

# GENDER, HEALTH AND DROUGHT



Gravis



# **Gender, health and drought**

## **Plugging the Gender Gap in Health and Well-being through Drought Mitigation in the Thar Desert**





# Gender, health and drought

Plugging the Gender Gap in Health and Well-being  
through Drought Mitigation in the Thar Desert

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## Author's Note

It is heartening to note that the gender bias, deep seated in the social and cultural texture of many regions in the world, continues to keep it alive through regressive traditions and practices. This gender bias manifests in a very sharp way in the low and middle income countries. General health and wellbeing that is already contingent on the available of resources, and willingness of the governments to invest, is one of the most critical aspects of human development, and unfortunately with the most prominent gender gap too. Rural areas of the Thar Desert are the most speaking examples of such a gap that continues and intensifies in the backdrop of poverty, difficult climatic conditions and acute water shortage. Skewed public health care services and affordability issues create a crisis in the area of health care and general wellbeing. Women and young girls, eat last and still toil for meeting water needs of their families, are completely deprived of space, opportunity and resources needed for caring for their own health and wellbeing. It's a complex challenge to find inroads into society, break regressive belief systems and make health care a reality in such crisis stricken regions that exude patriarchal values in all aspects of human life.

GRAVIS' efforts to address gender imbalance and water shortage in drought affected regions of Rajasthan, have led to creation of water and food secure communities on one hand and improved capacities of women and young girls to take care of their health and wellbeing on the other. The project Enhancing Water security and Health in the Thar Desert (EWSH) looks at the issue of water scarcity from a human development lens, and prioritises the health and nutrition level for every one towards attainment of optimum level of wellbeing. The project, by facilitating close work with the community based structures, engaging with the local community and focusing on urgent issues, namely food and nutrition security, has led to creating an environment that is conducive to better nutrition and health. However, building skills, confidence and thereby an effective demand for better health care and nutrition has been the hallmark of the project.

Implementation of EWSH project over the past few years has demonstrated that reducing gender gap in health and wellbeing needs both - the integrated community development approach that demands addressing the water and food security crisis for drought affected communities; and a trenchant gender mainstreaming approach that advocates women centric interventions and social and economic empowerment of women. Gender bias entrenched in the rural and impoverished societies cannot be addressed only through universalisation of services, specific focus on mainstreaming gender is the only way to ensure that fruits of the improved access and quality of healthcare and services are enjoyed by women too in an equitable manner.

Author is extremely grateful to the team at GRAVIS for enabling collection of useful information and data from the project village, as well as the communities in the Thar Desert who spared their time and shared their feelings about the interventions and their impact on their lives.

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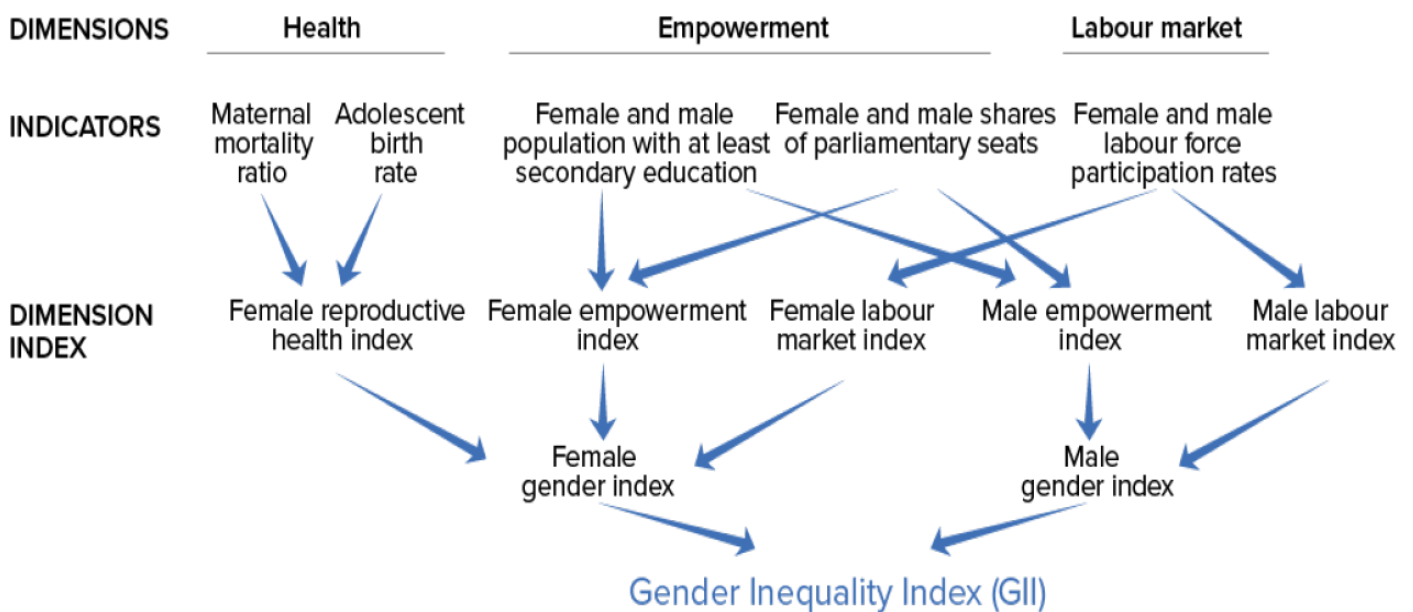


# Chapter 1

## Gender gap in health and wellbeing

The magnitude and pervasiveness of unequal opportunities for girls and women have adversely impacted generations, as historically such gender discrimination has had a firm hold in societies worldwide. Hence, gender inclusivity has emerged as an important leitmotif in global policy dialogues. Social, economic and resource inequities are at the bottom of most developmental issues in modern democracies. Inadequate representation of women in the development processes and an asininely meagre share in development outcomes, have their roots in traditional age long discrimination based on gender. Most worrying is the fact that gender discrimination continues to get reinforced in societies with patriarchal structures and overstretched resources. Gender disparities manifest in unequal distribution of resources, lack of representation in positions of authority, and the access to opportunities for education, health care and general wellbeing, leaving women and young girls in a disadvantageous situation. Gender Inequality Index (GII), a composite metric of three dimensions- reproductive health, empowerment and the labour market, shows the wide gender gap that exists in different parts of the world and projects the loss in potential human development due to inequality between female and male achievements in these dimensions. Maternal mortality ratio and adolescent birth rate as key indicators, determine female health, whereas empowerment is measured on the basis of gender gaps in secondary education, political representation and labour market participation.

Figure 1: Dimensions and indicators of GII (UNDP)



Source: <https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII>





With health and survival, educational attainment, economic participation and opportunity, and political empowerment as the key indicators GII explores the most prominent and objectively verifiable gender gaps in different countries. In the area of health and survival - India (93.7%) is one of the five countries along with China (94.0%), Azerbaijan (94.1%), Pakistan (94.4%) and Qatar (94.7%) with gender gaps that were larger than 5%<sup>1</sup> India's gender divide has been a matter of extensive debates and discussions. As per the Global Gender Gap Report 2022 of the World Economic Forum, India ranks 135 out of 146 countries<sup>2</sup> Access to public health care facilities, health support for pregnant women and lactating mothers and health education, as well as lack of educational facilities for young girls are the key arrears that pull India back from bridging this gap.



*Woman fetching water*

In low and middle income countries like India, especially those with the traditional social structures, regressive culture and traditional practices are leading to worsening of the gap that exists with regard to health and nutritional status of men and women. Indian women and girls are generally vulnerable to poor nutrition, during adolescence, pregnancy and lactation. Low nutrition levels coupled with the limited opportunities for education result in low productivity, fewer numbers of women with ownership of resources and consequently prevalence of disparities that continue to reinforce with the traditional and cultural beliefs. Gendered access to health and nutrition security hence is an outcome of a number of social, cultural, economic, political and environmental factors.

