# Reframing resilience

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## Women and Climate Change Adaptation in the Thar Desert

Study conducted under 'Enhancing Women and Girls' Leadership in Climate Change Adaptation in Thar Desert, India (EWGL)' Project

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Women and Climate Change Adaptation in the Thar Desert

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## Author's Note

This study delves into the existing and potential role of women in climate change adaptation and drought mitigation and the intersections of climate, society and deep-rooted gender dynamics in the rural areas of four project districts. While examining the age-old regressive norms and generational affliction of patriarchy, the study explores the inroads to having women and young girls catalysts who are leading the whole community to resilience against the wrath of drought and climate change. Gramin Vikas Vigyan Samiti (GRAVIS), an NGO engaged in integrated community development and drought mitigation has implemented a project Enhancing Women and Girls' Leadership (EWGL) in Drought Mitigation and Climate Change Adaptation (CCA), through formation and strengthening of community based institutions and using rainwater harvesting and natural resource management as key strategies. With an inter-generational approach at the heart of the interventions GRAVIS has ameliorated community' potential to mitigate drought and adapt to climate change.

The study is an attempt at documenting the approach, challenges, learnings and opportunities that exist in the path to enhance women's and girls' leadership in CCA and drought mitigation. Factors that propel this process along with the ways to overcome have been discussed and documented. Through creation of inter-generational groups (ILGs), and strengthening of self help groups (SHGs), women and girls are mobilised and construction and renovation of rainwater harvesting structures, both at household and community levels, along with a few other drought mitigation measures, and all these interventions build resilience of the community to combat drought and climate change. Having women and girls play central role in the implementation of all these initiatives that result in sustainable water and food security for families and communities, project and establish women and girls as leaders in climate action.

**Neetu Sharma**

# I Introduction

Like the rest of the world, India is also experiencing many effects of climate change, most prominent being - rising temperatures, India's average temperature has increased by about 0.7°C since 1901. The amount of summer monsoon rainfall has decreased by about 6% since the middle of the 20th century. This has led to an increase in the frequency and extent of droughts. India has been affected by extreme weather events due to climate change, including floods, droughts, and cyclones. In 2019, India was the 7th most affected country due to these events. While these may not be the only climate change phenomena, these affect the population in India in a big way. Temperature and rainfall are directly linked to agriculture and food production. Any variance in these areas may result in extreme vulnerabilities for populations not only living in the difficult climatic zones but others too, although the regions with extreme climatic conditions and especially those reeling under scarce resources, are the most hit by climate change and its impact.

Present study tracks the interface between climate change and gender by tracing the inextricable relation between the two, highlighting and documenting the pivotal role plates by women in climate change adaptation and drought mitigation that go unrecognised for the most part of it. This is a common knowledge that women and girls bear disproportionately higher burden of droughts, water scarcity and climate change. However, inquiry into their contribution and the exploration of their potential to mitigate droughts build family's capacity to adapt to climate change has remained at the margin of widely shared knowledge in this domain. Research into understanding various dimension of climate change and droughts in the rural context of the Thar, has led to an increased understanding of community's, especially women's struggles and the way they navigate through the climate crisis. Gramin Vikas Vigyan Smaiti (GRAVIS), an NGO engaged in integrated community development and drought mitigation in rural ares of the Thar Desert has been supporting the impoverished communities in this region for more than three and a half decades. Of late, GRAVIS advanced its work on women's empowerment and climate change adaptation in four districts of Rajasthan under the project Enhancing Women's and Girls' Leadership in the Thar Desert in Climate Change Adaptation and Drought Mitigation (EWGL) with support of European Commission.the project enabled a direct outreach to a population of about 50,000, and resulted in sustainable water and food security, improved and conducive role for women to play leadership role in CCA and drought mitigation, and a sustained improved in the quality of life of rural communities.

The study gathers evidence on the success of the strategies that have challenged therein forcing nature of gender gap , through mobilisation of women, enabling them to have interaction in a safe environment, learn from each other and lead the community out of the climate crisis. As women and girls resolve community's most daunting challenges was water and food security, the attitude of men, and the community in general alters towards them, paving the way for a sustained leadership role for them.

# II Women and climate change

Under the relentless sun of Rajasthan, where vibrantly coloured villages seem stitched onto the golden desert sands, lives are woven with threads of tradition and hardship. Here, women are the backbone of their communities, the quiet heroes who rise before dawn to fetch water, nurture families, and till the land. Yet, their own dreams are often pushed aside, their potential dimmed by forms of violence. When disasters strike, women are less likely to survive and more likely to be injured due to long standing gender inequalities that have created disparities in information, mobility, decision-making, and access to resources and training. In the aftermath, women and girls are less able to access relief and assistance, further threatening their livelihoods, wellbeing and recovery, and creating a vicious cycle of vulnerability to future disasters.

*Women in rural Thar*

Women's and girls' health is endangered by climate change and disasters by limiting access to services and health care, as well as increasing risks related to maternal and child health. Research indicates that extreme heat increases incidence of stillbirth, and climate change is increasing the spread of vector-borne illnesses such as malaria, dengue fever, and Zika virus, which are linked to worse maternal and neonatal outcomes. age-old customs. For girls, the path to learning is often a dusty, narrow one. Education, a privilenge enjoyed by their brothers, might be seen as less valuable than tending to household chores. The cruel tradition of child marriage can snatch away their chance to blossom, leaving them tethered to lives they barely understand. Even within their families, soetal norms can clip their wings. Concerted and coordinated efforts to support girls' education are, therefore, the most suitable answers to the issue of women's empowerment.

Women and girls face gender-based discrimination in all aspects of their lives. Gender imbalance in social and economic arena is quite evident in low and middle income countries. Gender gap index identifies

Southern Asia, along with parts of Africa, as the region with widest gender gaps across various domains. In traditional communities and resource starved regions this gap is even wider. The Thar desert region in Western Rajasthan, India, which is one of the most difficult climatic zones for human survival, also causes disproportionate levels of gender imbalance in sharing the burden of water scarcity. The region receives very low levels of rainfall and despite that continues to be the most populated desert in the world. The dependency of local communities on rain-fed farming and animal husbandry leaves them immensely dependent on scanty rainfall. However, acute water shortage, absence of public infrastructure for water and other amenities, along with extreme poverty, collectively contribute to the hardships of resource starved communities. In rural areas of the Thar Desert, like the rest of the world, women have the primary responsibility of meeting the water needs of the family. Women and young girls end up spending 4 to 6 hours on an everyday basis only on water fetching and this daily drudge not only leave them extremely exhausted and affects their health, but their opportunities to learn, socialise, get an education and become self-reliant are also jeopardised. Regressive gender norms in the rural areas of the Thar exacerbate their situation and they do not have any stake in decision making or any share in the financial progress whatsoever. As all these problems have scarcity of water at their epicentre in the region, access to water at household level and thereby improved food and nutrition security, have direct implications for women's social and economic empowerment. Gender inequality, coupled with the climate crisis, is one of the greatest challenges of our time. It poses threats to ways of life, livelihoods, health, safety and security for women and girls around the world.

The climate crisis is not 'gender neutral'. Women and girls experience the greatest impacts of climate change, which amplifies existing gender inequalities and poses unique threats to their livelihoods, health, and safety. Across the world, women depend more on, yet have less access to, natural resources. In many regions, women bear a disproportionate responsibility for securing food, water, and fuel. Agriculture is the most important employment sector for women in low- and lower-middle income countries, during periods of drought and erratic rainfall, women, as agricultural workers and primary procurers, work harder to secure income and resources for their families. This puts added pressure on girls, who often have to leave school to help their mothers manage the increased burden.

