

# *Women's Wisdom*

## Documenting Women's Knowledge in Ecological Agriculture in Pakistan

Nasira Habib  
Khoj - Society for People's Education



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## Foreword

"Industrial" or "modern" agriculture heralded by the Green Revolution in Pakistan has had a negative impact on the small food producers, in particular the rural women who have lost their right to save seeds, and their rights to health, livelihoods and agrobiodiversity. The use of pesticides had poisoned their communities, the environment and have also lost soil fertility in their farms. More serious of the impacts was the systematic erosion of community practices and traditional knowledge that were based on principles of working with nature, nurturing biodiversity and maintaining an ecological balance, which are the mainstay for the production of healthy food and agriculture. The Green Revolution basically advanced the profits of the agricultural input industry that now consolidated into giant agribusiness transnational corporations (TNCs) that control the bulk of the seeds, pesticides and fertiliser markets and all of the genetically engineered seeds.

This control has intensified with monopoly control of seeds and particularly genetically engineered seeds through intellectual property rights promoted by the policies of the World Trade Organization and bilateral and regional trade agreements. The growing dominance by TNCs marginalises women in agriculture – from seed preparation and soil management, pest control, post-harvest and food processing, livestock keeping and meal preparations to marketing. In addition, women also face patriarchy and are further marginalised with little access to land and productive resources.

Despite this corporate onslaught, Pakistan still offers a huge treasure of local and traditional knowledge that is still intact and is still being practiced. Rural women in Pakistan remain as custodians of seeds and preservers of traditional knowledge in farming, livestock keeping and in biodiversity conservation and uphold the knowledge of their grandmothers.

This book on Women's Wisdom is the documentation of women's knowledge, roles, skills and community practices in the villages of Thathi Bhanguaan, Babuwala and Kot Mughal in Punjab, Pakistan. Women in these communities share their wisdom as food growers for the family, and as care givers and healers. The different traditional home remedies as practiced in the areas of health, livestock keeping and crop farming are also included in this book.

Nasira Habib and the staff of Khoj- Society for People's Education have contributed tremendously in sharing with us this documentation which is not only providing crucial information in highlighting women's knowledge but it has also played an important role in the empowerment of women. PAN AP's aim in making this documentation available is to ensure that women's contribution to agricultural production and sustainability, including livestock keeping, is made visible and is given significance, recognising their knowledge, skills and experience in ensuring the food security of communities, sustaining the biodiversity and livelihood, and protecting the traditional knowledge systems. We have also been inspired by the process of working with Nasira Habib and Khoj-- Society for People's Education and very motivated to be part of this initiative.

It is our hope that this book contributes towards the recognition and respect of the wisdom and diversity of women's knowledge, their resilience in food production in the face of challenges and their nurturing capacities to ensure food for their families and communities.

**Sarojeni V. Rengam**  
***Executive Director***

## **Introduction**

The history of Pakistan agriculture goes back to ten thousand years that has in its bosom knowledge and experience validated over generations. The traditional knowledge systems had reached a very high level of sophistication much before the advent of the modern scientific method. Traditional agriculture gave birth to life sustaining cultures.

Suddenly the knowledge systems which have been feeding the world were declared unscientific, irrational, backward and unable to provide enough food to the increasing population. While the fact of the matter is that modern knowledge utilised traditional knowledge, and then turned against it.

The contradiction between the two agricultures lies in the difference in their focus and purpose. For thousands of years, agriculture concentrated on sustaining life without commercialising food while



the sole objective of modern agriculture is maximising profits for a tiny minority of people in the world being totally oblivious of the safety and security issues. Agriculture has been turned into agribusiness. Food that was seen as the most inalienable right of the people has been turned into a weapon of political power.

Working with farmers since 1992, I have not interviewed a single woman or man farmer whom I found unhappy about the traditional agriculture. Commercial agriculture was aggressively promoted and imposed on the farmers in the beginning. As the farmers refused to allow the agriculture department workers to add chemical fertilisers to their soils, they would broadcast the chemicals on the crops in the dark of the night. The miraculous growth of the plants stupefied the farmers and one after the other they fell in the trap.