1. Global Gender Gap Report 2022, World Economic Forum, [https://www3.weforum.org/docs/WEF\\_GGGR\\_2022.pdf](https://www3.weforum.org/docs/WEF_GGGR_2022.pdf)
2. Status of Women in India, Economic Advisory Council to the Prime Minister, 2022 <https://eacpm.gov.in/wp-content/uploads/2022/11/Status-of-Women-in-India.pdf>



The dietary intake of rural pregnant women is lower than the recommended level<sup>3</sup>. The incidence of anaemia was found to be highest among lactating women followed by pregnant women and adolescent girls. Worldwide 50 percent of all pregnant women are anaemic, and at least 120 million women in less developed countries are underweight<sup>4</sup>. Nutritional status of the mothers is more pervasive than the impact of other factors on birth weights, which explains the intergenerational nature of undernutrition in India. As a country carrying the highest burden of malnutrition among children, access to inadequate food intake, nutrition and general health services during pregnancies, is the most glaring gap for India.

Disproportionately socioeconomic status, gender discrimination and reproductive role not only expose them to various diseases, but also their access to and use of health services. Gender discrimination (son preference) and early marriage, often results in bias in both education and formal labour force participation. Leading the life under the control of their fathers, husbands, and sons exert a negative impact on the health concerns of Indian women. Though worldwide women have increased life expectancy at birth, because of the systemic problems associated with Indian women's health, in India, both men and women have the same life expectancy at birth. Financial support, old age security, property inheritance and dowry all contribute to the preference of sons over daughters.



*An Older woman in Thar*

3. Durrani AM, Rani A. Effect of maternal dietary intake on the weight of the newborn in Aligarh city, India. *Niger Med J*. 2011;52:177181.

4. Leslie Elder and Elizabeth Ransom, Resource Library, <https://www.prb.org/resources/nutrition-of-women-and-adolescent-girls-why-it-matters/>



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## Gender, health and drought

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Good health is the key contributing factor to human wellbeing and economic growth. Adequate nutrition for women would help them to serve as productive members of the society to develop the consequent health generations. The government should take necessary and compulsory policies to improve the literacy rate and quality education as well as to provide adequate employment opportunities for women, which might explore positive impact on the women's health concerns. The government can also improve the health status of women by strengthening and expanding essential health services as well as by frequent counselling on safe sex, awareness on educational and nutritional needs and gender based violence. Achieving higher economic growth with subpar performance in gender equality is reflected in many indicators on the status of women in India. These are outcomes of a lopsided development process, which gets perpetuated, if not addressed as a policy priority. Hence, prioritizing areas to target for narrowing the existing gender gaps is essential for development to be more inclusive.



## Chapter 2

### Thar Desert: Gender gap in health and well-being

Much of the Western Rajasthan region in India falls under the Thar Desert that is known for its extreme weather conditions and very low levels of precipitation in the whole year. Rain-fed agriculture and livestock management being a mainstay for the rural population in these regions, communities remain heavily dependent on scanty and unpredictable rainfalls. Remote and inaccessible regions in Rajasthan remain deprived of public facilities and amenities leaving them entirely dependent on local resources available within the vicinity. Poverty, low disposable incomes owing to rain failures and water scarcity for agriculture along with inability to access public services, create a cycle of resource deficit and deprivation.



*A meeting of women*

Women in the Thar Desert face several challenges that affect their health and well-being. Lack of sufficient water for drinking and other household purposes affect women disproportionately as the responsibility to meet all the water related needs of the family rests with women and girls. Excessive amount of time and physical labour, and deprivation from a range of opportunities for self-care, social interaction and development, define the state of health and wellbeing for women. Insufficiency of water for farming and level of farm productivity, explain to a great extent, limited access to food, particularly protein-rich foods, calorie, protein and micronutrient deficiencies, which in turn lead to a range of health problems, including stunted growth, anaemia, and weakened immune systems. It is well known that women's access to health care is as difficult as their access to other spheres like education and employment. Reluctance of the family



to take a woman/ girl child to the health facility is quite uncommon unless she is in a precarious condition. There is no consideration shown by anyone in the family about her ill health. Women in the Thar Desert often have limited access to healthcare facilities due to the region's remoteness and lack of infrastructure. This limits their ability to receive timely medical care and preventive services. Lack of access, shortage of health centers, lack of female doctors and para medical staff and lack of privacy coupled with lack of free medicines make far fewer women approach these facilities than men. With no mobile teams to test women at home for malaria, tuberculosis, etc, the number of men who are diagnosed with these diseases are much more than women. Most women do not know that they are suffering from these ailments. In addition to that, women in the Thar Desert often live in poverty, which can limit their access to education, healthcare, and other resources that are critical to their well-being. Chronic malnutrition and lack of health facilities lead to a general low level of health status among young girls and women that continues to affect maternal health and their well in later life too. Rajasthan state has one of the most dismal performance of health indicators, with more than 60% women being anaemic and under 5 mortality rates still looming around 30 per 1000 children.

Early marriages are one of the major factors that determine nutrition status, health and wellbeing of women. 57% of rural women in Rajasthan get married before the legal age of 18 years, making them dependent on others as they are not able to complete formal education and would not have had opportunities to build their skills. With no control over resources and assets rural women are forced to lead a life of subjugation. Preference of a male child, a common phenomenon in rural Rajasthan, is partially a cause as well as a consequence of this gender imbalance. A plummeting sex ratio in rural areas is directly related to social bias against girls. The other cause of the seriously flawed sex ratio in this age group is the infant mortality and child mortality owing to which more girls die in the age group 0-6.

That women are far less served by the health system is proved amply by the large gap between the general health index in which is 0.6060 and the gender- related health index which is 0.4399 in Rajasthan. It is an indicator of gross discrimination against women. Jaisalmer district where GRAVIS is implementing the EWSH project is one of the worst affected regions of the Thar Desert in terms of gender gap in health and education. Despite being one of the most popular tourist attractions in the state of Rajasthan and in India, Jaisalmer, has the lowest population density in the state. Rajasthan ranks at the bottom as far as female education in India is concerned, with Jaisalmer district having the highest national literacy gender gap. Considering the education level in Jaisalmer district, access to education is not a genuine concern, but equal access to education is of significant concern. According to the census of 2011, out of 33 districts in Rajasthan, Jaisalmer's literacy rate was the lowest at 57.22% — male and female rates of 72.04% and 32.33%, respectively. In Jaisalmer district, there is a gender gap of 32.3% which is over twice the national average. Education facilitates knowledge that helps individuals connect to the resources available to them.

In areas that are severely affected by droughts and water scarcity, women often face limited social and economic opportunities due to cultural and societal norms that restrict their mobility and independence.



Distance of the facility coupled with the lack of transport and money to go there. In Jaisalmer, the nearest health center is at an average distance of 35 km from a village. Further, shortage of female staff at rural health centers. A recent survey showed that most of them have no electricity or water supply. 30% did not have sufficient space for even a check-up, 57% for delivery and 32% for birth control interventions. There is also a big tilt in favour of urban facilities<sup>5</sup>. All of these factors contribute to the gender gap in health and well-being in the Thar Desert, which affects women's physical and mental health and limits their ability to participate fully in society.

5. A Situational Analysis of Women and Girls in Rajasthan, National Commission for Women,  
[http://ncw.nic.in/sites/default/files/Gender\\_Profile\\_Rajasthan.pdf](http://ncw.nic.in/sites/default/files/Gender_Profile_Rajasthan.pdf)



## Chapter 3

### GRAVIS' work on health: Focus on women empowerment

Gramin Vikas Vigyan Samiti (GRAVIS), a voluntary organisation founded to support impoverished people of rural areas in the Thar Desert of India, focuses on sustainable rural development and alternative rural construction with active community participation. GRAVIS has a firm belief in blending local, traditional wisdom with modern technology in order to rebuild resilience among people and contribute towards improved quality of life for them. Through its programmes in natural resource management, healthcare, education and training and capacity building, GRAVIS addresses the issue of acute water shortage in the Desert with a vision to enable good health and wellbeing for Desert people. Revival of traditional and sustainable means of water conservation, enabling access to quality health care and strengthening local capacities for self care and development have been at the core of GRAVIS' work. Most crucial aspect of GRAVIS' work, however, is cognisance of the social and cultural environment in the region that is marred with gender imbalance in all walks of life. GRAVIS has been particularly endeavouring to ensure gender inclusivity in its approach and working towards making the benefits of its intervention accessible to all women and girls in the region. To this end, women and girls assume the role of catalysts and lead the community out of water and food insecurities and eventually poverty and penury, through the programmes being run by GRAVIS.