Climate change is a 'threat multiplier', that means it escalates social, political and economic tensions in fragile and conflict-affected settings. As climate change drives conflict across the world, women and girls face increased vulnerabilities to all forms of gender-based violence, including conflict-related sexual violence, human trafficking, child marriage, and other form of deprivations. Among the traditional communities where gender norms are already quite regressive, drought and climate change may cause multiplied negative impact for their general wellbeing. In such a situation an approach that identified women and girls as catalysts and provides the due credit to them for being the leaders in CCA and drought mitigation, serves the dual purpose of encouraging gender parity and eventual creation of gender just society, as well as supporting the communities in their struggle to combat droughts and adapt to climate change.

# III Thar : A difficult context

The Great Indian Thar Desert in Rajasthan state in Western India is a unique ecosystem. Traditionally, it has been receiving very low rainfall, resulting in recurring droughts. Thar Desert region of western Rajasthan which spreads in around 19.61 million hectares, is very fragile and is subjected to excessive stresses due to frequent drought and low rainfall, which occurs once in 2 or 3 years in the region, causing extreme stress to fauna due to limited seasonal grazing resources.

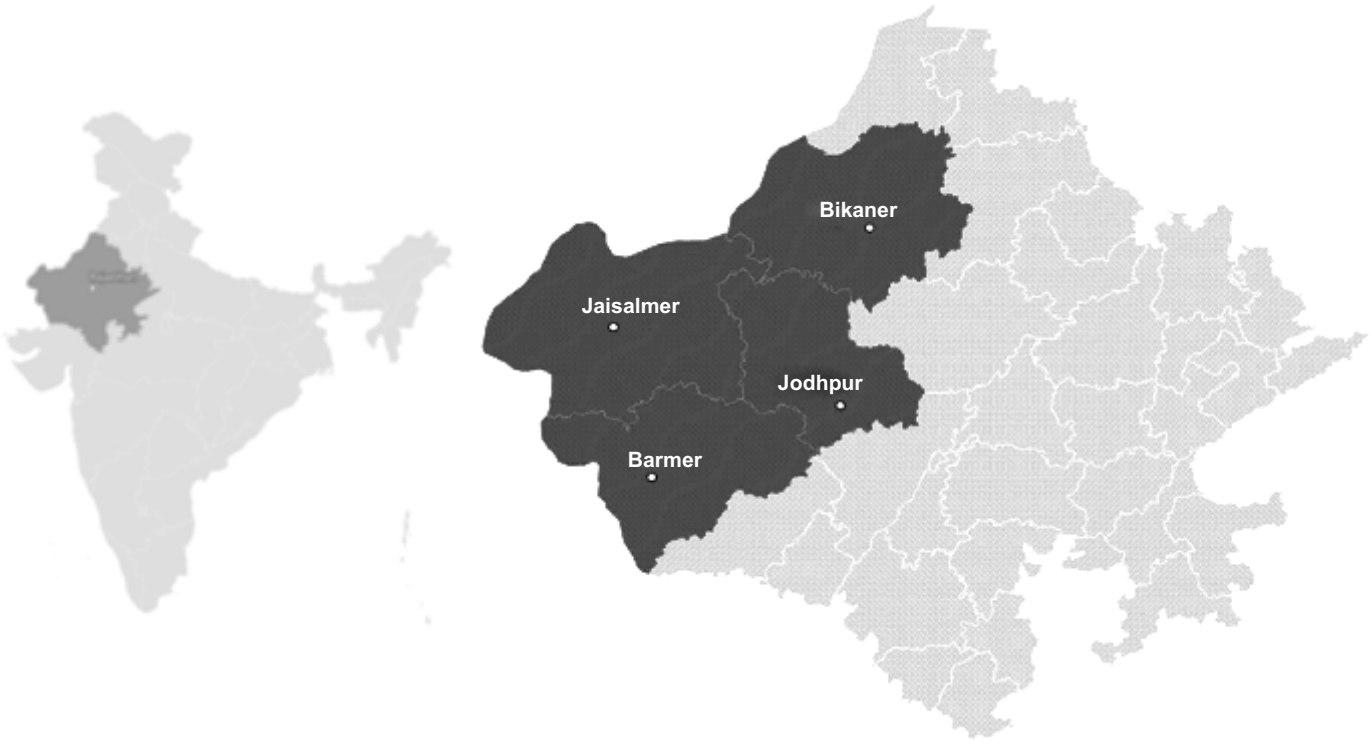
Rural areas of Thar Desert are such areas that are defined by scarce rainfall, hot weather conditions, and high speed winds. Farming communities in these areas have already been surviving under the most difficult circumstances. With climate change manifesting in unpredictable weather conditions and altered rain patterns, farming communities in the villages of Thar desert are confronted with much complex crises. Their food security, health and even survival is at stake.

*Water is a big challenge in Thar*

Poverty also casts a long shadow on the lives of people, lack of resources being the most pressing issues The arid climate, with its scarce and erratic rainfall, cripples agriculture, the lifeblood of many communities. This makes it incredibly difficult for families to grow enough food to sustain themselves. Even if crops manage to sprout, limited market access in these remote areas can make it hard to turn their produce into a reliable income. Beyond agriculture, opportunities for work are scarce. Many villagers rely on low-paying manual labour, barely scraping by to meet their basic needs. This lack of income creates a vicious cycle, trapping families in poverty for generations. Children, especially girls, may be forced to drop

out of school to help with household chores or even enter child labour, further diminishing their chances of breaking free from this cycle. Farming communities' reliance on seasonal rains for growing their food keeps them on the verge of becoming food insecure, and dry weather conditions, along with non-availability of irrigation facilities, pose a life-threatening food insecurity situation for them.

In the wake of climate change, shifts in the rainfall pattern of arid Rajasthan are likely to continue further under the influence of projected global climate change by 21st century and influence the cropping pattern of the region. The desert region is more sensitive to changing global climate than other regions. Development of strategies, adaptation of traditional knowledge and practices related to biodiversity conservation and sustainable use along with modern scientific interventions will lead to the mitigation of adverse effects of anticipated climate change on biodiversity in the Thar desert region.




*Drought prone districts of Rajasthan, India*

For the women and girls of the Thar Desert in Rajasthan in North West India, there are plenty of challenges to deal with, and the basic need for water dominates all else. An inhospitable environment, extreme temperatures, distances to water supplies, access to food, education and medical care continue to be constant obstacles. Most of the women of the Thar Desert are from the socially excluded groups. Women and girls in the desert end up spending a substantial amount of their time and energy on water fetching duties. Clean water and sustainability are essential and education is key to the empowerment and survival of the desert women. Nothing is easy yet these women show incredible courage and resilience.

# IV A gender-responsive approach to climate change adaptation and drought mitigation

Enhancing Women's and Girls' Leadership in the Thar Desert (EWGL) implemented by Gramin Vikas Vigyan Samiti (GRAVIS), Rajasthan, with financial support from the European Commission (EC). The project was implemented in the four most drought-affected districts of Western Rajasthan, which are covered by the Thar Desert, known for its extremely hot and dry weather and yet the most densely populated of all deserts across the world. As in the case of other traditional societies, women and girls in the families have a much inferior status than men, and this disparity manifests in all arenas of community life as well.