Now farmers are bearing the brunt of chemical and commercial agriculture in the shape of degraded soils, polluted water and environments, ever increasing pest attack and unprecedented spread of diseases among human beings and livestock. Commercial agriculture has deprived them of self-reliance, sustainability and sustenance. They are caught in a vicious circle not knowing where to go.

They are living in a different world now where cash is required for fulfilling the most basic needs. The powers of profits have subjugated them.

## **Objectives of the Study**

The main objectives of the project on the Documentation of Women's Knowledge in Ecological Agriculture, which reiterates the main objectives of the Phase 1 are the following:

- Recognise women's knowledge and roles in agriculture
- Empower women in the use and development of this knowledge and control of resources

- Utilise the knowledge as an alternative to modern agriculture practices
- Share the knowledge through training workshops and exchange visits with communities in other Asian countries

For the 2nd Phase of the Project, the group decided to focus on the following:

1. The documentation should cover rural women and their indigenous knowledge within the changing contexts (showing the political and socio-economic conditions) and the barriers of modern agriculture, biodiversity erosion and patriarchy. The status of women in the communities needs to be integrated in the research.
2. Women's knowledge and skills, perspectives and decision-making processes is main focus of the study, covering how women were able to develop their skills and knowledge in agriculture, and the theory and philosophy behind the knowledge and skills.
3. It is important to document various community dynamics and practices (i.e. community harvest, cooking, etc.) particularly where women played significant roles, and the documentation of oral tradition of songs and poetry, spiritual and cultural practices. The challenge of doing the documentation is that there are knowledge systems that are not being practised any longer.
4. The research process should include field validation; and not limited to data collection. It should involve the community in the research process as well as giving back to the community what information was obtained, (i.e. giving to their schools as keeper of knowledge in the community, etc). This would ensure that there is community ownership in the documentation process and is a tool for community and women's empowerment.

5. It is crucial to document the process of research (process documentation). This involves the steps, methods and techniques used in doing the documentation; the methodologies used and how these were used; the difficulties and gaps in doing the research; and how useful were the tools (ie. survey, FGD, etc) to the actual documentation. There should also be a conscious effort to have a feminist perspective in the entire process.

There were to be two components of the project,

- Content / Knowledge Documentation
- Methodologies derived from the actual documentation.

The purpose of coming up with the Process Documentation was to enable the group to come up with a "how-to"/training module, come up with our learning experiences and gaps; and to ensure that the entire process of documentation research can be replicated.

## **Construction of women's knowledge**

*Scientific thought is the common heritage of mankind.*

Dr. Abdus Salam, Noble Laureate

In the construction of traditional knowledge, knowledge cannot be abstracted from the needs and interests of its producers; the knowledge produced will always represent some set of needs, goals, and interests.

Women's needs, goals and interests are clearly embedded in their designated roles and responsibilities leading to differences in perspective, and these differences carry epistemic consequences. Women's contributions to subsistence economy and child-rearing result in a systematic difference of experience across the genders.

On the methodological side, there is no separation between the creator of knowledge and the object of the knowledge in nature. The attempt is not to dominate and conquer nature. Nature itself is conceptualised as active rather than passive, a dynamic and complex totality requiring human cooperation and understanding rather than a dead mechanism, requiring only manipulation and control. The researcher is not detached and oblivious to the direct effects of any given action. She is not only a producer but also a consumer who has a range of considerations, concerns and associations which are all relevant in the process of discovery. In her quest of finding appropriate food for a given ailment she would be the last person to resort to the use of chemical pesticides to tend the soil and to grow the plants. For her, growing plants or rearing animals is not an isolated activity; she has to think about the food requirements of the human body, ill effects of the poisons on human health, the hazards of an unclean environment. Her thoughts would not only be limited to that but also on the taste, texture, cooking suitability and the nutritional properties of various varieties.

