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Older People Leading Drought Mitigation and
Community Development





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Author's Note

In the year 2024, the honorable Supreme Court of India declared that the consequences of climate change are an infringement to the fundamental rights envisaged in article 21 and article 14 of the Constitution of India. This is a significant milestone in the legal landscape of India, reiterating the importance of the right to be free from the adverse effects of climate change. While several stakeholders have collectively contributed to preempting the adverse effects of climate change, a significantly high proportion of the population continues to experience damaging and distressing effects of extreme weather events. The Thar region in India, being one of the most arid desert regions in the world, has witnessed several extreme weather events in the past few decades, making it extremely difficult for the people. In the case of vulnerable groups such as children, women, older persons, etc, the struggle against climate change is perhaps an everyday affair. Yet, the region has demonstrated resoluteness; the people of this region, despite the uncertainty that clouds their lives, have emerged as leaders of hope and change.

I have had the opportunity to engage with GRAVIS across a few projects and one thing that strikes me is the unwavering commitment to empower people from the most marginalized groups. I am thankful to the team at GRAVIS for their time and support in shaping this document. The WNHT project is uniquely designed to address and strengthen the water, food, nutrition, and health security of older persons in Jodhpur and Barmer districts of Rajasthan. Since its inception, the project has emerged as a ray of hope for many, cementing their belief that traditional knowledge, wisdom, combined with collective, community centric and coherent efforts can help them tide over the adverse effects of climate change.

I am grateful to the beneficiaries of this project, whose valuable insights and inputs breathed life into this document. I believe that this document will aid in all the future endeavors of GRAVIS

Jyotsna Sripada

Public Policy Practitioner



Executive Summary

Climate anxiety is not limited to a single generation. However, older adults may have both a special responsibility and opportunity in responding (Smyer, 2021).

Older persons are most susceptible to infections or disorders primarily due to their weakened immune system and age-associated physiological changes. This is further compounded by external factors such as quality of water, nutritional value of food consumed, environmental factors, availability of first aid, diagnostic and clinical services, cultural practices, prioritization of age-related illnesses, etc. This is particularly evident in the Thar region, which is one of the most hostile habitats to live in, given the extremely harsh and unpredictable climatic conditions. Extremely high temperatures, scarce rainfall, climate change, dwindling pool of resources, inadequate and poorly accessible nutrition, and health facilities, are some of the challenges that the people of this region battle with, on a daily basis.

Taking into account the challenges faced by older persons, the WNHT project is a new breath of life for the older persons living in the Thar region, particularly in Jodhpur and Barmer districts of Rajasthan. It weaves together key components associated with water, food and nutrition security that are all crucial for the health and well-being of older persons. Furthermore, the project also includes capacity building, outreach programmes, documentation, and advocacy as effective strategies to amplify the impact of interventions. The water specific interventions on *taankas*, *beris* and *naadis* have emerged as a lifeline for the communities in Barmer and Jodhpur districts. Through these interventions, the water security situation of thousands of beneficiaries has improved, proving that traditional methods of water conservation can be harnessed effectively, provided there is collection action and responsibility. The Older People's Associations (OPAs) have taken the lead in this project and have ensured that water is no longer an inaccessible or unavailable resource for the people in the Thar. Interventions such as *khadins* have instilled confidence in the communities that simple and effective techniques, as envisaged in the traditional and indigenous knowledge and methods can go a long way in securing the lives of the most marginalized and vulnerable.

These interventions and strategies have collectively contributed to empowering close to 2500 older persons in the two districts and nearly 20,000 beneficiaries/family members associated with them. Further, sixty Arid Horticultural Units (AHUs) have been set up, benefitting nearly 447 family members. The WNHT project has facilitated the setting up of ten Community Seed Banks (CSBs) through which nearly 2000 kilograms of local varieties of seeds have been distributed. Over 500 families of older persons have benefitted from this intervention.

In the health domain, through focused interventions such as outreach medical camps, mobile pharmacies, self-care training and installation of bio-sand filters, GRAVIS has certainly made a dent in current coverage and accessibility of healthcare services for all. Capacity building, awareness generation and development dialogues have also provided further impetus to these interventions.



Leading from the front

This document recommends the involvement of youth in the climate change interventions through their enhanced engagement with older persons, empowering children as climate change warriors and strengthening data surveillance for older persons to advance the work undertaken by GRAVIS..



Chapter 1

Introduction

We are almost halfway through the globally recognized decade for healthy ageing, declared by the United Nations. It was instituted to improve the lives of older people through collective action. Initiatives targeting older people are endorsed as common goals across a diverse set of themes encompassed in the Sustainable Development Goals, including those concerning good health and well-being (SDG 3), reduced inequalities (SDG 10) and sustainable cities and communities (SDG 11). Despite a gamut of efforts and investment that have been made towards providing an inclusive, sensitive, and enabling environment for older persons, achieving nutrition and health equity remains a challenge. This is perhaps more challenging in a region like the Thar that is confronted with a wide spectrum of challenges including economic, social, cultural, topographical, and climatic determinants.

The Thar region is one of the most hostile habitats to live in, given the extremely harsh and unpredictable climatic conditions. Extremely high temperatures, scarce rainfall, climate change, dwindling pool of resources, inadequate and poorly accessible nutrition, and health facilities, are some of the challenges that the people of this region battle with, on a daily basis. The people living in this region constantly grapple with scarce and limited resources that are quite difficult to access, not adequate for all, barely available for a long period of time and hardly predictable. Compelled to depend on rain-fed agriculture and animal husbandry, the people of this region have bravely endured the significant changes caused by climate change.