Marginalised and vulnerable populations in low and middle-income countries are at a much higher risk of getting affected by climate change. Gender is a crucial aspect of climate change and its immediate and long-term impact, with women and young girls being most exposed to the climate crises and its manifestation in loss of livelihoods. Regressive social and cultural norms prevent women and girls from having a say in safeguarding even their own interests despite their pivotal role in drought mitigation and climate change adaptation. Rural and remote regions of the Thar Desert are typically characterised by hot and dry weather and severe water scarcity, which define the lives of rural people. Despite women and young girls primarily bearing the burden of water shortage, their participation in community development processes goes unrecognised. Their preoccupation with water fetching and restrictions on their mobilisation forestall their potential to lead the drought mitigation and CCA efforts in the region.

Gramin Vikas Vigyan Samiti (GRAVIS) is a leading NGO working in the Thar Desert, Rajasthan, Uttarakhand, and Bundelkhand regions of India. GRAVIS has been focusing on gender equality for over three decades and continued to do so with a new project named 'Enhancing Women and Girls Leadership' in Climate Change Adaptation (CCA) in the Thar Desert, India'. GRAVIS implemented the project funded by the European Union. The overall objective of the EWGL project is to enhance women and girls' leadership in natural resource management (NRM) and to enable them to become independent change agents within their communities. The specific objective was to enhance the voice and effective participation of women and girls, including older women and women living with disabilities, in drought mitigation, NRM and climate change adaptation (CCA) using an inter-generational learning approach. This project was implemented in 20 villages of four severely drought-impacted districts of Thar (namely Barmer, Bikaner, Jaisalmer and Jodhpur) where gender inequality has been one of the crucial factors stagnating community development and prosperity.

In order to mobilise and empower women and inter-generational learning groups (ILGs) of women and girls were formed, besides strengthening the the existing self help groups (SHGs) of women. Water security was aimed through construction of rainwater harvesting structures/tanks known as taankas - at household

level, and cleaning and desilting community water resources, such as village ponds. Food and nutrition security was achieved with construction of farm bunds, locally known as khadins for enhanced food grains production and setting up arid horticulture units (AHUs) for nutrition from fruits and vegetables. The project was implemented for a period of 5 years between 2019 and 2024 in 20 villages across four districts in Rajasthan:

Outreach of EWGL Project

| Sl | District | Block | Village | Population |
|---|---|---|---|---|
| 1 | Barmer | Barmer | Aati | 1796 |
| 2 | | | Juna Patrasar | 1810 |
| 3 | | | Khara | 950 |
| 4 | | | Patrasar | 2850 |
| 5 | | | Jasai | 1338 |
| 6 | Bikaner | Kolayat | Hadda | 5167 |
| 7 | | | Khariya Mallinath | 1470 |
| 8 | | | Tokla | 2140 |
| 9 | | | Bhom Hemsingh | 864 |
| 10 | | | Dasudi | 5345 |
| 11 | Jaisalmer | Sankra | Kelawa | 1980 |
| 12 | | | Sanawada | 2940 |
| 13 | | | Luna | 1740 |
| 14 | | Fatehgarh | Rasla | 2270 |
| 15 | | Bhinyana | Pannasar | 2200 |
| 16 | Jodhpur | Bap | Sihada | 3000 |
| 17 | | | Tekra | 3200 |
| 18 | | | Bakhtawar Singh ki Dhani | 540 |
| 19 | | | Jaseri | 1050 |
| 20 | | | Durjani | 850 |

The entire population of the identified 20 villages got benefited from one or the other interventions for water and food security for the communities, however, mobilisation of women into ILGs and enhancing their capacities to play leadership roles in drought mitigation and CCA were at the core of the project.

**A. Collective voice**

Women and girls in villages of Thar desert region are not able to interact with each other because of their preoccupation with water fetching duties. Lack of adequate levels of education and low confidence levels also keep them at bay from forming groups, engaging in social activities or taking up any other productive ventures. Enhancing the participation of women, girls and CSOs in drought mitigation, NRM and CCA, was one of the key outcomes to be achieved through an increase in their confidence and participation in decision-making at household and community levels. To achieve these outcomes, the project facilitated the formation and/or strengthening of three types of community-level groups: intergenerational learning groups (ILGs) that have women and girls as members, self-help groups (SHGs) of women and the village development committees (VDCs. These groups met regularly, once in a month, and underwent trainings on gender, water conservation and CCA-related issues.


*Training of a SHG*

Over a period of time, ILGs have started playing leadership role immediately after their formation and initial trainings. It was noted that the requests for support for rainwater harvesting structure such as taankas, construction of khadins in farms and establishment were AHUs were submitted with ILGs who review such requests and assess the need before making recommendations to the VDC. It was reported by VDC members, such recommendations were accepted by the VDCs as ILGs were best place to understand the urgency for support for identified families and were able to do due diligence with the support of their networks.


*An ILG training*

Additionally, the EWGL invested in capacities of ILGs and VDCs, on a range of issues on a range of relevant themes and issues namely, Gender, women's rights, drought mitigation, natural resource management, drought mitigation, climate change and sustainable agriculture practices. Over a period of 5 years, 320 trainings each for ILGs and SHGs were conducted as part of the project. During the survey conducted to document the impact of the project, 80 % of ILG members mentioned that they have been attending all the meetings that take place on a monthly basis since they became members. 80% SHG members also reported to have attended almost 90% trainings conducted by GRAVIS. Similarly, 94% VDC members also said that they have been participating in the trainings organised by GRAVIS on themes such as gender, women's empowerment, drought mitigation and climate change adaptation.

**B. Strengthened capacities**

These trainings played a major role in building their skills and capacities and sensitising them to the need for a gender-equitable society. The feedback collected from members of ILGs, SHGs, it was suggested that there were a number of take aways from the tranings that the members had incorporated in their day to day lives. 90% women members of ILGs suggested that they now see value in treating girls at par with boys and are engaged in raising awareness against discrimination practised in families between them. It was noted

that the practice of child marriage was almost totally eliminated from the villages given the awareness achieved through trainings. Their is considerable change in community's hygiene status and water use patterns, more and more people engaging in saving and recycling of water. Almost entire community became increasing aware and sensitised on protection of traditional water bodies. Women (76%) and girls members (90%) of ILGs are also taking lead in promoting sustainable agriculture practices among the farmers, including saving the seeds, using organic fertilisers and reducing waste. With the efforts of these ILG members, community has become much more aware about issues such as global warming and conservation of natural resources.

**Transforming Lives in Bhomhem Singh village**

In the small, rural village of Bhomhem Singh, nestled in the desert lands of Rajasthan, a revolutionary initiative began to take shape. Under the EWGL Project by GRAVIS Jodhpur Sub-Center Diyatra, a unique Inter-generational Learning Group (ILG) named "Chavanda Anterpeeth Shikshan Samuh" was formed. The group consisted of 12 women—three elderly women above 50, two young girls aged 10-17, and seven women between 18 and 48 years. All members belonged to the Scheduled Caste community, which faced systemic challenges rooted in tradition, patriarchy, and social discrimination.

From the outset, forming an ILG in Bhomhem Singh was fraught with difficulties. The deeply ingrained societal norms presented significant barriers. Women and girls in the community were not encouraged to step out of their homes, let alone participate in collective activities. Many adhered to the practice of "parda," veiling themselves even from other women in the village. Educational opportunities were scarce, and the concept of girls and women pursuing personal development was met with resistance.

The stereotypes ran deep. The women's primary roles were confined to household chores, child-rearing, and farming. Speaking in public or attending meetings was unheard of. Moreover, conservative views and racial discrimination compounded the challenges, making it an uphill battle to unite women from different age groups into a cohesive learning group.