Living in harmony with nature and reflective observation taught them the harm of over consumption. This understanding gave birth to a number of time-tested ethical values of leading a simple life, managing within local resources, assigning lower value to display of riches, cooperation and collective action, thoughtful use of resources and less importance given to capital. Absence



of separation between food producers and food consumers gave tremendous insights into the dangers of unscrupulous spending and over consumption.

Farmers developed agricultural practices which were affordable, used local inputs, integrated to other facets of life, were practical and result-oriented. They had clear objectives in mind and they could not afford to spend resources on doing research for the sake of doing research. Sustainability always remained high on their agenda.

As discussed earlier, women's traditional knowledge originated from the actual needs, problems, interests and aspirations at home and in the communities, and took birth in the fields, homesteads and forests. This was in direct contrast with the modern scientific method that works in isolation from the realities. In the traditional creation of knowledge in agriculture, ideas, experiences and experimentation were widely shared and discussed. The very phenomenon tremendously helped the improvement, further experimentation and generation of new ideas. It was no coincidence that only in India there were more than thirty thousand varieties of rice all developed by farmers; the varieties which responded to various ecologies, culinary tastes and nutritional requirements.



In this inductive method that was rooted in the diversities and integratedness, sophisticated theories emerged which transferred from generation to generation but could not be documented because farmers in general and women farmers in particular were denied the tools of literacy and the resultant empowerment they could have enjoyed.

### **Why women's knowledge goes unrecognised? On knowledge and political power**

Women do not get recognition for their contribution but if asked specifically and inductively, nobody denies the roles they play and the responsibilities they fulfill.

Before the advent of modern science, the world has seen great civilizations. Asia has housed most of those civilizations; the Indus valley civilization being one of them that flourished in the plains of Punjab and Sindh. The geographical area of our study is located in the heart of that ancient civilization. Developed and organised agriculture was the hallmark of this area when many others were yet learning how to cultivate and were gathering food from the jungles.

Women, being active partners in those civilizations, are the custodians and carriers of a sea of knowledge but their wisdom, their perspectives and their practices see no recognition in history or in present times. As is famously said, knowledge is power. But despite having unfathomable knowledge, the community of women has not been able to command recognition for their service to humanity.

Women's knowledge could not be translated into political power. It was not just coincidence but sophisticated theorising and delicately woven rules which relegated women to endless labour without bringing their contribution on record.

Women's ability to control the environment around them, including the behaviour of other people has been blunted through institutionalised deprivation of land, knowing fully well the central role land plays in vesting political power in a person. As a blanket law, women were denied all rights, control and decision-making on the land they worked on all their lives. Economic dependence crippled women physically, emotionally and psychologically. They were taught to live for others; they were the care givers of the society. On top of that, they were required to live for the honour of men in the family that was, in other words, walking on a tight rope throughout their lives.

Economic dependence of women coupled with social, cultural and emotional reliance and a burden of double standards of morality gave men unprecedented and unmatched political power. This system created various kinds of subordination for women who were not only sweating to provide labour but were satisfying the men's emotional needs of love and care as well.

This unchallenged power base does not necessitate in any way to recognise the contribution, knowledge or perspectives of women who have been systematically subordinated.

The present day Pakistani society is at cross roads posing serious challenges and grave threats to women. The onslaught of Talibanisation supported by the successive governments has most adversely affected women. The new oppressive and suppressive interpretations of religion establishing the ultimate supremacy of men have invaded even the traditional safe spaces for women. The subtle permeation of oppressive mindset is more threatening than the examples of naked brutalities. Subordinate roles with designated spaces have further lowered the self image of women; they see themselves as the corollary and mere appendages of men. Burning of girls' schools and flogging of women are some of the messages sent out to girls and women of the country. As a result, this has further eroded the power base they had and the question of recognition of women as equal partners, and the recognition of their contribution in the socio-economic life becomes irrelevant.

