quality check and approval by assigned quality committee members before being iodized
- Cooperative/SC buys raw salt of acceptable quality from the associations at a provisional price (Birr 75/quintal) right at the production sites and transports it to iodization and storage facilities using own or rented trucks
- SC/cooperative is totally responsible for iodizing salt, packaging and labeling (currently 50 kg) as per existing technical/national guidelines
- SC/cooperative distributes and sales iodized salt at identified markets and redistributes profit to association members.
- Generally smooth operational environment and work flow is seen
  - Iodization machines are better managed and effectively used (3 in one big room and one in another smaller room)
  - Iodization process follows a clear path without complications. Over 16 salaried staff (salary Birr 3000/ month ) are in charge of iodization
  - Iodization and quality is checked by a locally trained technician using WYD Iodine checker in one corner of the iodization place. Permanently there is a separate laboratory office in the compound.

The current practice at Godusbo is very promising and bring hope to all stakeholders' alike (government, salt producers, partners and customers). Salt producers at Afdera and Dobi (big or small) however take the burden of raw salt production and iodization as one package. They are unnecessarily troubled with double burden for which they are not prepared.

So far disentangling the two activities has not been possible with salt producers in Afdera and Dobi. Any effort on this line is perceived as eminent threat to their livelihood (source of insecurity). This is misperception (belief) is deeply rooted especially among the landowners/landlords. This has created sense of mistrust among the major actors and has hindered progress in salt iodization over the last decade or more. Problems manifest in several forms but revolve around this central issue. One cannot be sure how and when these obstacle can be overcome.

The Somali experience can significantly contribute to solving problems seen in Afdera and Dobi if genuinely understood and applied. Their approach can be adapted to other salt producers puzzled with salt iodization situation. This of course should not be considered as a blue print to be imposed on others but demonstration of strong commitment, leadership and creative approaches to move iodization forward to achieve USI.

### **Main constraints/challenges seen**

Of course this success was not made without sacrifices and real challenges. The main constraints and challenges seen in the area include:

- lack of potable water at the site (water is being transported from a river at a distance of over 70 kms and the quality is very poor especially during rainy seasons)
- Poor infrastructures
  - Roads to and from Godusbo are poorly constructed and maintained over long distances in any one direction. The problem worsens during rainy seasons limiting distribution of salt to markets
  - No electric power serving the locality city
  - No telephone : No land line to Godusbo yet and poor network limits communication using mobile phones
  - No banking service : money has to be carried to the nearest bank at Chereti at a distance of about 100 kms away from Godusbo

**Some brave people live and work outstandingly amid several constraints and challenges!**

### **Future Plan**

During the coming 3-5 years the SC aspires to

- Build a factory to transform production of salt (iodization) at industrial level
- Separately package and distribute salts (for human consumption, industry and animals) using different packaging options
- Scale up production and be strong competitor supplying iodized salt to local markets across the country and possibly export iodized salt to neighboring countries
- Develop ground water to alleviate the scarcity of potable water for iodization and for the community at large.

### **Some representative of the 13 Associations and SC Board members met and discussed**

1. Ato Mohamed Shake Hassen	Andemano	Huluka Salt producer Association
2. Sake Yesaq Shae Barie	''	Hantiwolq '' ''
3. '' Ahmed Yisaq	''	Karim '' ''
4. Ato Sala Mohamed	''	Korahe '' ''
5. '' Sirat Yas	SC	Board member
6. Ato Abdi shake Wera	''	'' Quality Officer
7. Ato Mohamed Telat	''	''
8. Ato shafi Abdi	''	'' Auditor