Realizing the need for a transformative approach, GRAVIS began by educating the women and their families about the purpose and benefits of the ILG. Separate meetings were held for men and women, where the objectives of the EWGL Project were explained. Examples of successful, knowledgeable women were shared to inspire the group. Despite initial resistance, regular contact was maintained with the women. GRAVIS staff encouraged participation by assigning specific responsibilities to group members, which helped them feel a sense of ownership. To build confidence, the women were taken to Panchayat meetings, exposing them to decision-making processes and public discussions. Gradually, their hesitation began to fade.

**The Transformation**

The efforts of GRAVIS started bearing fruit. The women began attending ILG meetings more regularly,

understanding the group's value and its potential to bring about change. Discussions among older women and girls led to a gradual reduction in the practice of "parda." The group members started sharing knowledge and ideas freely, breaking decades-old barriers of silence and segregation.

The changes were visible in their everyday lives. Women who had never stepped out of their village now ventured to nearby Hada to purchase goods. Girls who had dropped out of school resumed their studies in neighbouring villages. Their confidence soared, and their voices grew stronger.

Leadership qualities began to emerge among the women. They took the initiative to propose activities, supervise projects, and handle payments. Regular participation in Village Development Committee (VDC) meetings empowered them to engage in community decisions. This newfound confidence extended to other aspects of their lives, including public speaking and communication with GRAVIS workers and members of other ILGs over the phone.

Today, the Chavanda Anterpeeth Shikshan Samuh is a beacon of hope and empowerment in Bhomhem Singh. The women no longer hesitate to express their opinions or take decisions independently. They actively participate in external programs and have become role models in their community.

Awareness about Natural Resource Management (NRM) and Climate Change Adaptation (CCA) has increased among the members. Leadership skills have blossomed, and older women now feel respected and valued. The younger generation has benefited immensely, with girls' education gaining significant momentum. Information about modern techniques and practices has reached the group, opening doors to new opportunities.

The ripple effect is evident. The women of the ILG have inspired others in the community to dream bigger. They now take pride in their achievements and believe in their potential to achieve anything they set their minds to.

The journey of Chavanda Anterpeeth Shikshan Samuh is a testament to the power of collective effort and perseverance. From breaking age-old traditions to embracing leadership roles, the women of Bhomhem Singh have redefined their identities and their futures. They stand as an inspiration to other rural communities, proving that change is possible when people come together with a shared vision and unwavering determination.

### C. Intergenerational Approach

Intergenerational approach is a systemic take on community development and wellbeing that recognises and values the contribution of all generations who live there. It involves the sharing of skills, knowledge or experience between old and young. Intergenerational practice aims to bring people together in purposeful, mutually beneficial activities which promote greater understanding and respect between generations and contribute to building more cohesive communities. In modern days, with the advent of technological

innovations, the younger generation has access to a large sea of information and is exposed to a much wider world than before, while the older generations have a lot of traditional wisdom and Indigenous knowledge that they have acquired just by navigating through life. There is a visible gap that exists between the approaches, skills, preferences and general understanding of life and ways to address the challenges. Such gaps tend to become extremely wide in traditional societies as the younger generations gain access to devices and the worldwide web.

**A Journey of Empowerment : The Story of ILG Gogaji**

In the heart of Patrasar village, located in Barmer block of the Thar Desert, a groundbreaking initiative was born. Under the Enhancing Women and Girls Leadership in Climate Change Adaptation in the Thar Desert (EWGL) project by Gravis Jodhpur Sub Center Barmer, a unique Inter-generational Learning Group (ILG) named Gogaji was formed. This group consisted of twelve women: three elderly women above 50, two girls aged 10-17, and seven women aged 18-48, all belonging to the Devasi community, classified as Other Backward Caste (OBC).

Rajo Ji, a dedicated community worker under the EWGL project, recounted the challenges she faced in forming this ILG. "The concept of ILG was entirely new for the women here," she explained. "The social dynamics were deeply rooted in tradition. Adult women remained veiled in front of their elders, refraining from sitting on the same level or even sharing their thoughts. They were confined to their homes, isolated from banks, hospitals, and markets." The male-dominated, conservative culture dictated that women were meant only for household tasks—fetching water and fuel, cooking, childcare, farming, and animal husbandry. Education and equal rights for women were alien concepts. "Convincing these women and their families to form a group seemed impossible at first," Rajo Ji admitted.

**Breaking Barriers**

The journey began with door-to-door visits. Rajo Ji and her team explained the project's purpose to families, emphasizing how ILGs could benefit both the women and their communities. Initially, the women were hesitant to listen. Regular meetings were held to assure them that their voices would be heard and their problems addressed.

The team highlighted the importance of inter-generational knowledge sharing: how older women's traditional wisdom could complement the younger generation's technical know-how. Gradually, some women agreed to join the group but were reluctant to attend meetings regularly. To overcome this, simultaneous meetings were organized with the men in the village. They were educated about the project's objectives and the value of empowering women.

**The Transformation**

After months of persistent efforts, the mindset of the community began to shift. Women started attending the monthly meetings, gaining exposure to new ideas and opportunities. The following changes were observed: Improved Knowledge and Health Practices: Women learned about nutrition, hygiene, and

healthcare. They began incorporating affordable, seasonal, and nutritious foods into their diets, leading to better health for themselves and their children.

Regular sessions educated them about government schemes and opportunities. Women started accessing services at Anganwadis, hospitals, and markets. Women became active participants in family planning and decision-making processes. They advocated for improved child spacing and healthcare. Girls who once never dreamed of higher education began aspiring to attend college and vocational training programs. Adult women also resumed their education, learning basic literacy and numeracy.

Women learned to use mobile phones, gaining access to information and media, which expanded their horizons. The practice of wearing veils declined. Women and girls began sitting and conversing freely with one another, breaking decades-old social barriers.

The transformation in Patrasar village was remarkable. Women who had once been confined to their homes now walked confidently to markets and hospitals. They spoke up in community meetings, advocated for their rights, and collaborated with men on equal terms. The older women shared their invaluable traditional knowledge, while younger women contributed fresh perspectives and technical insights.