Mechanisation and commercialisation of agriculture pretended as if women never worked and contributed in any sphere of life. Balance of power tilted even further against women when men replaced them in newly created cash-based, income earning opportunities like food processing with machines for grinding, blending, drying, preserving, cloth making like spinning, dying, weaving and stitching and processing of medicinal plants for home remedies. The modern industries treat women's expertise and knowledge as non-existent which has evidently resulted in lopsided development.

### **Framework of analysis**

The present work recognises that in real life, knowledge cannot be abstracted from the needs and interests of its producers. Women's knowledge takes birth, therefore, from their roles as:

- Farmers and livestock keepers
- Food managers
- Procreators
- Healers and care givers

Though women played an active role in the creation of knowledge but neither in tradition nor in the present day knowledge systems is their critical role recognised.

Women's logic and perspective of knowledge creation is different from those of men's. What is warranted is to understand the purpose and logic behind the creation of knowledge by rural women. It is also important to understand the construction and politics of gender relationships so that the factors behind the shadows of darkness on the knowledge created by women could be well understood. Being different does not mean inferiority of one party.

The invisibility of rural women's contribution is a challenging issue. Innovative approaches and methods need to be developed to break the wall.

Women's role in agriculture has never been static; it changes with the changing realities and contexts. After the Green Revolution, women are further marginalised and have been thrown out of what had been their sphere of activity all along. The rapidly changing roles have serious repercussions on their contribution in the creation of knowledge.

Therefore, strategies which relocate and reinstate women's critical role in ecological agriculture in the present day context need to be developed.

Documenting women's knowledge cannot be a mechanical and isolated study of just the technical points. The researcher has to be free of the narrowness of the so-called modern scientific method. Such a methodology is useful only when it is participatory, inclusive and leads to a process of learning and exchange of ideas.

## **Methodology**

Doing research with women or about women especially in the field of agriculture is a challenging task because their work is largely different from other sectors; their contribution is not recognised, their roles are invisible and they are hidden behind a male-centred ideology of the division of labour and power relations. The present study recognises the absolute need of a researcher who is gender sensitive, understands the power dynamics which define gender roles and responsibilities, is sensitive to the cultural and social niceties and is trained in conceptual analysis and qualitative research. Researchers are required not only to have an understanding of the research methodology but must have a sympathetic awareness of their issues and situation. A belief in women's ability to participate in community development activities and planning is of vital importance.

During the course of the present research, the process was not divided into mutually exclusive compartments of data collection,

data compilation, data analysis and report writing. Instead a holistic and participatory approach was adopted. The researcher actively participated in all the processes herself.

Given the complex and layered nature of the socio-cultural dynamics influencing women's lives in rural societies, it was thought imperative to take necessary steps to prepare the grounds for reaching the minds and hearts of the women involved in the research. Staying with the community helps build a relationship and a rapport, enables one to gain mutual trust and have insights into the socio-cultural niceties, issues and the internal gender dynamics. It paid real dividends when the above process led to establishing a real dialogue between the researcher and the responding participants.

A questionnaire was developed to ensure that each answers the same questions. As the nature of the research with women demanded more of qualitative data, it was decided that the questions would be open-ended. Open-ended questions lead to semi-structured interviews. The questionnaire was designed for free flowing interviews. It was not planned to be a mechanical question-answer exercise. Instead of taking notes on paper, a tiny sound recorder was used, that was less threatening for the respondents and in the absence of a third strong element in between, it was a free flow of ideas and a real dialogue. The strong rapport between the researcher and the respondents further reinforced the dialogue. Listening to the recordings was time consuming but it was found worth the effort. Free flowing interviews offer much more information than originally planned.

While researching with rural women I found the following limitations in the questionnaire-based and semi-structured interviews:

- The depth of answers is limited.
- By designing a "list of questions", a researcher decides in advance what is important and what is not important.
- It is difficult to win the trust of women. The distance between the researcher and women remains wide.