Older people in Thar



The past few decades have witnessed erratic patterns of rainfall and temperatures, thereby significantly impacting the agricultural production cycles. It has deeply affected the water, food, and nutrition security of people in this region, impacting the health and well-being indicators of all, especially older persons. While these conditions are arduous to navigate through, it is exacerbated for vulnerable communities such as older persons, women and children. Older persons, who constitute nearly 8.5% of the total population in Rajasthan, are largely dependent on an already depleting pool of resources to survive. The Thar desert spreads out to almost 2,00,000 square kilometres, with a widely scattered population. For each of these households, accessing basic needs such as water, education or even healthcare facilities is marred by several factors including the distance, scorching temperatures, dilapidated state of roads, and sometimes, physical and mental exhaustion.

Older persons have spent a large part of their lives building and setting up a path for their families, strengthening them with their theoretical knowledge and practice experience, enriching the process with their innate sense of accuracy and planning. Yet, their contributions often go unnoticed. Their expertise is often unrecognized. Accessing and availing necessities is often an arduous journey that they, in most cases, are compelled to fend for themselves. Despite these struggles, older persons have emerged as catalysts of change and have been recognized as key contributors to creating an ecosystem that acknowledges and responds to their basic needs.

The WNHT project is a new breath of life for the older persons living in the Thar region, particularly in Jodhpur and Barmer districts of Rajasthan. It resonates with some of the key insights discussed during the COP26 at Glasgow, that climate anxiety is not limited to a single generation. But older adults may have both a special responsibility and opportunity in responding (Smyer, 2021).

It weaves together key components associated with water, food and nutrition security that are all crucial for the health and well-being of older persons. Furthermore, the project also includes capacity building, outreach programmes, documentation, and advocacy as effective strategies to amplify the impact of interventions. These interventions and strategies have collectively contributed to empowering close to 2500 older persons in the two districts and nearly 20,000 beneficiaries/family members associated with them. The WNHT project is a beacon of hope for several older persons for whom their survival is contingent upon the availability and accessibility of necessities including clean water, nutritious food, quality healthcare and a secure household



Chapter 2

Nutrition and Health of Older Persons: Status, Issues and Challenges

With age, vulnerability increases. Older persons are most susceptible to infections or disorders primarily due to their weakened immune system and age-associated physiological changes. This is further compounded by external factors such as quality of water, nutritional value of food consumed, environmental factors, availability of first aid, diagnostic and clinical services, cultural practices, prioritization of age-related illnesses, etc. The interplay of these factors significantly determines the extent to which older persons receive attention and care at household level; the extent to which their issues and challenges are discussed and addressed at a community level and the extent to which systemic and institutional changes are made to pre-empt such challenges in the future. These challenges are much more complex in the Thar region, primarily since there is an overpowering play of factors such as extreme weather conditions, poor infrastructure, lack of staff, inadequate equipment, lack of adequate funds, etc that impede access and dissuade prompt responses to any issue faced by older persons.

Although very little information is available in terms of the nutritional and health status of older persons in the State, what is clearly visible is that older persons experience age related complications that are worsened by the environmental factors. Atleast 14% of older men and women have self-reported illnesses in urban and rural areas of Rajasthan. Whatever little data is available suggests that nearly 23% of women in the State feel that they need health interventions and most of them are fully dependent on their families for decision making or facilitation of treatment (Health Dossier, 2021 published by National Health Systems Resource Centre).

Achieving public health equity in the Thar region is quite a challenge due to several reasons. Firstly, the remoteness and distance between villages and smaller hamlets is quite significant. Traveling from such remote areas to places where there are adequate health facilities is an ordeal that many families face. The distance, poorly constructed roads, extremely high temperatures and dust, poor public transport facilities, lack of trust in the quality of services provided in health facilities, etc dissuade people of this region from availing health services. Thirdly, the strongly rooted socio-cultural barriers such as the patriarchal construct, cultural impositions particularly on women, child marriages, gender bias, etc have put girls and women on a lower pedestal in terms of development. This is perhaps even worse in the case of older persons who are considered unproductive, an additional burden and not relevant to the decision-making process. Household distribution and utilization of resources is done keeping in mind the productive contributors rather than older persons, who perhaps may not be able to contribute as much. Given their limited access to resources, limited physical and mental strength to avail such resources, and lack of an enabling environment, older persons have a daunting challenge in terms of leading a healthy life. In the absence of a direct source of financial security, older persons are often compelled to depend on the household income for their basic needs. In many cases, their needs may be ignored or postponed for



something more pressing. In some cases, they may not even have the space to communicate what their needs are in terms of basic requirements such as food, nutrition, water, health, sanitation, etc.

The WNHT project is certainly a path-breaking initiative by GRAVIS. It recognizes the needs of older persons as a policy imperative and undertakes an integrated approach to provide an enabling and respectful ecosystem for older persons in two districts in the Thar region. The prioritization of older persons and their needs, development of strategies specifically focused on building an inclusive and enabling ecosystem for older persons, and more importantly, a sensitive and considerate approach to the needs of older persons in the Thar region, are important pillars of the WNHT project. By engaging in field interactions, capacity building, implementing key interventions that directly contribute to the food, water and nutrition security of older persons, GRAVIS has paved the way for a robust model that acknowledges, prioritizes and effectively realizes the needs of older persons



Chapter 3

Key interventions and learnings

The WNHT employs a gamut of interventions, through an integrated approach, to empower the beneficiaries, including older persons. These interventions primarily aim at transforming the water, food nutrition and income security of communities in fifteen villages in Barmer and Jodhpur districts. This chapter captures the manner in which these interventions were operationalized, their benefits and impact.