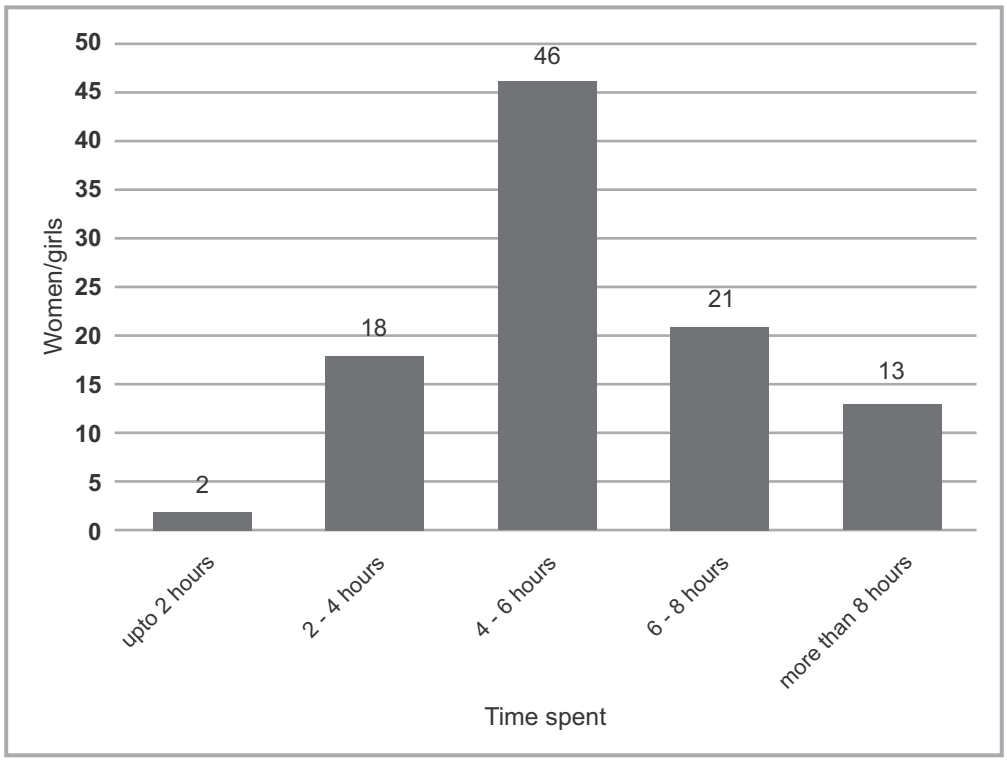
**A New Dawn**

ILG Gogaji has become a beacon of hope and change in Patrasar. It is a testament to the power of persistence, education, and community-driven initiatives. "The women now feel proud of themselves," Rajo Ji reflected. "They know they can achieve anything." Today, Gogaji stands as a symbol of inter-generational strength and solidarity, proving that when women come together, they can overcome even the most deep-rooted challenges. As the women of Patrasar continue to grow and inspire others, they pave the way for a brighter, more equitable future for the Thar Desert.

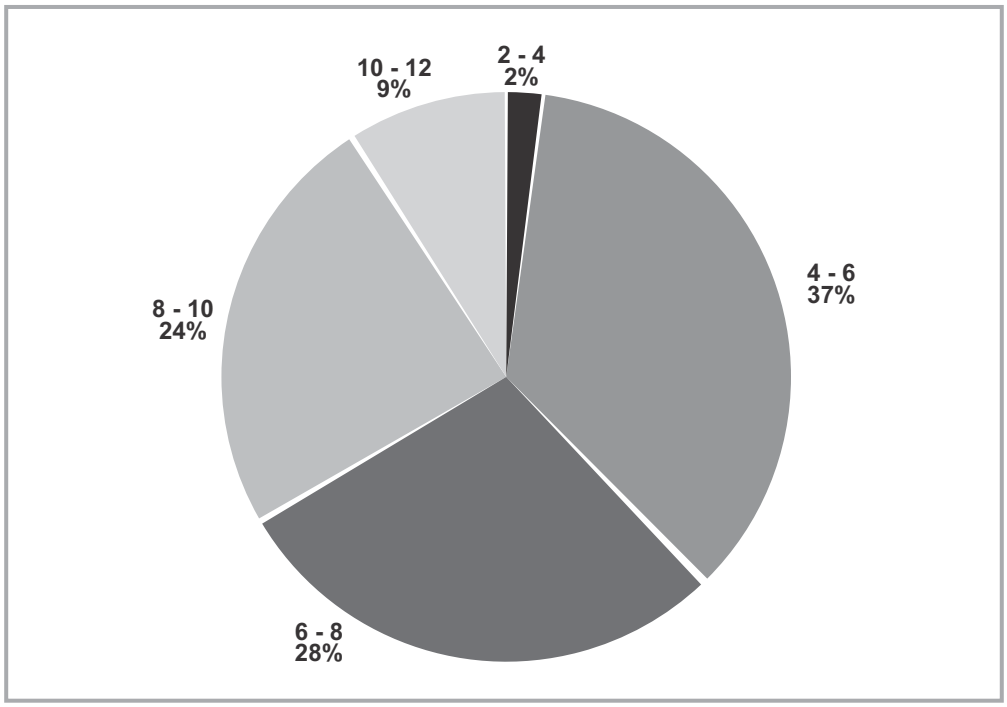
## D. Emancipation from drudgery

Enduring parched lands and the extremely challenging climate of the Thar Desert form the most difficult conditions for human survival. Women and girls among the rural and traditional communities carry a disproportionately high brunt of the water shortage in this region that deprives them of opportunities for education and social mobilisation. Primary occupations with water fetching and sibling care have resulted in generations of women being either illiterate or attaining only very low levels of education. As mentioned previously, women and girls in the Thar region, especially in the four identified drought-prone districts of Barmer, Bikaner, Jaisalmer and Jodhpur, spend a considerable amount of time on water fetching. Construction of taankas, household level tanks for collecting rainwater, liberated women from this daily torturous exercise, as they saved 4-6 hours of long walks to water sources, in some cases even 8 hours or more.

Time spent on water fetching prior to *taanka*




Distance (in kms) travelled per day by women and girls (in%) for water prior to *taanka* construction



**E. Water and food security for the whole community**

As water insecurity is the major problem faced by the rural communities in the Desert and women and girls are affected the most by water scarcity, ensuring water security for the identified population by improving their rainwater harvesting capacities was a pivotal contribution of the project. During the project, a total number of 817 rainwater harvesting structures were constructed, were renovated for the purpose of household level and community level water, as well as food and nutrition security. A total number of 381 *taankas* were constructed and 16 village ponds were renovated, along with 60 percolation wells that ensured water security to about 50000 people. The construction of *taankas* in 381 household ensured water security for approximately 3048 people, including 1538 women and girls. It was reported that the water harvested in *taankas* was used for a variety of purposes: including drinking, cooking, cleaning, bathing, washing and even for cattle, in cases where a village pond was not available nearby. A *taanka* made about 20-23000 litres of water available for each household that lasted for a period of 4 months on average.