*A medical camp*



Through the project named Enhancing Water Security and Health (EWSH) in the Thar Desert GRAVIS contributes towards water security and to improved health status in identified villages of Jaisalmer District in western Rajasthan, India, through implementation of water harvesting and farming interventions, building community capacity and through extending health support to local community. EWSH project adopts rainwater harvesting as a method of optimising rainwater for domestic and agriculture purposes. GRAVIS has rejuvenated a large number of defunct rainwater harvesting structures in Rajasthan in its quest to ensure water, food and nutrition security for communities in rural Rajasthan.

GRAVIS has been working in Jaisalmer, along with other surrounding regions, braving the harsh weather and long and difficult distances to reach out to the remotest communities. Through the EWSH project GRAVIS is engaged in further invigorating its efforts to ensure sustainable water and food security and improved health for the community. Through this project GRAVIS:

- ❁ Creates and capacitates effective and sustainable Community Based Organizations (CBOs).
- ❁ Constructs and renovates rainwater harvesting structures in the project area for domestic and agricultural purposes
- ❁ Enhances technical knowledge of rural communities on water management and farming
- ❁ Improves health by organizing outreach health activities; and
- ❁ Creates linkages between rural communities and local government programmes for scalability.

EWSH project is being implemented in 15 villages of Jaisalmer district with an outreach of more than 25,000 people. Along with the emphasis on rainwater harvesting EWSH facilitates innovations in rain-fed farming, silvi-pasture and tree plantation, seeds conservation, promotion of medium and small scale enterprises (MSME), training in livestock management, financial and digital literacy and gender equality. Hallmark of all these interventions is the gender mainstreaming approach that places a great deal of stress on making women and young girls play leadership roles across all domains. EWSH project strategy is designed to empower women by plugging the gaps that exist and define their marginalisation from social, economic and political processes within the community and affect women's health and general wellbeing over a period of time.





## Chapter 4

### Plugging the gender gap

Low literacy levels, restrictions of movement and discriminating practices with women and young girls within the family and community, have created a wide gap that prevents women from accessing opportunities for development. With a very low level of confidence and lack of skills women are not able to play an active role in society and become a victim of cyclical discrimination and deprivation. Strategically, integrated community development initiatives need to have a gender lens and an inbuilt mechanism that ensures women's fair share in the outcomes. In order to do that, participation of women in the process assumes significance. It is important to create an environment wherein women are able to explore and optimise opportunities for themselves, while assuming the leadership role in the entire community's wellbeing. Improved health and wellbeing for women and girls in the Thar Desert is linked to the issue of water scarcity at community and household, as much as it is related to building and nurturing women's and girls' agency in the society. This multi-pronged approach, hence the need to invest in women's own capacities and skills on one hand, builds their confidence by entrusting them leadership roles wherein they may explore their decision making roles. Additionally, the strategy must also contextualise the interventions within the local context that is defined by food, nutrition and water related insecurities, fragile public health infrastructure, low educational levels, and constrained social environment for women and girls. Mainstreaming of women's and girls' specific concerns within the overall intervention strategy hence remains the only way forward to achieved the desired results.

#### A. Enabling accessible health care

As Jaisalmer district is sparsely populated, public health facilities are not available within the reach of rural households. Distance to these services, along with the general administrative apathy about the health facilities located in remote places leave the rural population in the Thar deprived of any health support, even in the times of emergencies. With limited financial resources, affordability of private health services remains unlikely. Within this context, availability of health and medical services for women and girls remains a distant possibility. Most women and young girls largely tend to ignore their health related needs considering the marginal importance attached to it by the family and community. Restrictions on mobilisation and inability to afford health services, prevents them even more from accessing health services. Gender gap in health services gets reflected in the nutritional and physical health of women in the state of Rajasthan, which is one of the worst performing states of the country on health and nutrition indicators for women and children. The state bears a heavy burden of about under nutrition related health issues with 38% of under 5 mortality, and more than 60% of women in rural Rajasthan being anaemic.

National Family Health Survey 5 (2020-21) records that about 25% of women in rural Rajasthan do not go for even one antenatal check up to a health facility. Another research suggested that females account for only 45% of all hospital visits, with the biggest gaps among children under 15 years (33%) and adults 50



years and older (43%). These gaps are far larger than can be explained by Rajasthan's skewed population sex ratio<sup>6</sup>.

As access remains one of the basic issues concerning health care for women, GRAVIS conducts outreach medical camps in remote villages of the Thar Desert with a view to provide basic health services and health screening facilities to the rural population. These outreach medical camps are a boon for the rural communities, as these resolve the problem of affordability as well as access for them. Savings of travel and medical service as well as availability at the doorstep encourages people to visit these camps as and when these are organised as these are organised right in the middle of the habitations women and young girls find it convenient to visit these medical camps and seek health support and services.

As part of the EWSH project, 40 such medical camps were organised by GRAVIS that were visited by 1363 people including 786 women and young girls for medical check-ups and treatment from qualified doctors. Composed of medical and paramedical staff, these medical camps provide opportunities to women to get professional medical help as well as advice on various health issues that are specific to women's health too. 86% women reported that they go to private hospitals in case of any medical issues, however, such visits are very rare and it's only when someone is critical that he/she is taken to hospital. Same number of women reported that they do not visit a hospital for seasonal illnesses, reproductive health issues or even for small injuries, primarily because of the costs involved and their inability to bear those costs.

**Table - 1 : Direct health support in the project.**

Sl.	Direct health interventions	Number	Beneficiaries
1.	Outreach medical camps	40	1363
2.	Health education sessions	40	711

**Health education sessions**

As discussed, physical and mental health of the community in the Thar is shaped by a variety of social, economic and cultural factors. Ignoring the health of women has manifested into prevalence of regressive superstitious beliefs and practices that cause more harm to women and girls. Affordability challenge, lack of proper education and inability to access quality health care services pushes women to resort to such home remedies that are either insufficient or inadequate and may lead to further health complications among women. Not having basic understanding of good health practices and the belief systems that tend to suggest that women's health is not as important as that of men, normally keeps women away from knowledge as well as health services.

6. Women left behind — Rajasthan health insurance scheme has a gender gap, <https://theprint.in/opinion/women-left-behind-rajasthan-health-insurance-scheme-has-a-gender-gap-study/636101/>



GRAVIS conducted health education sessions for the community to make them aware about good health practices and ways to keep them safe from seasonal diseases. These sessions focus on nutritional needs of everyone, especially adolescent girls, pregnant women and lactating mothers. Economic sources of good nutrition, importance of consuming diverse food and retaining nutrition of food, are some of the key themes that are discussed with people. 95% women reported that they were unaware of the possibility of such a health session and now realise the absence of awareness and any social interaction that could help gain knowledge on health related issues. 88% women and girls identified the importance of maintaining menstrual hygiene as the key takeaway from these health education sessions. Finally, Health seeking behaviour, self-awareness and importance being given to health issues among young girls and women, especially older women, have undergone a transformative change since these camps are being organised regularly.

### **B. Enhanced water security and health**

Scarcity of water for all human and animal needs is one of the most challenging and defining aspects of the rural population in the Thar region. Acute water shortage has a number of detrimental effects on human health, hygiene, food security and general wellbeing. However, socially, physically and financially weaker groups in the community get most gruesomely affected with the water shortage. This may be attributed to inability of these groups to physically access water, especially when it is situated far from their homes and habitats; general apathy or ignorance about the needs of this groups and subsequently deprioritisation of their needs over others' who contribute to the family income, labour in the farms and are placed higher above others in the family hierarchy. Among all the vulnerable groups, women and young girls' lives get disproportionately affected with water shortage as, in addition to all other factors, they are also responsible for meeting all the water related needs of the family, which means as the water shortage becomes more acute, impact on women and girls get proportionately more severe.

Across the world, women and young girls spend considerable part of their lives in water fetching and responsibilities. In the Thar Desert women spend 3 to 6 hours per day on an average in collecting water for household use and this duration increases in drier seasons and in areas that are located very far from water sources. Having a source of clean and safe water closer to home not only means improved health, hygiene and nutrition for all family members, it also unleashes women's and girls' potential to lead an improved quality of life.