A. Facilitating access to clean and safe drinking water

Consuming clean and safe drinking water is a distant dream for many people living in the Thar region. People sometimes walk almost five to six kilometres every day in search of water for their personal and household needs. Undertaking this arduous task is part of an everyday routine. With no other choice left, women and young girls, who are often expected to solely bear this physical and mental burden of procuring water for the household, gather all their strength to endure this. The quest for clean drinking water often takes them to far off distances, compelling them to endure physical pain and exhaustion. Yet, once they are back from the arduous journey, they have other household responsibilities to tend to, including childcare, cooking, cleaning, etc. Older women are really exempted from these responsibilities either. Social and cultural impositions have, for ages, put pressure on women, across all age groups, to undertake specific responsibilities and that of procuring water for their households continues to remain one of the most demanding tasks for them, on a daily basis. The impact of undertaking these tasks results in extensive damage to one's physical and mental well-being. Over years, women develop weakness, muscle and bone ailments, back pain, and this is further exacerbated by the hostile weather conditions from which they have no escape. These damage to their physical and mental state of being is often irreversible.

In order to combat these problems, GRAVIS has identified a bunch of water specific interventions such as *taankas*, *beris* and renovations of community ponds or *naadis*. These are traditional means of surface water harvesting that have sustained and empowered villages since many decades. Taankas are essentially shallow underground tanks that can capture and store upto 25,000 litres of water annually. Built to serve as a household level underground reservoir, *taankas* are carefully fitted with elements such as slit catchers, lid with a provision to lock, a rooftop catchment that collects water and channels it to the underground storage area through pipes etc. The structure is built using locally available mud/soil and is easy to maintain. It can support a family of ten for almost eight to nine months in a year. The WNHT project has deployed a systematic approach to identifying beneficiaries whose needs are to be prioritized. Given the fact that older persons are more vulnerable to waterborne diseases and are susceptible to infections, the WNHT project, particularly, the older people's association, has provided for identification of almost 465 older persons. Taankas have been built near their homes, dispelling the need for any arduous treks to procure water. These beneficiaries are now able to access clean water, at a convenient distance, devoid of any impurities and



sufficient to take care of their needs for almost throughout the year. Taankas have not only improved the water security in households but have also improved the physical and mental well-being of older persons, especially women. Given the fact that water is available, easily accessible, and safe, women have gained in terms of time and energy. The productive time and energy gained has substantially benefited women as they are now able to redirect these towards learning new skills, or self-care or engagement with other community members. Armed with renewed energy and ability, women, especially older women, are now able to contribute to the well-being of themselves and their family members as well. Furthermore, the need to depend on external/private sources of water has reduced drastically, helping households save a substantial amount of money. Overall, *taankas* have resulted in several direct and indirect benefits to the community living in the districts of Jodhpur and Barmer districts..



A newly constructed taanka in Andasar village, Baap block, Jodhpur district

Another traditional water harvesting mechanism that has significantly improved the water situation in these districts is that of *beris*. Beris are shallow, pitcher-shaped percolation wells in the Thar Desert of India that store rainwater for drinking. These are built by digging a pit until a layer of clay or gypsum is reached. Given the fact that Barmer district has abundant availability of Murram and Chammi, which are traditional soils perfect to build *beris*, this intervention is sustainable and cost effective. A concrete platform is then raised over the pit and covered with a slab to prevent any form of contamination. Beris are easy to maintain as they do not need an artificial catchment area. These can store anywhere between 50,000 to 1,00,000 litres of water annually and can cater to the needs of atleast ten families for upto two years. The WNHT project has paved the way for the renovation of four *beris*, strengthening the availability of water for nearly forty families in both the districts.



Like percolation wells or *beris* that provide sustained water supply, community ponds or *naadis* have emerged as an important lifeline for the communities living in Barmer and Jodhpur districts. Naadis are surface level structures that can capture and hold rainfall for nearly four to five months. This is an important source of water for communities as it can contribute towards domestic use and livestock as well. Naadis require periodic maintenance such as desilting that is necessary to provide unrestricted access to safe and clean water. As part of the WNHT project, two *naadis* were renovated. In order to maintain the quality of water available in the *naadis*, the community led organizations such as the village development committees (VDCs) and the OPAs have collectively devised a set of rules such as preventing disposal of water near the *naadi*, maintaining personal hygiene while accessing the water in the *naadis*, etc. Adhering to these rules is necessary for the community to access clean water. While *naadis* serve the primary purpose of providing clean water, they have also emerged as a symbol of self-reliance, resilience and collective responsibility. These are integral to ensuring that the interventions impact and improve the lives of everyone, especially those who are most vulnerable.



A newly renovated naadi in Mandore village, Jodhpur district

The water specific interventions on *taankas*, *beris* and *naadis* have emerged as a lifeline for the communities in Barmer and Jodhpur districts. Through these interventions, the water security situation of thousands of beneficiaries has improved, proving that traditional methods of water conservation can be harnessed effectively, provided there is collection action and responsibility. The OPAs have taken the lead in this project and have ensured that water is no longer an inaccessible or unavailable resource for the people in the Thar.



B. Sustaining life through nutrition

Like water, growing or sourcing adequate food and nutrition in the Thar is extremely challenging. Communities living here are confronted with precarious conditions that deeply impact the quantum, quality or adequacy of food and nutrition that they are dependent upon. 80% of the population is dependent on rain-fed farming and therefore source their food from what they grow. Majority of the families grow crops for personal consumption and whatever is remaining is either sold to the neighbours or markets located not too close by. However, this is largely contingent on the spell of rains, availability of external sources of water for irrigation purposes, quality of seeds used, availability of natural fertilizers, harvesting techniques, etc. With limited resources available and poor quantum quality or diversity of nutrients generated, majority of them in this region suffer from micronutrient deficiencies, bone and muscle ailments, weakness, and deteriorating vision. This is further exacerbated in the case of women as they undergo excessive physical and mental drudgery as part of fulfilling their domestic responsibilities.