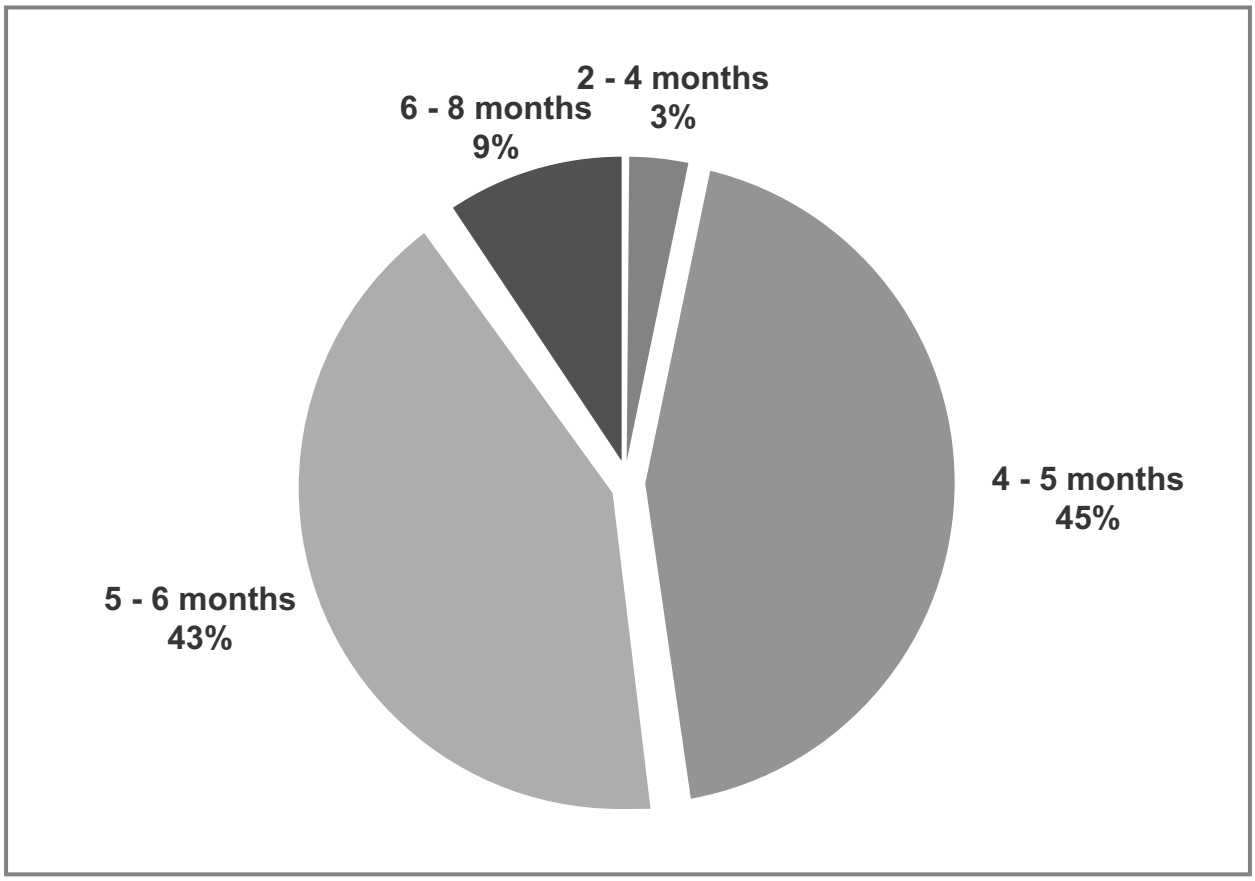
*Crops with khadin*

**F. Enhanced food production through *khadin***

With the benefits from *khadin* in terms of increased land productivity, ability to optimise water use, enhanced fertility and being able to grow more than one crop in a year, farmers are getting much more equipped to deal with the parched arid land of Jaisalmer, Jodhpur and neighbouring regions. As all families

have access to sufficient quantity of food grains, additional income by the sale of excess produce is used for purchase of other household essentials, investing in more livestock leading to further improvements in their financial situation, and also for higher education of children. Communities also acknowledge the importance of *khadins* in the context if their social status. Many people believe that prosperity as a consequence of *khadin* has also got them better social status within the community. They also felt that not only they feel more confident about the crop yield, they are also more assertive in their social interactions and are able to discuss the issues that matter to them and communicate their opinions much more effectively. However, the most eloquent indicator of their status is emancipation from loans that most families had to take to fulfil their household needs and social obligations such as weddings, etc.

Water availability (in months) enabled by *taankas*

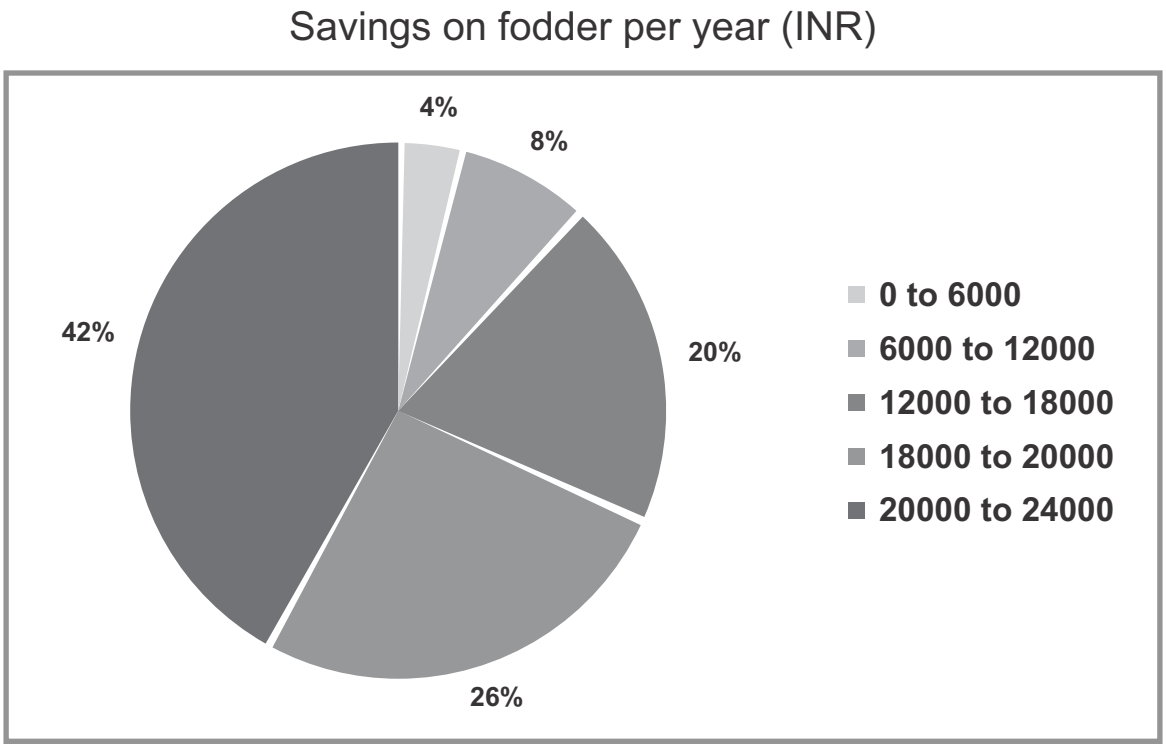


*A taanka constructed under EWGL project*

**G. Fodder for cattle**

Food and nutrition security has been secured for the rural population through developing and reviving pasture lands too. As part of EWGL, GRAVIS developed 8 pastures to support the rural farming communities in getting sufficient fodder for their cattle. Cattle being an integral part of rural economies and rainfed farming ecosystem, farmers in the Thar are dependent on their cattle for agriculture and their livelihood to a great extent. As farmers struggle to grow the required quantity of crops for their own consumption, availability of sufficient fodder remains a massive challenge for cattle rearers. Extremely hot and dry weather conditions affect the quantity and quality of fodder and have direct implications for cattle health and dairy. Extreme heat, dryness and soil erosion have led to the degradation of traditional pastures; with GRAVIS' support VDCs in the villages are able to manage and maintain these pastures and maximise their utility for rural populations.

Drought-resistant grass is grown in the pastures, which are source of green fodder for the cattle. Not only has milk productivity increased and cattle are healthier now, villagers also save a considerable amount of time and money that they had to spend on gathering fodder for their cattle. It was noted that the average distance to a green pasture where cattle could be grazed was about 12 kilometres on the way, and farmers had to take their cattle all the way there to ensure that they were fed. Depending upon the herd, farmers were spending INR 1000 to 2000 per month to buy green fodder to feed their cattle, which was being saved after pasture land development.




**H. Addressing the need for indigenous seeds**

The food security of the community is dependent on agriculture and the availability of quality seeds is essential. Community seed banks help farmers to access seeds to grow crops during the next planting season or they can be used as an emergency seed supply. With the establishment of 300 CSBs at local level, farmers in the project area were able to access good quality organic seeds in their vicinity, almost free of cost. As rains are becoming increasingly unpredictable in the region, it is important for the farmers to grab every opportunity to sow the seeds, and not having to worry about seeds helps farmers a lot mitigate drought-like situations.