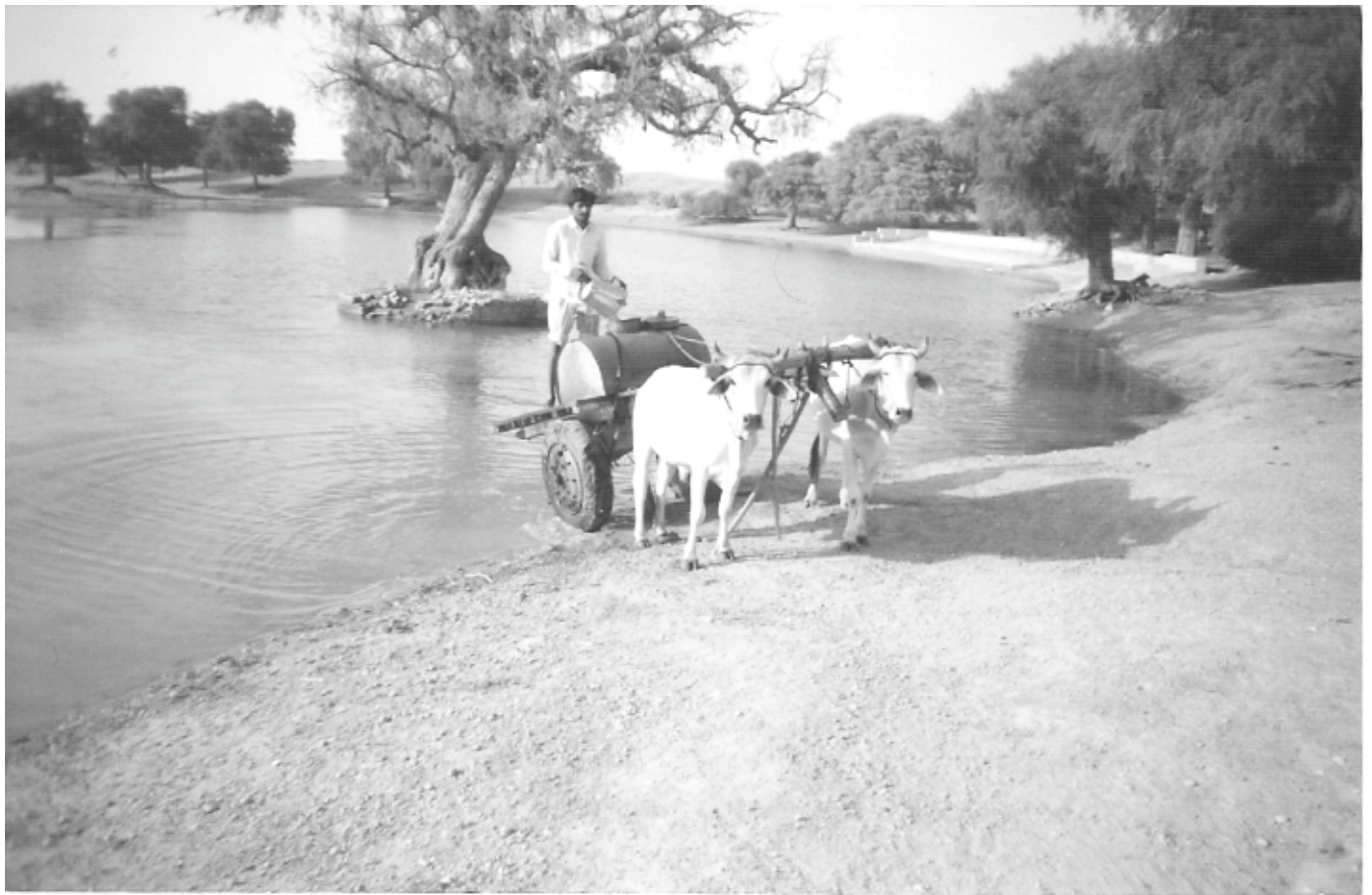
Thar Desert is known for its scanty as well as unpredictable rains in the wake of climate change. Through the EWSH project, GRAVIS supported women by constructing water storage tanks, known as tankas in local language, that capture the rainwater that is available for the families for drinking, washing, cleaning, bathing, and any other household use. In the water starved region, construction of tankas is a boon to the communities as availability of clean and safe water directly results in improved hygiene and consequently improved health conditions for everyone, including women. However, construction of tankas have a much greater impact on the lives of women and girls, primarily because it unshackles them from continuous



toiling for water that involves walking long distances in hot summer sun.

**Table 2 : Water security interventions**

Sl.	Water security interventions	Direct beneficiaries	Indirect beneficiaries
1.	Construction of tankas	200	1678
2.	Village ponds	6	9890



*A renovated pond*

General improvement in the water security situation has its consequence in the form of improved health generally for the whole family. For women and girls, time and labour are also saved that are channelised for empowering and productive purposes. Through the EWSH project GRAVIS supported construction of 100 tankas in remote areas of Jaisalmer in Western Rajasthan enabling access to clean and safe drinking water round the year for the 100 families. These tankas were filled up with fresh rainwater to hold about 10,000 litres of water to meet household needs of more than 1000 people located in the remotest villages. Women and young girls saved 2-6 hours per day that were spent on water fetching. More than 4000 hours per day on an average were saved for the women who directly benefited from tankas. As part of the study, out of the 100 women interviewed, 65 reported to have saved 4 to 6 hours per day. Women also reported that their daughters also save similar amounts of time that largely goes into pursuit of knowledge.



*Shanti Devi with her tanka*

### **Taanka: the way to happiness**

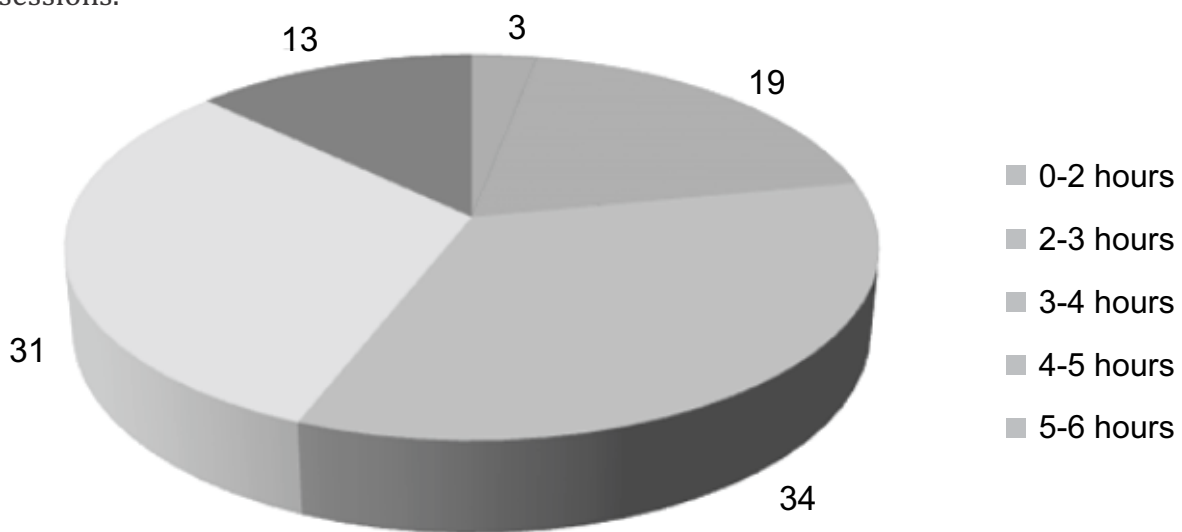
Entire life of Shanti Devi has been a struggle for survival. Like other women in the remote village of Thar Desert, Shanti Devi's day used to start with the back breaking duty to collect water. As she could not go to fetch water multiple time during the day, because of exhaustion, heat and time that used to take and other household responsibilities, water was always scarce for a family of six. Whenever she was not able to go to fetch water, her daughters had to take on this responsibility missing their school. Shanti Devi's husband had a broken neck bone and he could not do much even on the farm. Despite all her efforts, Shanti Devi's family always had to deal with several health issues, as the small quantity of water that she used to carry from nearby ponds was contaminated, and not suitable for drinking. Maintaining hygiene was also a challenge. The family could not afford medical expenses as the produce from the farm was also limited.