A new khadin

The WNHT project has been instrumental in providing an enabling environment for farmers to grow crops and thereby secure sufficient quantum and quality of crops for their personal as well as market consumption. Through interventions such as the construction of *khadins*, food and nutrition security has significantly improved. Khadins are farming dykes or embankments that help capture and retain the moisture drawn from rainwater in farmlands. These yield a myriad spectrum of benefits for the beneficiaries. To begin with, the first and foremost change accrued from this intervention is the increase in crop yield due to enhanced availability of moisture in the soil. This promotes increased crop productivity. Furthermore, due to the availability of fertile soil, farmers are able to grow a diverse variety of crops including pearl millets, mung beans, moth beans, sesame, cluster beans, sorghum, cucumbers,



watermelons, and various local seasonal vegetables. This rich variety of crops has ensured that a diversified basket of nutrients is available for the family, especially for children and older persons for whom this is crucial. The construction of *khadins* has also resulted in improved income security of the families as the excess crop yield is sold. This brings in an additional stream of income for the family, thereby helping them prioritize expenses and spend more towards sourcing healthy food and nutrition. Families are also able to pay attention to expenses incurred towards education, health and hygiene, which were not prioritized earlier due to lack of sufficient income in the family. *Khadins* have transformed the lives of 361 beneficiaries. At a point of time when several families have witnessed members migrating to other districts in search of work and a sustained source of income, *khadins* have instilled a sense of trust and hope amongst the community. Several members have come back after having witnessed the exponential increase in crop yield and associated benefits. That apart, the interventions such as *taankas* and *khadins* have all been named after the older persons (heads of the family). This has reinstated their confidence in decision making, participating in key activities associated with crop production, advising the younger generation on crop cultivation, etc. Older persons have been placed at a higher pedestal after the interventions undertaken as part of WNHT project. Overall, *khadins* have instilled confidence in the communities that simple and effective techniques, as envisaged in the traditional and indigenous knowledge and methods can go a long way in securing the lives of the most marginalized and vulnerable.



Increased crop yield after construction of khadin



An AHU supported by the project

In addition to *khadins*, the WNHT project has also provided for the construction of Arid Horticulture Units (AHUs). AHUs are essentially barren pieces of land that were declared unfit for agricultural use. By leveraging traditional knowledge and information, these barren pieces of land have been transformed into productive land, whereby nearly twenty varieties of fruits, vegetables and greens are grown. Each AHU Garden measures 65'x80' and was properly fenced using barbed metal wire, stone slabs, and mesh provided under the WNHT project by GRAVIS. This is a rich source of nutrition that is available for consumption and if available, for sale as well. Children, women, and older persons are now able to consume the necessary micronutrients to maintain their nutritional and health status. AHUs also yield fodder and firewood that can be used by the families for cooking and during winter to keep themselves warm. During the course of this project, sixty AHUs have been set up, benefitting nearly 447 family members.



Community seed bank set up by the project

Keeping in mind the long-term objectives of developing self-reliance and self-sufficiently, the WNHT project weaves together several components of traditional knowledge and indigenous practices. And one such intervention that has brought back the importance of these elements is community seed banks (CSBs). CSBs are an excellent method of restoring, collecting, and distributing local varieties of seeds that have the inherent abilities of being climate resilient. Local varieties of seeds are distributed to the beneficiaries and once the crop has been harvested, the beneficiary is expected to replenish the CSB. These indigenous seeds are traditionally used and are particularly suitable for areas like orans (sacred grooves), gauchars (community pasture lands) and traditional forests, where they are protected from birds due to their hairy structure. Crops such as millets thrive in low water conditions yet yield up to 5-6 quintals per acre. This way there is continuous availability of climate resilient seeds for all those who are engaged in rain fed agriculture. As a long-term benefit, it also ensures that the crops produced are nutrient rich and safe for consumption. This not only ensures the nutritional health of the current generation of consumers but the future generations as well. The WNHT project has facilitated the setting up of ten CSBs through which nearly 2000 kilograms of local varieties of seeds have been distributed. Over 500 families of older persons have benefitted from this intervention.



C. Investing in health for all

In the Thar region, while climate change related challenges are pervasive and dictate the quality of life, the struggles are exacerbated by chronic illnesses, inaccessible and inadequate health care facilities, poor awareness and lack of institutionalized processes for early detection and prevention of diseases. Despite the introduction of schemes such as the Mukhyamantri Ayushman Arogya Yojana and Mukhyamantri Vriddhjan Samman Pension Yojana, the ground level realities associated with accessing these benefits promised by the State Government portray a complex maze of issues. While healthcare facilities have been enabled and processes have been set up for convenient and timely access to treatment, there is a yawning gap between what has been envisaged as part of the health infrastructure and how much of it is being accessed by those for whom it is meant for. Health facilities continue to remain inaccessible to those who are located in the most remote areas. Older persons experience multiple levels of hurdles that impede their access to timely healthcare services, including dependence on family members, unavailability of proper transportation, lack of adequate physical or financial support to seek healthcare services, poor ability to self-report illnesses, etc. Older persons experience several challenging situations even within their homes whereby they are often compelled to feel like a burden on their families; they experience neglect, disrespect, and abandonment. An unwelcoming attitude in their own homes has pushed several older persons to the brink of dearth, deprivation, and distress, plunging their health status even further. Older women are affected far more disproportionately as compared to older men and this is primarily driven by a deep-rooted gender discrimination, social and cultural barriers. Having dedicated their entire lifetime to household and childcare responsibilities, women, particularly in this region, have had to combat a wide array of challenges imposed on them. The physical and mental drudgery that has stemmed from undertaking arduous tasks has resulted in several complications including loss of bone and muscle density, joint pain and weakness, increased vulnerability to chronic diseases and reduced ability to cope with such conditions. The complex web of social, economic, cultural and infrastructural factors has resulted in a healthcare system for older persons that is unavailable even in the most pressing and distressing times.