**I. Improved standard of living**

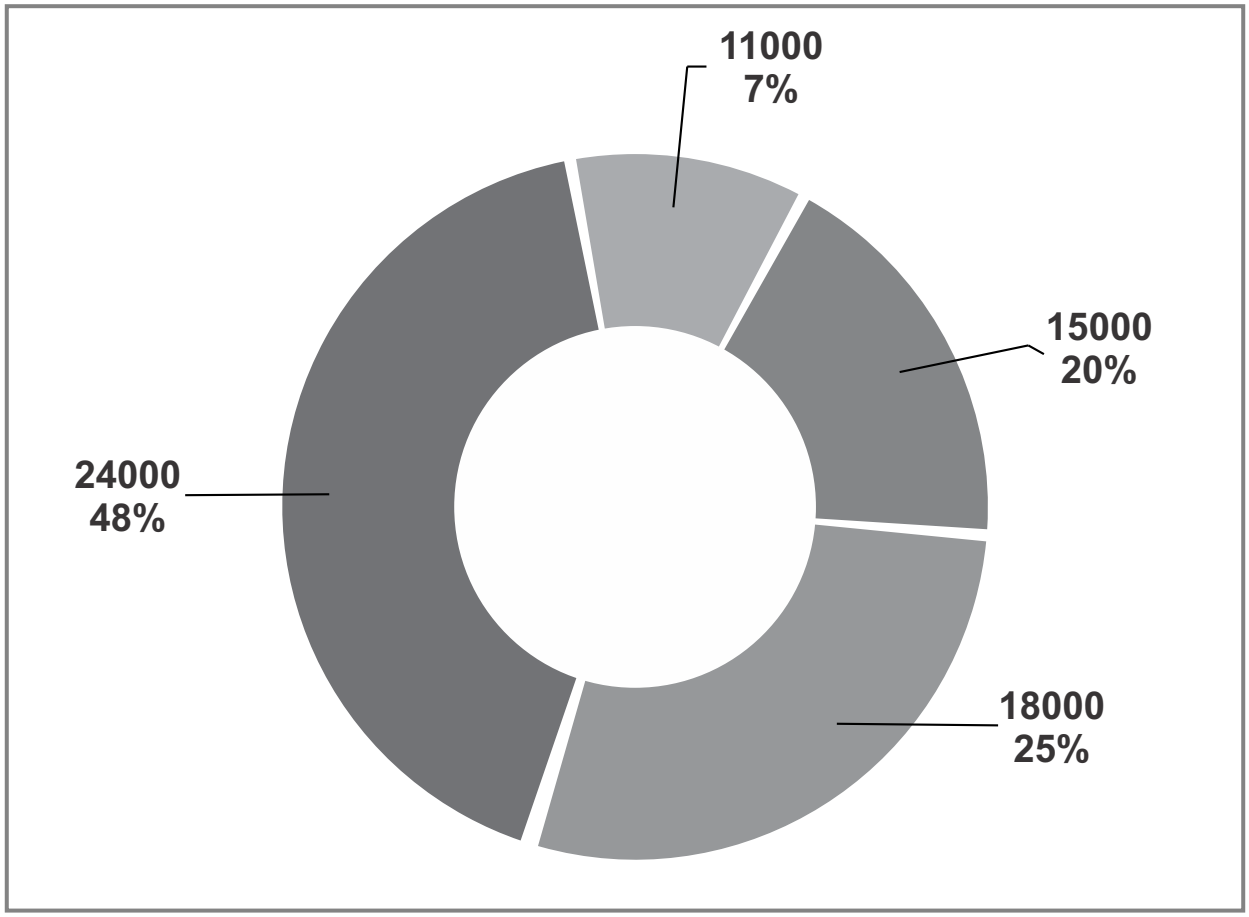
Women and girls led interventions for water and food security directed reached the community. But that was not it. There were several other benefits form the interventions that contributed towards improvement in the quality of lives of rural communities. Much of these changes were to do with their financial status and their health situation:

**Nutritional security and additional income through AHU**

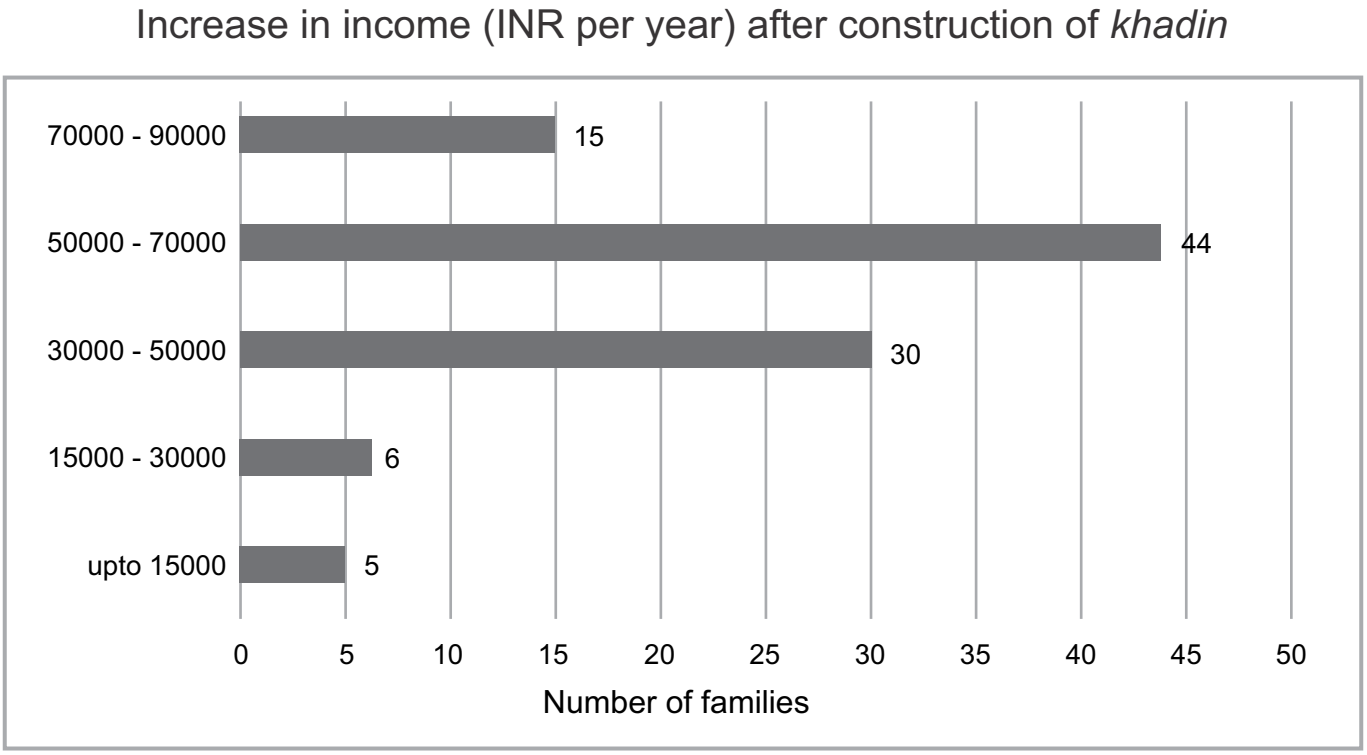
Water scarcity, coupled with lack of financial resources, limits rural communities access to diverse fresh food and results in high malnutrition levels especially among the most vulnerable populations such as women, children and older people. Support for establishing horticulture units was another way EWGL ensured food and nutrition security for the target population. AHUs are small fruits and vegetable orchards in which villagers can grow drought-resistant plants and vegetables. GRAVIS provided plant saplings and

other materials to set up such units, along with training the families in maintaining these AHUs. Having an AHU in their backyard ensured an uninterrupted supply of vegetables and fruits for families who otherwise could not afford them. 100% of those interviewed reported that they were not able to consume fruits and vegetables, especially during the summer season, as they were not growing them or found them too expensive to buy. Prior to AHU, consumption of vegetables was limited to once a week and of fruits to once a month. There is sustained improved in the health of villagers, which is very much evident from the improved nutrition and health status of women , and girls. Since fruits and vegetables were very scarce earlier women and girls use d to remain deprived of nutritious food. With availability of sufficient food at household level it also saved expenses of about INR 1000 to 12000 on a monthly basis, according to a conservative estimate. Some families, mainly those smaller in size, sold excess quantities of vegetables and fruits and earned an additional income. Almost half of the families (48%) reported earning approximately INR 2000, an additional income that could be used for more eatables and other household items.