Shanti Devi's neighbour persuaded her to attend one of the meetings of the village development committee (VDC) during which she shared the hardships that the family has to go through because of non-availability of water. Considering the situation of the family, VDC recommended to help Shanti Devi by constructing a tanka for her family. Life has taken a 360 degree turn after the construction of this tanka. As the rains were good last season, tanka was filled and the available water met the family's need for drinking water and other purposes.



Shanti Devi looks visibly happy when she says, 'Initially I couldn't believe that I don't need to fetch water first thing in the morning. We have clean drinking water available at home and we don't fall sick often now. I used to worry a lot for my daughters, but they don't miss school anymore and that, according to me, is the most beneficial aspect of tanka.' GRAVIS has supported 200 such families by constructing tanks within their premises and enabled water security, improved hygiene, improved health as well as opportunities for girls to complete their school education.

Most critical aspect of availability of more time meant that women and girls had sufficient time for themselves - self care, education, upskilling, and interactions with others. Majority of women (92%) felt that they feel emancipated after the construction of tanka. 74% reported decrease in the number of episodes of back, neck and legs pain, as they are not involved in heavy labour of walking long distances while carrying 20-30 litres of water on their head. 96% women were happy that their daughters need not engage in the excruciating exercise of water collection in the family and they can focus on their education, while for 69% of women positive impact was already seen on their daughters' education as they are attending schools regularly now and their grades have also got better. While time saving for women and girls is one of the direct outputs of tanka, EWSH enabled women to put this time to best use by facilitation of meetings, interactions with local groups, mobilising women into self help groups, and conducting capacity building sessions.



**Number of hours saved per day per household as a result of water availability**

As construction of taanka was preceded by renovation of village ponds, availability of water for cattle, and horticulture was also ensured. Overall, the availability of sufficient safe water for the families resulted in improved health for everyone including women and young girls. Families were able to maintain better hygiene and instances of water borne diseases came substantially down in the families that had tankas constructed close to their house and those who had access to renovated village ponds. Analysis of qualitative data collected from women revealed that there was a direct correlation between tanka construction and improved health of women which was attributable to not only the availability of water, but also liberation from the daily physical torment. Village ponds are used for a variety of purposes, including



for cattle, and even for watering the small AHUs. Creation of a water secure ecosystem for the community leads to a healthy environment for everyone including women and girls, it also neutralises the negative impact of water insecurity on women's health and wellbeing

### C. Enhanced food security and improved nutrition

Access to clean and safe drinking and adequate food and nutrition are two pillars of human health. Provision of safe drinking water through tankas and water for other human and cattle needs, was complemented with interventions for food and nutrition security for the rural population in the region. As the farming communities in the Thar Desert are always confronted with a drought like situation, sustainable agriculture practices, facilitation of agricultural inputs, food security interventions focused on drought mitigation and promotion of local food systems.

In desert regions limited precipitation coupled with soil erosion and sandy texture leaves the farms dry and parched in most parts of the year as the farms do not hold rainwater water long enough to let the moisture absorb, leading to loss of crops and low production of food grains, which always keeps local populace at the brink of food insecurities. Availability of limited food results in the female population - women and girls - always being at the receiving end. Compromising on the food and nutrition related needs of the women and girls is one of the most prevalent coping strategies of the resource stripped rural population in the Thar Desert. Eternal food and nutrition insecurities contribute immensely to malnutrition and other health related issues that women and young girls face in the desert, hence increasing food production and ensuring availability of sufficient and diverse food for the farming community results in improved nutrition and better health for women and girls too.

**Table 3 : Food and nutrition security interventions**

Sl.	Food security interventions	Direct beneficiaries Women	Indirect beneficiaries
1.	Construction of Khadins	200	1650
2.	Establishment of seed banks	15	225
3.	Arid Horticulture Units	200	1546
	Total		

Construction of check dams (khadins) was undertaken with a view to retain moisture in the farm soil for enhancing crop productivity for small farmers. EWSH project facilitated construction of 200 khadins owned by women themselves benefiting about 1650 people. Most households reported an overall 40 to 50 % of increase in farm production because of khadin. It was noted that farming families who were growing 1 to 1.5 quintals of guar pods are now able to harvest about 2-3 quintals without making any other change in investments, labour or any other factors. Similarly production of pearl millet, which is a staple in the region, saw a jump from 2-3 quintals to 5-6 quintals per farm. In addition to ensuring availability of sufficient food grains, khadin has contributed towards improved family income and standard of living for the families, which has an obvious impact on the food security and health and women too. As these khadins were owned



by women, they could stake a claim in decision making regarding the utilisation of enhanced produce within the family ensuring gender parity at household level and availability of adequate food for women and girls in the family. Women (87%) who had khadins constructed in their farms also started experiencing a steady change in the nutritional and health status of women and girls in the family. Some women (32%) were also hopeful that overall enhancement in the standard of living of the family will also bring in better social status for them.

Establishment of community seed banks (CSBs) was another supportive intervention that lent further impetus to farming activities. Prolonged dry spells very often lead to crop failures for the farmers and at times they are not able to curate good quality seeds that might trigger a macro level food crisis for the entire community. GRAVIS has been supporting the farmers in the region by helping them curate and conserve seeds of optimum quality and training the group of farmers on maintaining these seed banks collectively. Having CSBs provides the farmers with the freedom to sow any crops when they consider the climatic conditions optimum for it. They not only save on the financial investment on seeds, their dependence on the availability of seeds is also considerably reduced. CSBs ensure continuity of the farming activities even after the crop failure and facilitate longer sustainable food security for rural populations in the Desert, including women and girls. Groups of women are capacitated and are entrusted with the responsibility of managing these CSBs that results in a considerable amount of influence that women may exert in the rural economy. CSBs in the region save a population of about 14,000 from the food crisis and unexpected food insecurity shocks, about 6,500 being women and young girls, causing a positive impact on their physical health and wellbeing.