The WNHT project bridges the gap between poor availability and accessibility of healthcare services and the healthcare concerns of the people in the Thar region. Through focused interventions such as outreach medical camps, mobile pharmacies, self-care training and installation of bio-sand filters, GRAVIS has certainly made a dent in current coverage and accessibility of healthcare services for all. By prioritizing the health care needs of older persons, and facilitating access to diagnostic, curative and rehabilitative services, WNHT has emerged as a new ray of hope. In a region where primary health care centres are located extremely far away, sometimes dysfunctional, sometimes located extremely far off, understaffed, or ill-equipped, the health specific interventions are much needed. The beneficiaries It is an important platform not only for diagnosis and treatment but also for knowledge dissemination. Interactions with well-trained doctors and nurses as part of the outreach camps has empowered older persons and their families to follow optimal nutrition and health related practices. Families are now able to appreciate the need for timely healthcare and the role of care in the household level. The WNHT project has facilitated outreach camps for



over 300 hundred older persons. The camps have also enabled dissemination of communication material titled Jeevan Ki Saanjh that comprises a wide range of information beneficial to the overall well-being of older persons.

Another important intervention that has amplified the impact of healthcare services is the introduction of mobile pharmacies. As a follow up on the medical consultation provided during the outreach medical camps, the mobile pharmacies have enabled access to medicines. Essential and basic medicines are now available easily, within the community itself. The beneficiaries are no longer required to tread long roads in pursuit of these medicines and can get access to timely and periodic medication. Twelve such camps have been organized and supported a significant number of older persons in the project areas. Timely access to medicines has not only prevented future occurrence of health complications but has also brought a huge sigh of relief amongst older persons and their families.

Apart from outreach medical camps and mobile pharmacies, self-care training sessions for older persons have also emerged as an important medium through which older persons can be motivated to adopt better health and nutrition practices. The training sessions encompassed crucial themes such as prevention of chronic conditions such as arthritis, diabetes, and hypertension, which are prevalent among the elderly population in the region, medicine management, importance of locally available foods, indigenous knowledge and traditional methods that promote better health and well-being etc. A total of 287 older persons have benefitted from this intervention.



Self-care training for older people



The installation of bio sand filters has been another welcome intervention in the region. Having access to clean, palpable, adequate sources of drinking water is a huge concern in the Thar region. While extreme weather conditions like drought compel people of this region to trek long distances to procure just a potful of water, the quality of it remains quite concerning. Water is often contaminated, extremely saline and in the majority of cases, not suitable for consumption. The lack of adequate resources has forced people of this region to make do with what is available, often falling prey to water-borne diseases, infections, weakness, etc. This poses a huge public health concern and reiterates the need to find solutions that are easily available, convenient, safe and sustainable. The answer to these woes is the bio-sand water filter that employs a simple technique of separating impurities, harmful microorganisms and suspended solid particles from water. These filters are particularly useful where *taankas* have been installed. The filters, essentially designed as traditional slow filters, may be used to further purify the water stored and drawn from *taankas*. As a low cost and long-term solution to water scarcity in the region, bio-sand water filters have certainly aided in preventing water-borne diseases and have contributed to improving the health of beneficiaries, particularly that of older persons. The incidences of waterborne diseases and infections have reduced quite significantly (by almost 70%).

D. Building capacities and confidence of older persons

Older persons possess a wealth of traditional knowledge and wisdom, that determine the sustainability of many domains including agriculture, animal husbandry, health, nutrition, etc. For decades together, they have been at the forefront of managing and overcoming challenges imposed by natural and man-made factors and the Thar region is no exception. Leveraging traditional knowledge and indigenous practices, that are essentially treasured possessions of the people in this region, communities have marched forward, being led by some of the most experienced leaders. They have also remained catalysts of change, spearheading initiatives at the household and community levels, to combat challenges imposed by climate change. While the nature of these challenges has evolved significantly over the years, it has become imperative to support older persons with relevant knowledge, information, skills and capacities that will enable them to adapt better.

Investing in capacity building deepens one's engagement with several issues, empowering individuals and communities with the power and confidence to combat them. A wide array of capacity building workshops and training sessions organized as part of the WNHT project have certainly built the confidence of older persons. Training sessions on agro-forestry, health and nutrition, climate change adaptation and other relevant themes have ensured that older persons are at par with the emerging issues and solutions to combat climate change. Twelve training sessions, with a outreach of 387 participants (comprising 196 female and 191 males) were conducted with an objective to raise awareness about key themes such as rainwater harvesting, conservation and management of natural resources, preservation and protection of traditional water resources, prevention of water borne diseases, construction of traditional water harvesting structures such as *taankas*, *khadins* etc, role of village older people associations, to mention a few. These training sessions have emerged as an important platform that unites older persons and



empowers them to collectively raise their concerns, seek support to implement solutions and coherently contribute to the development of the community. The training sessions on agroforestry and climate change adaptation, in particular, have opened up a wide spectrum of opportunities for income diversification (by way of growing climate resistant, fruit bearing and vegetable crops in AHUs). Apart from these, the project has also facilitated training sessions in health and nutrition, that are key to ensuring that older persons are leading a healthy life. Sensitization to diet diversity, importance of consuming micro-nutrients, key practices to prevent waterborne diseases, practices to keep surroundings clean and hygienic, etc are some of the topics that were discussed during the health and nutrition training sessions. The training sessions encouraged older persons to cultivate locally available crops such as white millets, moth beans, sesame, etc and these have been successfully incorporated as part of their meals.