Additional average income per year from selling AHU produce



Financial status of the families also got improved with sustained increased in their income levels. With construction of *khadins* in the farms, farming families became food secure throughout the year and all this was made possible because of the reduction in soil erosion which is a typical feature of dry climatic zones, and improved soil productivity and fertility enabled through *khadins*. A total number of 360 farming families were supported through EWGL project ensuring food security directly for about 2520 people. With the increased crop produce, farmers' income also increased significantly, with about half of the farmers (44%) reporting an increase of INR 50 to 70,000 per year in their income. This increased income was available to farming families to meet their other basic needs. In addition to additional income, women led CCA measures also contributed to substantial savings, on water and fodder. Families were not spending on water as much as in the past as with *taanka,* water was available for 4-8 months in a year, saving expenses in the range of 1500 to 2000 per months.




Increased income and additional savings achieved through the construction of rainwater harvesting structures for water at household and at community level, and for farms, resulted in improved standard of living for the rural families. They were able to get better dairy products that were consumed at home, and the excess was also sold in market. All the assets created in the leadership of women and girls, not only resolved the issues concerning water and food insecurities but also ensured better nutrition and health for people, along with opportunities for girls to go to school. Unmet needs of the family members were address, paving the way for prosperous lives for them.

## J. Capacities for CCA

A range of interventions for CCA and drought mitigation not only ensured water and food security for the whole community, these women led initiatives also found their way in community's social behaviour, making them more sensitive towards climate change and its impact on the planet earth. Discussions in the ILGs helped even young girls to understand the gravity of the situation and resort to the sustainable means to procure water, save trees and natural vegetation and conserve community water bodies. However, most critical part of the transformation in the villages was the acquiring of technical capacities for rainwater harvesting, not only for meeting the basic household needs related to drinking water, but also to maintain the rainwater harvesting structures at the farms to get the benefits out of even a limited seasonal rains. Communities were not only equipped with making the best use of water, but also became proficient in growing their own food, and bridging the nutrition gaps through the AHUs.


*AHU through EWGL project*

As trainings also focused on good hygiene and health related practices and the fact that there was sufficient water available through rainwater harvesting structures, both the capacities and the social behaviour of the communities saw a positive transformation. The most critical part of the change in social behaviour was the recognition of capacities of women and girls to lead the CCA initiatives, and considering their views in decision making both at family, and at community level.

# V Paving the way for a gender-mainstreamed and gender-responsive climate action

The social tapestry of rural areas of Thar desert is complex and rigid by disposition. Challenging gender norms in an economically and socially backward society requires a multidimensional approach. Manifestation of climate change phenomenon in the form of sporadic rains and uncertain weather conditions, leading to farming crises, add another layer to the gender dynamics in the region. In the backdrop of such complexities, GRAVIS ventured into enhancing women's and girls' leadership in CCA and drought mitigation. Through well-thought-out project design, and interventions, along with the effective participation of communities and all stakeholders, EWGL project of GRAVIS demonstrated the need, utility and potential of women and girls to lead CCA and drought mitigation. There are a number of ways the impact of these initiatives can be ameliorated:

**Inclusion of men and boys in intergenerational dialogues**

While there is a component of direct community outreach and interaction with male members of VDCs in all the villages, the need for social conditioning among young boys on gender-related issues is critical. It is important to sensitise young minds on gender stereotypes and make them aware of the gender roles that are defined disadvantageously for women and girls. It is only with a gender-inclusive approach with which men and boys can also be equal partners in the crusade for creating a gender just society. Formation of intergenerational groups of men and boys and facilitation of discussion on issues such as gender, community development, drought and CCA, could be a starting point.

**Alternative means of livelihood and economic empowerment**

Few interventions in the project have resulted in financial gains for the families and have contributed towards building their resilience for CCA, for the leadership of women and girls to sustain, its important that they also become self reliant and financially independent. At this juncture of the project, strengthening of SHGs and helping them evolve as platforms for promoting ventures that are financially viable for all the members of the group. When women will become financially independent and economically empowered, their confidence will be enhanced multifold and they will be established as leaders in society. For instance, the revival of rainfed agriculture with sustainable agriculture practices and harvested rainwater has resulted in increased agriculture production for the farmers. Along with agriculture, the project may explore supporting and encouraging allied activities, including dairy farming, food processing, and processing of other agricultural produce etc. With adequate support for establishing, operating and marketing of agriculture produce and requisite trainings for the same, farming families can be in a position to earn a much more enhanced income, leading them to the path to prosperity. With the selling of excess fruits and vegetables, such a process has already started and can be further evolved to magnify its impact.

**Looking around**

The desert region is afflicted with abject poverty and extreme water insecurities. Gender dynamics are disadvantageous for women and girls, who have to carry the burden of water collection and are yet excluded from any benefits that might ensue from any interventions on the part of communities, government or development organisations. EWGL has worked very well in 4 project districts and has contributed towards changing gender dynamics by enhancing the leadership of women and girls. Within these districts, several villages are still waiting to receive such support to equip themselves with capacities for CCA and drought mitigation under the leadership of women and girls.

Thar Desert has the most dense human population in comparison to any other desert in the world, that comprises 40% of the population of the whole state of Rajasthan. Specifically, communities living in the rural areas of Bikaner, Barmer, Jodhpur and Jaisalmer districts, located in Western Rajasthan, are in dire need of support for water and food security, as well as girls' education. It is important to consider the expansion of the programme in other areas of the Thar Desert, too, which will eventually alter the social landscape and CCA abilities of the communities in the whole region.

**Increased exchange and exposure**

EWGL project was operational in 20 villages, and despite similar nature of socioeconomic and climatic conditions, experiences of operationalising the interventions have been varied. In villages community has been extremely supportive from the beginning and in some it took a while for the project staff to build rapport with the stakeholders. Similarly, support from local community based organisations has also been at different levels in all the villages. Wherever, literacy and education levels were relatively lower, it required a lot of efforts to make the groups functional. Given this variability, and the need for the community to broaden its perspective, an element of cross sharing and learning may be annexed to the programme, through collective meetings of the groups across villages. This practice will help women and girls, as well as members of VDC to learn from each other, appreciate the efforts being done by them for drought mitigation and climate change adaptation, and find motivation for adopting good practices in their own context as well. Although there have been opportunities for exchange and exposure, given their effectiveness, a more structured component of exposure can be built into the subsequent phases of the work.

## Acronyms

| | |
|---|---|
| AHU | Arid Horticulture Unit |
| CCA | Climate Change Adaptation |
| CSB | Community Seed Bank |
| EWGL | Enhancing women's and Girls' Leadership in Thar |
| GRAVIS | Gramin Vikas Vigyan Samiti |
| ILG | Inter-generational Learning Group |
| INR | Indian National Rupee |
| SHG | Self Help Group |
| VDC | Village Development Committee |

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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 2,000 villages reaching a population of over 2.5 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.