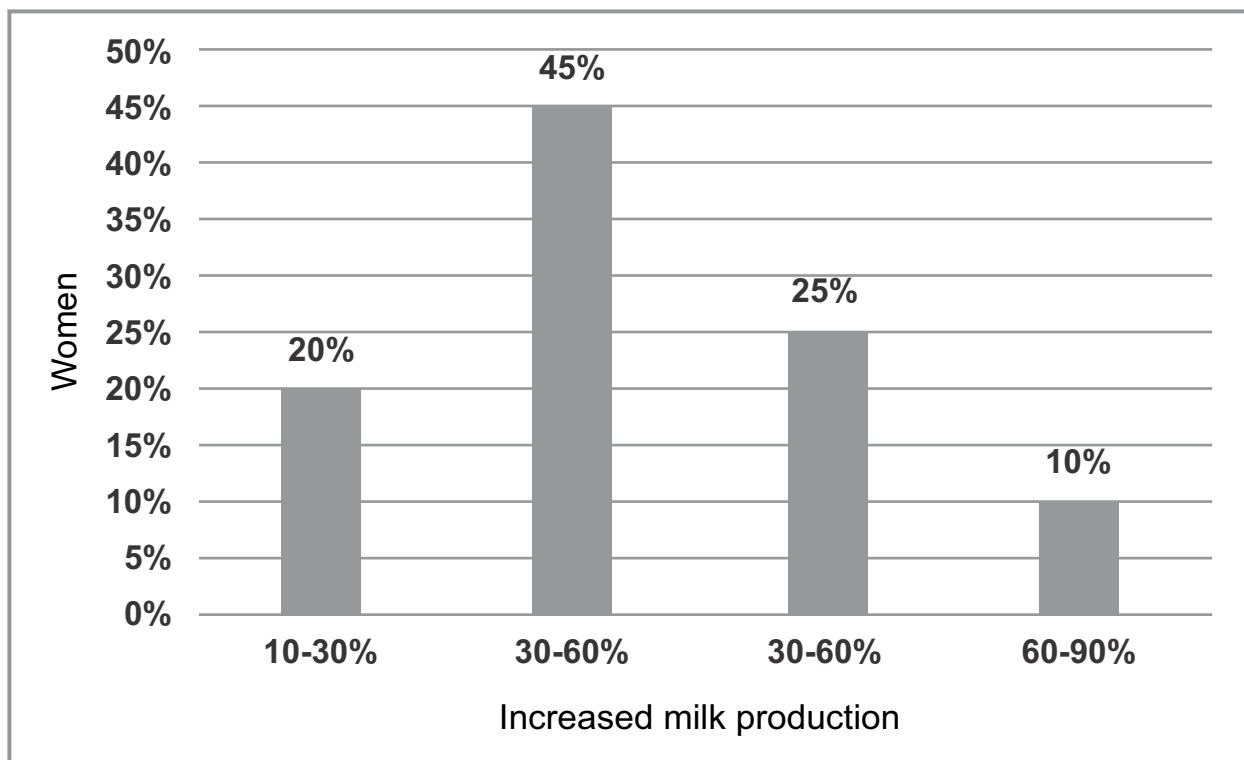
*Cattle are important in Thar*





Animal produce, especially dairy products, are a crucial source of nutrition for rural farming communities in the Thar; however, animal health is directly linked to availability of green fodder that needs to be made available year round. Dry weather and hot winds rip the Thar Desert green pastures where cattle can be reared and fed. GRAVIS addresses the fodder related issues confronted by the community by developing silvi-pasture units with plantation of trees and grass seed that can be used as protected areas for rearing cattle. Silvi-pastures are ecosystems consisting of trees, plants, and shrubs etc., that are protected and are used only for animal rearing. Collective decision to curate an area as silvi-pasture, resolves the issue of availability of fodder for animals even during the dry spells. Two silvi-pastures established by the local community with support from GRAVIS cater to the fodder needs of about 3000 cattle in the project area. These silvi-pastures are managed by the groups of women who develop basic rules, and roles and responsibilities of people with regard to use of the pastures, ensure equity and regularity in the use. Impact of these pastures can be seen in the reduction of the number of cattles dying every year during the droughts. Ability to retain the animals in good health is directly linked with the ability to maintain better nutrition and health for the families, along with improved financial status gained through sale of dairy products. 45% women reported about 30-60% increase in the production of milk.

**Graph 1: Increase in animal milk produce reported by women**

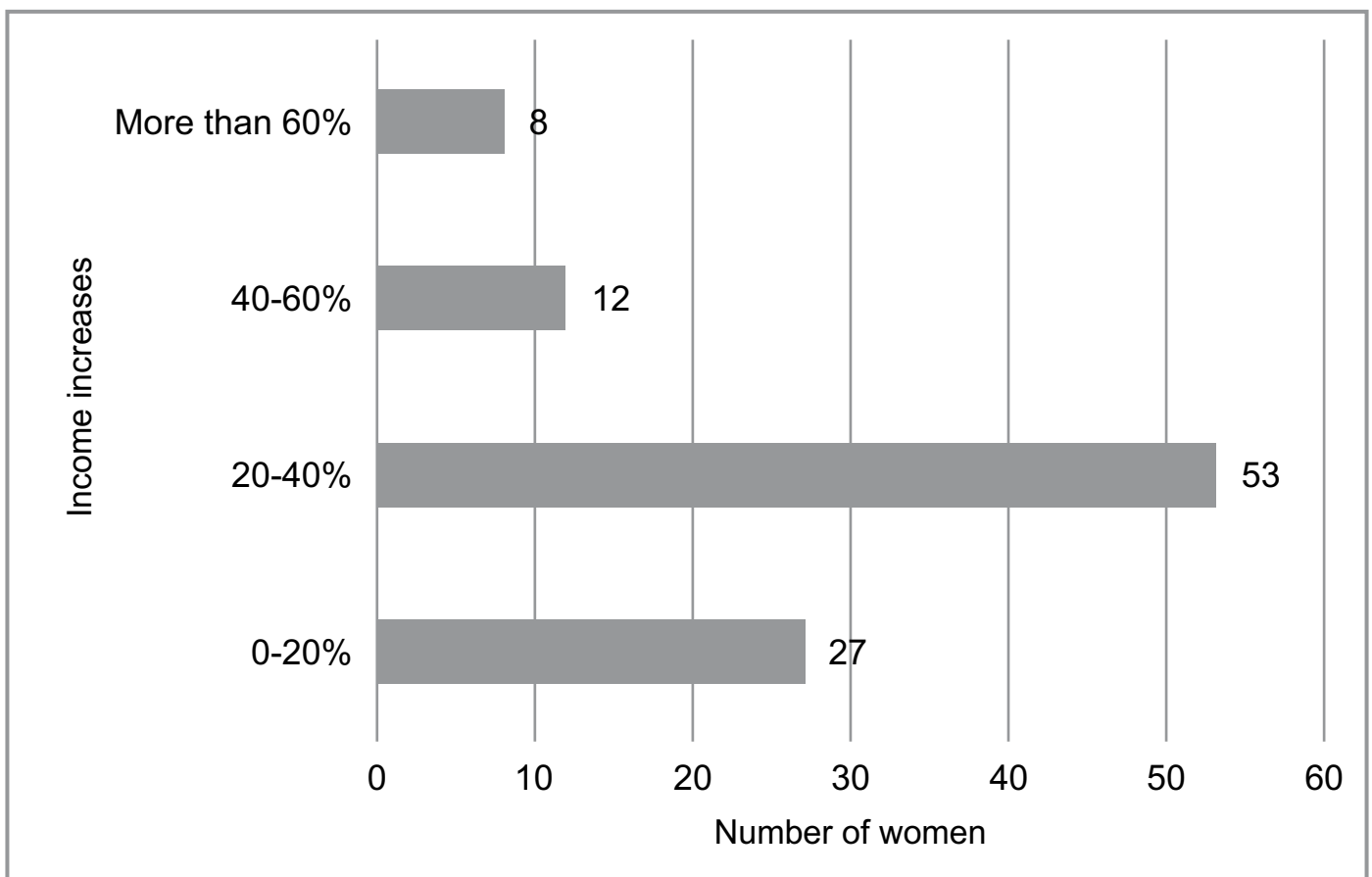


Desert communities struggle to access nutritious food items, especially fruits and vegetables, which has direct implications for their nutritional levels. Lack of water prevents them from growing vegetables and fruits and heat waves discourage them from exploring even the possibilities for having a kitchen garden of their own. However, most farming families in the rural areas of the Thar Desert have small pieces of land



that lie fallow as they find those areas uncultivable. Introduction, encouragement and support for setting up arid horticulture units capitalises on the availability of land and willingness of local communities to contribute labour. AHUs are small gardens that are established in the arid zones that become regular sources of fresh fruits and vegetables for the farming communities. GRAVIS supported 200 women in setting up their own AHUs by providing them with plant sapling, equipping them with the skills to nurture an AHU and other support such as fencing etc. Plants of vegetables and fruits are carefully selected based on their resilience to the heat and dry weather. With material support provided by GRAVIS, and the technical skills learnt through trainings to develop an AHU, women in the region pooled in their hard work and established kitchen gardens next to their houses. All women reported that with the availability of sufficient fresh and free vegetables and fruits within the households, their consumption of fruits and vegetables has increased. 78% women specifically mentioned affordability of fruits and vegetables as one of the major reasons preventing them from consuming sufficient amounts of fruits and vegetables in the past.

**Graph 2: Income increase through AHU reported by women**



AHUs have led to significant financial gains for the families. 53% of women reported an increase of 20-40% in the family income and about 12% said that it was as high as 40-60%. In case of about 27% women in this increase was less than 20%. Financial status of families has a direct implication for health seeking behaviour and the ability to access healthcare.



### Hazra succeeds in her struggle to provide nutritious food for her family



*Hazra's AHU in full bloom*

“Something that is a common thing for many others, was a luxury for me and my family. An earning of Rs 6 to 7 thousand every month was never enough to manage the household, with my children growing and prices of commodities skyrocketing it was never possible to provide fresh vegetables and fruits, and this always troubled me,” Hazra says. Hazra has three children and the household runs with the very limited earning that she has from a small piece of land and daily wages that her husband and she herself earn in the dry season.

Hazra's husband heard about the support provided by GRAVIS to set up horticulture units and he found out more about it during a VDC meeting that he attended. Hazra said, “After coming to know about the possibility of this kind of support, I got very excited. I knew that the fallow land in front of our house can be out to use. I attended a training conducted by GRAVIS on setting up and maintain the AHU to get the maximum yield. After the training I got seeds and samplings that I planted in my backyard after preparing it as suggested during the training. The trainings also helped me keep the plants safe from insects and excessive heat. More than 90% of the plants eventually survived, which is quite amazing considering that almost 50% of the plants in our farm could survive the drought like situation earlier. I realised that I was oblivion from the basics of dry land farming and crop resilience.”