Apart from training sessions, one of the key strengths of this project has been community mobilization and advocacy. In many cases, while concerns and issues faced by stakeholders are communicated, it is very rare that a suitable platform is available for these issues and concerns to be addressed by the concerned government. The apathy of government officials, lack of awareness and interest amongst department officials and functionaries delays the process of redressal. Furthermore, given the fact that older persons form part of a vulnerable group whose social, economic, or even political interests are often ignored, it is necessary that their interests and demands are effectively communicated by a stronger force. Organizing dialogues with the local government has proved to be extremely effective as these have helped position older persons as key decision makers, contributors, and catalysts of change in the communities. By drawing on the expertise, knowledge and experience of older persons, local governments can address challenges associated with climate change. Older persons have emerged as key stakeholders in drafting and implementing development plans in communities. This is a classic example of bottom-up advocacy, led by older persons, leading to social development. The fact that the movement already has over two hundred older persons on board, is a laudable effort and must continue to grow in its size and impact. These dialogues have ensured timely resolution of concerns raised by older persons, effectively ensuring that a robust governance structure is in place.



Chapter 4

Way forward

The WNHT has brought about a phenomenal change in the way communities respond to climate change. By recognizing the role, potential and importance of older persons, the project has anchored older men and women as leaders of change in the Thar region. Through them, the project has achieved several objectives including strengthening the food, nutrition, and water security among communities, creating spaces where older persons can be the levers of transformation, and securing the needs and interests of the present and future generations by investing in traditional knowledge and indigenous methods. That apart, older persons have emerged as important leaders in the community who have established education and nutrition services for children and youth, thereby reducing the number of children, especially young girls engaged in domestic household work. There has been a huge wave of transformation in the social, economic, educational, nutritional, and cultural domains in this region and what is intriguing is the fact that all of these have been led by older persons, who ironically, were looked at as a burden. Their active participation in community level decisions and collective action has ensured that communities are better equipped to deal with the pervasive impact of climate change. The WNHT project has witnessed a growing list of older persons who are now motivated, empowered, self-reliant and equipped with the right amount of knowledge, information, and skill to pursue core objectives of community development.

The project acknowledges that older adults are vulnerable to the effects of climate change, but they represent an enormous resource in efforts to prevent and mitigate its impact. This important resource can be leveraged to strengthen and deepen the efforts undertaken by GRAVIS. Some of the ways in which the fight against climate change, led by older persons in the region can be strengthened are discussed below.

Uniting generations in addressing climate change: Older persons possess invaluable knowledge that can play a significant role in timely and effective responses to climate change. The wealth of knowledge must be disseminated to the youth as they can be oriented towards challenges, strategies and pathways that can help them navigate the ongoing crises of climate change. The WNHT project can aim towards uniting older generations and youth on a common platform where they can collectively be prepared to fight against the adverse effects of climate change. Similar to concepts of intergenerational learning platforms, efforts can be undertaken to gather youth, mobilize them, equip them and empower them to crusade against climate change. With the support and guidance of older persons, the youth can evolve as crusaders against climate change, particularly drawing attention to the complexities imposed on the Thar region. The participation of youth can further amplify the impact of interventions that are currently being undertaken as part of the project. The traditional knowledge and wisdom of older generations, combined with the eager and powerful spirit of youth can propel efforts against climate change in a much more effective and robust manner.



Inspiring children to be changemakers: Climate education is an integral component of combating climate change. Embedding this as a component of basic education can equip the younger generations to respond to climate change more effectively. Given the active role played by older persons in communities, some of them may be identified to speak to young school children and help them in forming the right impressions about climate change and how they can confidently deal with the same. Formal and informal modes of education can be used as important mediums to discuss climate change. Older persons, some of them who are ambassadors not only with respect to climate change but also other issues such as child marriage, malnutrition, drudgery, etc can be invited to share their invaluable experiences with children, thereby inspiring them to be change makers themselves. With knowledge gained from their interactions with older persons, children can be climate activists themselves, advocating for adoption of climate resilient practices.

Uphauling the current data surveillance systems: Evidence plays an imperative role in bringing the policymakers' attention to the most pressing issues. While community led interventions, particularly those led by the older persons associations, as part of the WNHT, have resulted in tremendous improvement, this needs to be backed by a larger policy response that insulates older persons and the communities from the adverse effects of climate change. Policy responses in the form of incentives for those who engage in sustainable and climate resilient agricultural practices, better storage facilities for community seeds banks, introduction of climate education in formal and informal systems can go a long way. GRAVIS may consider engaging in research and evidence generation work that can effectively generate a demand for robust policies. Investing in gathering data, evidence, experiences emanating from this project and other interventions undertaken be transformed into a compelling framework for the State Government to take note of. This can further be considered to suggest policy level decisions that can aid in the realization of water, food, nutrition and income security for all. Another dimension of the surveillance systems in the conduct of a village level or a district level census of older persons, gathering their socio-economic profiles. The census can be a comprehensive collection of key indicators (such as income, nutrition and health, access to essential resources, participation in labour and decision making etc), submitted periodically to the state government. This census can emerge as an important yardstick to seek prioritization of policies and programmes aimed at upliftment of older persons.