- It is more of extraction of information than anything else.
- Though a lot of ice is broken, a lot of personal, social, cultural and political information is still held back.
  - For instance, women do not talk about the restrictions imposed upon them to visit their paternal family, if there are any.
  - They do not give the real picture of the discrimination against girls and women in terms of the quality and quantity of food.
  - They do not talk at all about honour killing.
  - In agriculture, they want to give a “cleaner” picture of themselves and generally deny their role and contribution in agriculture.
  - They see agriculture in terms of ploughing and irrigation, the jobs which are not traditionally done by women. They deny, therefore, that they are also farmers.
- For a researcher, sometimes it becomes difficult to understand the cultural expressions of land ownership in terms of size, women's ownership of land and the number of children they have.

The above shows that rural women and the researcher may have different contexts and perspectives on things. Many times they make the same statement but with different meanings because they represent two different realities.

The above limitations make a very strong case for the participant observation method.

Observation helps one to learn, especially when one is staying with the community:

- Who makes decisions in daily household matters? For instance, food of whose choice is cooked and why?
- Who decides about match-making?
- Who is the real decision maker in case of joint families?

- How is the relationship amongst different members of the family?
- What are the contributions of various family members in housework?
- Are there limitations on women's movement?
- What are the religious beliefs and their impact on women's lives?

Direct observation was also critical in crosschecking data obtained through interviews. A direct observation checklist was prepared that included a section on perceived relationships among family members which was important in analyzing male-female dynamics in the household.

Focussed group discussions (FGDs) help cross check the data collected so far. More importantly, they allow for example, the expression of controversial issues, power struggles and collective concerns. A row between a landless and a landed woman on their respective income levels raised a number of issues around landless women; their struggles, their contribution in agriculture and their knowledge. FGDs also bring to the fore persons known for their unusual contribution in the socio-political or technical sphere of the community life. These discussions thus pave way for case studies on various facets of village life, skills, knowledge and contributions.

Rapid appraisal techniques help gather information and insights in a very short span of time, such as:

- Seasonal calendar to see labour patterns according to seasons
- A woman's life cycle diagram
- Mobility mapping
- Daily routine diagram to assess the typical daily pattern of women's lives. It is useful in determining the burden of household responsibilities and the appropriate schedule for future community activities. It is also useful for crosschecking women's information about their time use.

- Decision-making matrix
- Historical diagramming
- Preference ranking

Rapid appraisal techniques support FGDs on both technical and social issues.

Literature with reference to the documentation of indigenous knowledge, especially women's knowledge was also reviewed.

Field validation of the traditional knowledge and skills was not deemed necessary, as a lot of the knowledge is still in practice in scattered unorganised forms in the communities. Instead, the observation method was used to document their knowledge and practices.

Using the above tools, techniques and methods in an integrated way help make a gestalt of women's role, contribution, knowledge and skills.

### **Focus: The Women Farmers of Punjab**

The research was conducted in the villages from the district of Sheikhpura in the province of Punjab. The villages mentioned are: Thathi Bhangwaan, Babuwala and Kot Mughal. A total of 40 participants with equal representation of women and men from the age group of 50 years and above were interviewed.

Wheat and rice are the two major crops in the sample villages in Sheikhpura. Wheat is cultivated in winter and rice in summer. A range of fodder crops is also grown primarily for domestic animal consumption. Livestock keeping is the mainstay of the agricultural activity. As the villages do not have access to the road, horticulture is not a major activity. The farms are canal and tube-well irrigated, and crop farming is largely mechanised. Women play an active role in almost all non-mechanised farm operations except irrigation.



Majority of the farmers are small landholders; the average land holding is 5-6 acres. Most of the occupational caste families have migrated to urban centres leaving the elite of the yesteryears with a host of psychological and social problems, which are causing serious hurdles in the development of the area.