My horticulture unit now gives me bagful of vegetables twice or thrice a day that are consumed at home. Fruits such as pomegranate, guava, and desert plum are also available in abundance and we sell them in the local market after keeping a portion for the family. This adds about 20-30 % to our monthly income. I and my family are extremely grateful to GRAVIS for helping us in difficult times. I am sure that better nutrition will keep us healthy!



As in the case of khadins, ownership of AHU lies with women who have a rightful claim over the benefits emanating from AHUs. While it may be too early to expect any change in the health status of women and girls that can be attributed to AHUs as of now, access to improved nutrition will definitely result in a healthier community of women and girls in due time. Additionally, as families find themselves with excess vegetables and fruits, incomes are enhanced through their sales. AHUs are an oasis of nutrition for the otherwise food and nutrition insecure rural communities in the Thar Desert. As women take charge of the AHU, household level gender discrimination practices are also forgotten over the time and women and girls become healthier and nutrition secure.

### **D. Enhanced skills and capacities**

General well-being is directly linked with populations' ability to navigate through the social, political and financial terrains, and skills and confidence have a major role to play in ensuring that people are on the path to development in all spheres of life. Building capacities and confidence require hands-on trainings, exposure and tools for self-reliance. Up skilling and building confidence is extremely important for rural women, as they can help to improve their financial abilities, and knowledge, and provide them with the tools they need to take control of their lives and improve their livelihoods. However, disparities in social and economic status of women as compared to their male counterparts and restrictions on their mobilisation are the primary reasons behind it. Taking note of the same, GRAVIS took on the most daunting task of mobilising women into groups and building their capacities in a wide range of aspects of human life in order to make them confident and empower them to be able to play an effective role in addressing various crisis at the family and community level but demand and claim a fair share in the benefits arising of various interventions meant to mitigate the crises.

GRAVIS conducted two types of capacity building exercises in the EWSH project area. First kind of trainings focused on their confidence, leadership and management skills, while the others aimed at imparting specific technical skills in various areas such as water management, medium and small scale enterprise (MSME), financial literacy etc.

Trainings for women largely focussed on sustainable water management techniques, management of self-help groups (SHGs) and their various activities, financial and digital literacy, rain fed farming, goat rearing, dairy farming and running MSMEs. Trainings and capacity building sessions and exposures were conducted for the members of village development committee (VDC) to encourage women's participation in local community level decision making. Health education sessions and special trainings for adolescent girls' were conducted to specifically address the health related knowledge needs of women and young girls. This opportunity was utilised to discuss rights of women and children and issues that confront the goal of gender parity in the society. Members of SHGs were especially capacitated to become financially literate, manage the group, conduct meetings, maintain records, open bank accounts and internal loaning. With goat farming as the vocation women were also trained in dairy as a small enterprise that can potentially be run by the women's SHGs.



A SHG meeting

Table 4 : Trainings

Sl.	Trainings	Number of trainings organised	Major Themes	Number of women/girls trained	
1	VDC	40	<ul style="list-style-type: none"> <li>● Working effectively as a group</li> <li>● Calling meetings and ensuring participation</li> <li>● Conducting meetings and providing opportunities for open discussions</li> <li>● Decision making</li> <li>● Selection of people for benefits Importance of rainwater harvesting and water conservation</li> </ul>	480	3180
2	SHG	40	<ul style="list-style-type: none"> <li>- Basic financial literacy</li> <li>- Conducting meetings</li> <li>- Keeping records</li> <li>- Savings and bank account opening</li> <li>- Internal loaning</li> <li>- Goat farming and dairy for MSME</li> <li>- Women's rights, health and nutrition</li> <li>- Managing silvi-pastures and community seed banks</li> </ul>	788	5210
3	Water Management	39	<ul style="list-style-type: none"> <li>- Importance of rainwater harvesting</li> <li>- Judicious use of water</li> <li>- Maintaining tanka and khadin</li> </ul>	1088	6177
4	Dry Land Farming	39	<ul style="list-style-type: none"> <li>- Water conserving techniques</li> <li>- Drought resilient crops</li> <li>- Use of organic manure and fertilisers</li> </ul>	998	7968



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## Gender, health and drought

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Skill based trainings included maintenance of rainwater harvesting structures, taking care of AHUs, managing seed banks and silvi-pastures etc. All these training sessions have left a long lasting impact on women's life. Hands-on skills in managing community facilities results not only make them feel important, women also gain more control over their own lives, as much as it helps building their confidence. A range of these trainings and capacity building sessions have resulted in creation of a confident and empowered group of women. Training on water management addressed the specific need emanating from acute water shortage in the region. In addition to skill based trainings on rainwater harvesting and maintenance of rainwater harvesting structures, women and girls have also emerged as potential community leaders, something that they themselves had imagined for themselves.



## Chapter 5

### A leap in women's well-being

Health status related gender gaps in the Thar Deserts are manifests of extreme vulnerabilities that women and young girls survive within a drought ridden remote region. As these vulnerabilities keep fortified by social and cultural beliefs that act as dampeners in pursuit of wellbeing for women and girls, plugging the gender gaps becomes a daunting challenge. Any efforts towards plugging these gaps may remain with limited potential as family relations, community pressure and especially the traditional nature of societies believe in the historical subjugation of women and young girls. Discrimination in sharing of resources, disproportionate labour division and deprivation from the opportunity in education and otherwise are all part of a cyclical process that keeps widening the gaps. GRAVIS understanding of the local context and the complexity of gender related issues in the Thar have led to adoption of a multidimensional strategy that takes cognisance of various interrelated sectors that get influence by each other (for instance social, economic, political and environmental), and is grounded in the local context defined by droughts, food and water insecurities and poverty.



*A taanka constructed by the project*



### Addressing the most urgent needs

Recognising that the needs and problems of women and girls cannot be dealt with in isolation with the issues that the entire community faces, GRAVIS interventions focused on the most challenging and urgent issue of acute water scarcity in the region. Having women and girls at the centre of all water security endeavours ensures that their concerns remain mainstreamed while the families and entire community enjoys the benefits of these interventions and become food and water secure. Prioritisation of most urgent needs lends legitimacy and acceptance of the local community, creating a fertile ground for closer community engagement and working closely with the local and traditional structures, community based organisations. This acceptance leads to a relationship of trust among the community and GRAVIS field staff and plays a pivotal role in getting communities' support for participation of women and young girls in social processes facilitated by GRAVIS. In traditional communities, general acceptance and support from families is an extremely important factor for carrying out any activities involving women and girls.



*Crop demonstration*





### **Health and the healthy environment**

Considering the urgent health needs of women and young girls required direct outreach to them and making health facilities available at the doorstep. Availability of health support and services effectively address the gendered access to health support. However, sustained health outcomes are achieved through an environment that promotes good health for a longer period of time. Through its health support programmes GRAVIS directly reached out to women and girls, however in order to ensure that good health and wellbeing is maintained, other interventions emphasis upon availability of clean and safe drinking water, maintaining good hygiene, optimum level of nutrition, improved opportunities for education and understanding of good health practices that should be adopted to main overall good health and wellbeing. Financial empowerment coming through a range of entrepreneurship endeavours further generate ability among women to take care of their health needs.

### **Direct support and long term impact**

Addressing immediate needs entails providing immediate relief and combating the crisis. Construction of rainwater harvesting structures, establishment of seed banks, AHU and silvi-pasture, enables the community to immediately combat the impact of drought on their food and water security. Extended as immediate support, all these interventions provide for long term sustainable solutions for generations of rural communities affected by drought. Women continue to use the RWH structures for water and their young girls, with the opportunity coming through education, grow up into educated and skilled citizens. Training and exposure visits are a direct source of long lasting capacities leading to empowerment and thereby sustained ability to combat water and food insecurities. A combination of solutions that address both the immediate needs of women and girls and also create long term resilience among them and the community at large is one of the hallmarks of GRAVIS' work in addressing the glaring gaps in social structure of rural society.