The WNHT project has paved the way for renewed interest and focus on the role of older persons in combating the adverse effects of climate change. Investing in their capacities can bolster their fight against climate change. It is hoped that the impact of this project will snowball into a larger intervention, involving and impacting a larger number of communities across the Thar region in India, equipping and empowering them to be leaders of hope and change for all.



Case study 1

Transforming Lives: The Impact of a taanka on Masturo's Family

Masturo, a 68-year-old Muslim woman residing in Jaitarasar village, Phalodi (Jodhpur) Rajasthan, faced significant water scarcity in her household. With a family of eight and ten Bigha of land to manage, the burden of fetching water fell heavily on female members of her family including herself, her daughter-in-law, and four granddaughters. Despite their efforts, water procurement remained a daily struggle, impacting their health and financial stability.

After sharing her plight in a village meeting for the elderly, Masturo's family received support for constructing a *taanka*, a traditional rainwater harvesting system. This intervention not only alleviated their water woes but also brought about transformative changes. With a steady supply of water, the family's financial situation improved as they could divert their efforts towards other livelihood activities. Additionally, the granddaughters could now attend school regularly, bringing a brighter future for Masturo's family. Through community-driven initiatives like the *taanka*, sustainable solutions are empowering families like Masturo's to thrive in challenging environments.



Masturo with her Taanka



Case study 2

Kesar Bai : A true champion of change

Kesar Bai is a 70-year-old woman from a remote desert village in Rajasthan who is leading by example. Following her footsteps, several older women who have lived passively are actively participating in various village level development processes. Women's lives in arid regions of Rajasthan revolve around collecting water from long distances in addition to daily agricultural drudgery and domestic chores. Their contribution in building homes and villages go largely unnoticed. With little or no scope to realize their potential, they are forced to lead their lives in oblivion. While the situation of Kesar Bai wasn't any different, she was determined to defy all odds in order to improve her living conditions and figure out ways to do the same for other older women in her community. Before joining GRAVIS, all she had was her determination and strong resolve but not much direction. All her life she lived in poverty with limited access to water, healthcare and education. She had barely finished her primary education when she was married off to Samvat at a tender age of twelve. She worked in salt pans and was a midwife to 1000 mothers who delivered safely under her assistance. Despite these personal wins, she was shy, hesitant to go out and speak in public and was forced to observe socio-cultural norms specifically laid out for women such as 'wearing a veil'. She gladly fulfilled her traditional roles of a wife and mother without any complaints. In 2002 she learnt about GRAVIS through some training programmes organized on women empowerment and leadership. That became a turning point in her life, and she hasn't looked back since then. She became a member of Village Older People's Association (VOPA), one of the many community institutions supported and nurtured by GRAVIS. No sooner did she start stepping out, than some villagers and neighbours began to oppose and criticize her actions but her family supported her.

She initiated informal education services for children in her community who were dropouts or weren't able to attend school because the government institutions were quite far away. She built a place for them to study and created a feeding programme in collaboration with GRAVIS to encourage school attendance as well as nutrition filled diets for growing children. Through her efforts she inspired many older individuals to spread awareness on the importance of education. As a result, many children who were involved in domestic chores and taking care of their younger siblings ended up enrolling in her school. With her slow but steady rise as a community leader, Kesar Bai got many opportunities to participate in training and exposure visits at a variety of non-profits and civil society organizations in Jaipur, Jodhpur and Dhaka, Bangladesh. She became the first woman within her Bheel (tribe) community and family to travel abroad. Her family and other women from self-help groups and intergenerational learning groups motivated her constantly to lead community activities in the village. Kesar Bai has continued to play the role of a leader,



effectively facilitating construction of 100 *taankas*, 150 *khadins*, fruit plantations, and pond renovations in her community. Because of her initiatives along with GRAVIS, older women have regained respect and dignity in their households and communities. She has become a role model who inspires women to step out of traditional roles and engage in public life. She doesn't veil herself anymore and feels more confident while sharing her views in public. All of this has positively impacted the lives of women. They do not have to spend hours and walk long distances to fetch water allowing them to focus on other productive tasks. Enrolments of girls in schools have increased. Greater community participation has been observed with women attending meetings and engaging in decision making processes. Even her daughters attend meetings and are now able to lead community processes and activities. This shows how when a woman is empowered, she also uplifts her family members and other women. Kesar Bai is truly a force to reckon with whose life lessons will be the guiding light for future generations.



Kesar Bai



Case study 3

Breaking barriers to inspire new generation of farmers in the Thar desert

Revti Lal, a 65-year-old farmer from Baap, Jodhpur (Rajasthan), faced the harsh reality of water scarcity and its crippling effects on agriculture and livelihood. With 22 bigha of cultivable land and a family of five depending on labour, agriculture, and animal husbandry, the struggle for sustenance was relentless. Despite fertile land, the spectre of drought loomed large, forcing them to purchase grains and fodder at exorbitant prices.