### **Key Issues**

Women's perceptions and knowledge development is often seen to be different from men's perception and development knowledge. While women may look at developing technology and methods for the family and community, men may look for profit-oriented knowledge. It may be good to understand the way that knowledge is developed within a community and what is perceived to be male or female knowledge systems. It was found useful to study women's overall position within the village decision-making process and how her knowledge is perceived. Are there special areas of focus of women's knowledge for example, in animal husbandry, etc and to

see why this happens? How is knowledge shared and passed from generation to generation?

Modern technologies and how it affected women and their knowledge was seen as another area worth looking at.

The documentation process should not be an extractive exercise. How do we do this so that the documentation is used in the community or is a tool for empowerment or builds the community?

It should be participatory and the end results should be beneficial to local communities.

The following broad areas of work and life and the corresponding issues were looked at:

### **1. Roles and responsibilities**

- What do men and women do?
- Where (location/patterns of mobility)
- When (daily and seasonal patterns)

### **Issues**

- Productive roles (paid work, self-employment and/or subsistence production)
- Reproductive roles (domestic work, child care and care of the sick and elderly)
- Community participation/self-help (voluntary work for the benefit of the community as a whole)
- Community politics (decision-making/representation on behalf of the community as a whole), what is considered a woman's job, not a man's?
- Who governs the community politics?

### **2. Assets**

- What livelihood assets/opportunities do men and women have access to?
- What constraints do they face?

**Issues**

- Human assets (e.g. health services, education)
- Natural assets (e.g. land, labour)
- Social assets (e.g. social networks)
- Financial assets (e.g. capital/income, credit)

**3. Power and decision-making**

- What decision-making do men and/or women participate in?
- What decision-making do men and/or women usually control?
- What constraints do they face?

**Issues**

- Household level (e.g. decisions over household expenditure)
- Community level (e.g. decisions on the management of community water supplies)

**4. Needs, priorities and perspectives**

- What are women's and men's needs and priorities?
- What perspectives do they have on appropriate and sustainable ways of addressing their needs?

**Issues**

**Needs and priorities**

- "Practical" gender needs (i.e. in the context of the existing gender roles and resources)
- "Strategic" gender needs (i.e. requiring changes to existing gender roles and resources to create greater equality of opportunity and benefit, eg., increasing women's access to economically gainful work)

**Perspectives**

Perspectives on delivery systems – choice of technology, location, cost of services, systems of operation, management and maintenance

## **Women – custodians of traditional knowledge**

Pakistan has been one of the stars of the Green Revolution that systematically eroded the local practices in agriculture and downgraded traditional knowledge as backward and unscientific. State machinery aggressively promoted the new technologies and later, the private sector in collaboration with the state apparatus took the miracles of chemical fertilisers, pesticides and the new seeds to their logical conclusion. Monoculture replaced the biodiverse base of traditional agriculture. The fertile planes of the Punjab were the hardest hit.

Despite the onslaught, Pakistan offers a huge treasure of traditional knowledge that is still intact and in practice. The world famous canal irrigated villages of the Punjab have two parallel strains of farming, veterinary care, human health and nutrition. Commercial mono-crops are grown using Green Revolution technologies while household knowledge still enjoys a high status in veterinary care, human health, nutrition and home gardening.

## **Roles and responsibilities and their interface with creation of knowledge**

Families survive on women's knowledge. If one looks around at what is happening in the household, countless examples of women's knowledge in practice and advice can be witnessed in daily life. The health problems ranging from common health problems to reproductive health and childcare are addressed on a daily basis. Almost all remedies are rooted in the bounties of nature which come to us as a result of organised agriculture or uncultivated plants. Offering remedies for common health problems like cough and cold, indigestion, pains and aches, constipation and diarrhea require a deep understanding of the plants, their nutritional and medicinal properties and the human body.