*An AHU*

### **From servitude to leadership**

For women and girls in the Thar Desert, an abundant amount of work and servitude to the male family members have been the normal way of life. Their days started and ended with taking care of children, elderly and all other family members. With no control over their lives and no voice in decision making whether within or outside the family, they had not only low confidence levels but also pessimism in their worldview. With control of productive assets, demonstrated ability to manage community resources, enhanced technical skills and newly found confidence, women and girls in the region are prepared to claim their rightful space and share in the development outcomes. Continuation of the processes that led to women's and young girls' social, political and financial empowerment, gradually challenged regressive cultural norms too and helped eliminate the impediments in the way to creating gender just society where women have equitable access to health and their wellbeing is ensured.



## Chapter 6

### Learnings

Experiential insights from the EWSH project stand testimony to the effectiveness of an all-encompassing strategy for moving towards the goal of gender equity in the administration of healthcare and eventually the wellbeing of women and girls in the Thar Desert. Reinforcement of some of the traditional ethos of integrated community development and inclusive approach to building community resilience, have been key messages that EWSH project implementation builds on. Gender mainstreaming as one of the key elements of project strategy continued to energise the process and resulted in reducing the gender gaps in different areas of community life.

#### **Creating food and water secure communities**

For remotely located rural communities in the Desert, any social, financial or even political issue revolves round availability of adequate water. Public health as a community issue intersects with the gender gaps in the society and subjects women to multiple vulnerabilities. Hence, any efforts to address gender inequalities in the society are to be interlaced with the food and water security interventions and support at the community level. It is thus important to continue large scale interventions in the region for ensuring community and household level food and water security. It is only when the whole community and families are food and water secure, women and girls will be able to demand a share in the same. With improved access to adequate quantity and quality of nutritious food for everyone, health and wellbeing of women and girls also improves and the gap between status of females and males in the community gradually reduces, if a gender mainstreaming approach keeps informing the process..

#### **Seeking accountability**

Availability of adequate resources in the region and lack of quality institutional support adds to the struggles of rural deer communities. While direct support from GRAVIS has been quite useful in addressing immediate needs of the community and providing long lasting solutions to their water woes, primary responsibility of the state and state run agencies cannot be undermined. Interactions with the state officials have already formed the basis of closer cooperation and interventions demonstrated by GRAVIS provide for the requisite motivation and guidance for the public authorities to proactively look into strengthening the public health facilities in remote regions, providing water availability solutions and ensuring equitable access to all, with women and girls being equal partners in the local developmental processes and outcomes, including nutrition, health and general wellbeing. Newly acquired confidence and leadership of women and girls may be consolidated and optimised with increased assertion for seeking accountability from public authorities for provision of quality services with positive discrimination in favour of women and girls.



### Empowerment as a tool: leadership of women and girls

Provision of direct support especially in terms of health services addresses the health related issues that women face. However, the female uptake rates of public health facilities in general have not been very encouraging owing to the social constraints emanating from cultural beliefs and practices. The GRAVIS model of empowering the community, especially women and girls to access these facilities is linked with the increased demand for such services. Over a period of time, the demand for not only access to and availability of services is considered important, groups of women develop critical thinking and seek qualitative improvement in the services too. Hence, overall improvement in provision of services must be dovetailed with the interventions to empower women and girls to be able to seek these services and demand for an equitable share in the public provisioning for healthcare and general wellbeing of people. It is only when women themselves are empowered that the provision of services will be useful.



*A community training*



### **Addressing the deep rooted gender bias**

A large universal health coverage policy at the national level that has not reduced gender disparities over many years of implementation goes against the general assumption that expanding geographical access and reducing the costs of healthcare will automatically reduce widespread inequalities. Such gender-neutral policies may increase female levels of utilisation marginally but closing gender gaps requires strategies that explicitly target barriers to female care-seeking and gender bias. As a take away from the EWSH project, challenging the social norms, customs and traditions that subjugate women and girls, is extremely critical. It is only after this that social and behavioural change toward gender equality may be expected in the community. It is with this change in the mind set only that the women and girls may claim the place they deserve in the society and move towards improved health and wellbeing.

Although it might seem like an impossibility to catalyse change in a society that is deeply entrenched with the discriminatory values and practices and that thrives on patriarchy, GRAVIS demonstrates that persistent efforts involving the community, local leaders, and especially women, trigger a transformative change that can be further capitalised for achieving the goal of improving health and well for women and young girls.



## References

- [Branca F, Piwoz E, Schultink W, et al. Nutrition and health in women, children, and adolescent girls. \*BMJ\*. 2015;51:h4173.](#)
- [-Davidson PM, McGrath SJ, Meleis AI, et al. The health of women and girls determines the health and wellbeing of our modern world:A white paper from the International Council on Women's Health Issues. \*Health Care Women Int\*-. 2011;32\(10\):870886.](#)
- [Dharmalingam A, Navanethan K, Krishnakumar CS. Nutritional status of mothers and low birth weight in India. \*Matern Child Health J\*. 2010;14\(2\):290.](#)
- [Mallikharjuna Rao K, Balakrishna N, Arlappa N, et al. Diet and Nutritional Status of Women in India. \*J Hum ecol\*-. 2010;29\(3\):165170.](#)
- [--GhoshJerath S, Devasenapathy N, Singh A, et al. Ante natal care \(ANC\) utilization, dietary practices and nutritional outcomes in pregnant and recently delivered women in urban slums of Delhi, India: An exploratory crosssectional study. \*Reprod Health\*. 2015;12:20.](#)
- [Yazdkhasti M, Pourreza A, Pirak A, et al. Unintended Pregnancy and Its Adverse Social and Economic Consequences on Health System:A Narrative Review Article. \*Iran J Public Health\*-. 2015;44\(1\):1221.](#)
- [Sanneving L, Trygg N, Saxena D, et al. Inequity in India: the case of maternal and reproductive health. \*Glob Health Action\*. 2013;6:19145.](#)
- [Omar SS. Gender Discrimination: Its Unhealthy Demographic Outcome and Measures of Intervention. \*Asian Journal of Research in Social Sciences and Humanities\*. 2015;5:62-66.](#)
- [Khadilkar VV, Mandlik RM, Palande SA, et al. Growth status of small for gestational age Indian children from two socioeconomic strata. \*Indian J Endocr Metab\*-. 2016;20\(4\):531535.](#)
- [Paul VK, Sachdev HS, Mavalankar D, et al. Reproductive health, and child health and nutrition in India: meeting the challenge. \*Lancet\*-. 2011;377\(9762\):332349.](#)
- [----Tzioumis E, Adair LS. Childhood dual burden of under and overnutrition in low and middleincome countries: a critical review. \*Food Nutr Bull\*-. 2014;35\(2\):230243.](#)
- [Girija PL. Anaemia among women and children of India. \*Anc Sci Life\*-. 2008;28\(1\):3336.](#)
- [Gadomska H, Grzechocia B, Jannecki J, et al. Serum lipids concentration in women with benign and malignant ovarian tumours. \*Eur J Obstet Gynecol Reprod Biol\*-. 2005;120\(1\):8790.](#)
- [Bohra N, Srivastava S, Bhatia MS. Depression in women in Indian context. \*Indian J Psychiatry\*-. 2015;57\(6\):S239S245.](#)
- [Halder A, Vijayselvi R, Jose R. Changing perspectives of infectious causes of maternal mortality. \*J Turk Ger Gynecol Assoc\*-. 2015;16\(4\):208213.](#)



## **Acronyms**

GRAVIS	Gramin Vikas Vigyan samiti
AHU	Arid Horticulture Unit
CSB	Community Seed Banks
SHG	Self Help Group
VDC	Village Development Committee



## NOTES

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**GRAVIS is a leading Non-Governmental Organization working in rural India in the States of Rajasthan, Uttarakhand, and the Bundelkhand region of Uttar Pradesh. Since its inception in 1983. GRAVIS has worked in over 1700 villages reaching a population of over 1.7 million and has established over 4,000 Community Based Organizations (CBOs). GRAVIS believes in participatory community development that blends traditional knowledge and modern sciences and promotes equality.**

GRAVIS is registered under Rajasthan Societies Registration Act and under section 80 (G) and 12A of IT Act, 1961 of Government of India with tax exemption status.