Revti Lal participated in one of the Village Development Committee (VDC) meeting on rainwater harvesting interventions in his village. He advocated for the construction of a *khadin* at his farm during the meeting. The VDC considered his proposal for *khadin* construction under the WNHT project. The committee's approval paved the way for the *khadin's* construction in May 2023. When the rains finally blessed the land, the *khadin* proved its worth by conserving water and nurturing crops like *Bajra* and *Guar*. The bountiful harvest not only provided sustenance but also surplus fodder for their livestock. Motivated by this success, Revti Lal ventured into cultivating gram, reaping a bountiful harvest of 14 quintals. The *khadin* had not only quenched their thirst for water for crops but also alleviated their financial woes, liberating them from the shackles of uncertainty. Revti Lal's story underscores the transformative power of community-driven initiatives like *khadin*, offering a ray of hope amidst the arid landscape of adversity



Revti Lal with his khadin



Case study 4

Green Oasis in the Desert : Noordeen's Journey with Arid Horticulture Unit (AHU)

Noordeen, a 70-year-old Muslim resident of Jaitrasar village in the Thar Desert, lives in a family of eight. His family faces issues of poor health and malnutrition as they cannot afford to get fresh fruits and vegetables from a market situated in a nearby town. The priority is given on meeting the daily basic needs like food, water and shelter for their family. Determined to change this, Noordeen advocated for a solution within his community. In 2019-20, he proposed the establishment of a fruit unit during a village development committee (VDC) meeting. With community support, the Arid Horticulture Unit (AHU) was established on his 10 Bigha land. Despite the harsh desert climate, Noordeen's dedication to environmental stewardship ensured the flourishing of fruit plants. Today, his efforts have borne fruit—literally. His family now enjoys a sufficient supply of vegetables and fruits, improving their diet and generating household income too. Noordeen's journey is a testament to the transformative power of community-driven initiatives in addressing local challenges and fostering sustainability in arid regions.



Thriving plantation in AHU of Noordeen

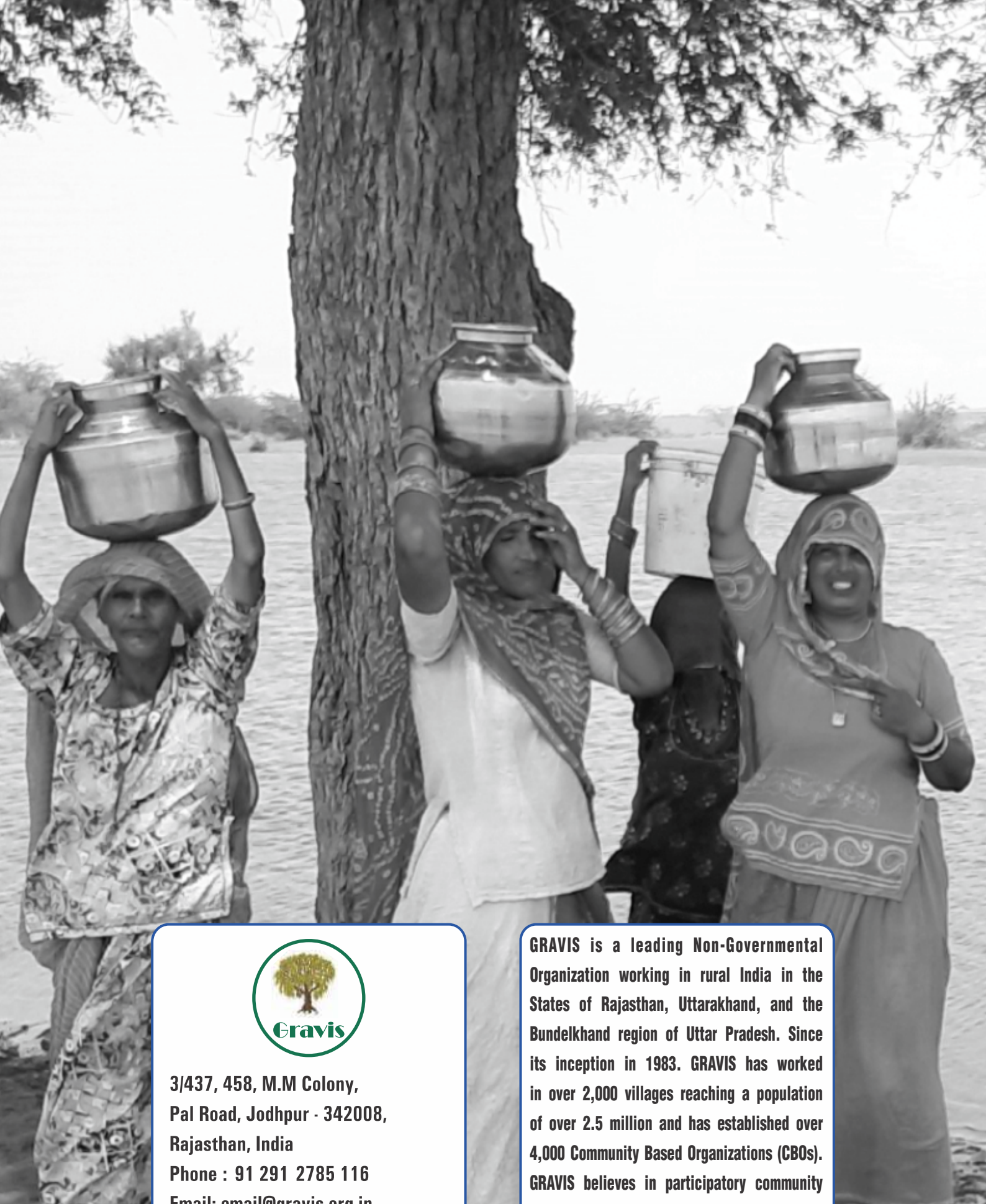


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GRAVIS is a leading Non-Governmental Organization working in rural India in the States of Rajasthan, Uttarakhand, and the Bundelkhand region of Uttar Pradesh. Since its inception in 1983. GRAVIS has worked in over 2,000 villages reaching a population 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.