Every woman has been a nutritionist in her own right – what are the ingredients of a proper diet; what is required for the sick and the elderly; what should be the diet of the children; what diet is needed by the pregnant woman and the lactating mother. In traditional systems, there were no nutrition specialists unlike the present times. Every woman was a nutritionist in theory and practice. The profound knowledge on cooking, nutritional properties of various foods, their combinations, cooking and preserving techniques is no secret. The food of the most resourceless people in the plains of Punjab shows the richness in thinking and the awareness of the nutritional requirements of the human body which are popularly known as a balanced diet. A whole meal of wheat flour 'roti' with butter, buttermilk/milk and onions with chili paste is an indication of their knowledge of body requirements.

It has been a woman's domain to make arrangements to protect the family from the harshness of the weathers. It requires great knowledge to prepare a variety of drinks meant for summers and winters.

Women are not only the knowledge carriers but also the practitioners of that knowledge. Their experimentation is ongoing and they are fully cognizant of the variations which are required by different human beings.

Keeping the house clean and maintaining the hygienic conditions remained as the women's responsibility. The cleanliness of the villages of Punjab was proverbial and doctors used to advise patients from the towns and cities to go to the villages for a clean and healthy environment. Mud plastering of houses required technical knowledge on the ingredients of the plaster from the point of view of construction and pest and disease management.

Rural women's multiple roles take place not in isolation and are not mutually exclusive but their responsibilities lead them to multi-tasking most of the times. The food they prepare, process and preserve does not restrict their activity to the confines of the house but they have to work side by side with men in the agricultural fields to produce and harvest that food. They are responsible to store the seeds, to transplant the paddy, to grow vegetables for domestic consumption and commercial use and to root out the weeds in the fields.



Unlike men who are more into mono-cropping, women go for growing long life vegetables like garlic, onions and chillies which are the most basic ingredients of Punjabi cooking, in order to ensure food security for the family. They grow a range of other vegetables; the work demands women to do a lot of jobs. Many a time they are denied even the smallest piece of land to grow vegetables for the family. Thus their job starts with finding space for sowing vegetables which will become part of the men's food as well as at home. Those dividers of the fields which are not treaded upon and which have enough sunlight are chosen to grow vegetables like carrots and radish. Sustainability of the household economy is always a primary concern for women. In fact, the local culture expects from a "wise and mature" woman to save for the rainy days and for special occasions no matter how meagre the resources are and even if the man at home is in a habit of squandering the money away.

Milk and milk animals are an integral part of rural Punjab especially and rural Pakistan generally. Even landless families are like fish out of water without a milk animal at home. Milk, buttermilk, curd, butter, ghee are necessary accompaniments with the staple food that is primarily wheat and secondly rice. Not only in the area studied but also as a general rule, 70-80% of the milk animal keeping work is



taken cared of by women in Punjab. Milk animals are the lifelines of agriculture in Punjab. One can well imagine what a vital role women play in Pakistani agriculture if their only role in livestock rearing is kept in view.

The activities ranging from animal feed, disease management, to the management of the housing environment have the direct involvement of women. With the advent of mechanised farming, fodder is generally not cultivated but bringing fodder, offering feed and water, preparing home based medicines, keeping the shed clean and taking care of the young and sick animals are all seen as women's work. "When my husband comes home after the day's work and if I tell him that so and so animal is sick, take him to the doctor, he would get hold of a stick and beat me. I have to manage the animal's sickness myself." This statement from a respondent shows the deep involvement of the rural women in the business of livestock keeping. According to the Punjab Livestock Department website, livestock contributes more than one-half (50%) of agriculture value added, much more than the contribution of all other crops, major and minor combined (48%). Its contribution to the national GDP is almost 11 percent, which is higher than the contribution made by the entire crop sector (49.6% in agriculture and 10.4% in GDP).



In the present day world of specialisation, not one professional is trained to take care of the different aspects of animal life. One has to contact a range of specialists i.e. one on feed, the other on disease, still another on housing and so on. Generally, these specialists work in isolation from each other. Consulting them all demands time, energy and a lot of resources that farmers with limited resources are not able to afford. Women have been doing this for centuries, in a holistic and an integrated manner. What is the result of their work? Pakistan is the number five highest livestock producing country in the world.

Ensuring subsistence of the families, providing healthy and nutritious meals, administering disease management, rearing the milk and draught animals demand knowledge that is broad-based and rooted in a perspective that sees different aspects of life as interrelated and mutually dependent; knowledge that is highly sophisticated, technical and scientific.

Can the women doing all that be labeled as uneducated, ignorant, unskilled and untrained?



### **Khurshaid - A Case Study**

Khurshaid who is in her late seventies, remembers fondly the pre-Green Revolution agriculture. There was no pest attack those days, she says. The use of poisons is a recent happening and infestation of insects and diseases is also a recent phenomenon. Human beings have also become a victim of pesticides and chemicals.

New seeds cause diseases, she asserts. Not only that; she believes like countless other farmers, that nitrogen chemical fertilisers breed insects. You dig a hole, she says, fill it with urea and cover it with the soil. Open it after a few days, you would find it full of worms.

We used to extract oil from wheat but with the new varieties that is not possible.

In our times, we used to eat dailey, sangar and peelu. Animals were also offered peelu. This food is not available any longer. We had healthy food; butter milk during breakfast. Nobody knew about tea. Roti with milk or roti with pickle was our meal. Halwa, hand-made vermicelli cooked in milk and zarda (sweet rice) were our festivities. We also used to eat wheat porridge.



**Women as food growers for the family in the present day context**

After the Green Revolution and the mechanisation of agriculture, women have been totally displaced of the decision-making domain as regards selection of crops, agricultural inputs, disposal of the produce or the use of income earned. The only platform for asserting themselves is the platform of growing food for domestic consumption. Home gardening is the only sphere where they have total freedom to prepare select varieties and choose which inputs to use. The extremely restricted space for independent decision-making, that is home gardening, corresponds with their limited final say in the family and other social affairs.



Women's logic in selecting vegetables, fertility and plant protection management is fundamentally different from the thinking of their male counter parts. They are concerned about the health and well being of the family and they avoid using those inputs which are poisonous, adversely affect the taste and texture of food and shorten the shelf life.

They also want to make optimum use of the limited land resources at hand. Instead of mono-cropping and spending the limited amount of cash they have on food, they prefer to grow themselves what they need in the kitchen. The usual practice is to grow long life vegetables in small plots of land. Garlic, onions and chilies are grown in relatively surplus quantities so that the food could be exchanged with other households. Vegetables like mustard greens and turnips are grown as fodder and are harvested throughout the season from the same fields for human consumption. Women grow a number of other local seasonal vegetables on small plots of land.

The family food is grown on the principles of organic farming that has always remained an integral part of traditional agriculture in Punjab.

### **Women as care givers and healers**

The discourse on traditional knowledge in agriculture assumes it to be static which is far from reality. As far as women are concerned, they have still kept the tradition alive and the remedies are widely in practice in the spheres of human health, livestock keeping and crop farming.

### **Health tips and remedies**

The following documentation is based on the knowledge that is rooted in agriculture and is still in practice:

## **Human Health**

The nomenclature of Grandma's health tips or remedies testifies the profound knowledge base of women on human health.

### **Constipation:**

#### *Remedy 1*

Eat a stomachful of guava.

#### *Remedy 2*

Add two teaspoons of ispaghol (psyllium husk) husk to a cup of hot milk and drink before going to bed. There should be at least two hours' gap between the dinner and the drink.

#### *Remedy 3*

Eat a quarter kilo of grapes after a meal.

#### *Remedy 4*

Eat sarson ka saag (a preparation of mustard greens with some spinach) for three to four days. Take three parts mustard greens and one part spinach. Chop them finely; add red chilies and salt and let it cook for more than thirty minutes. Then smoothen with a stick. Fry some finely chopped garlic in ghee. Eat it with 'roti'. This is a home remedy as well as a delicacy in Punjab.

#### *Remedy 5*

Take one teaspoon of gulqand (Rosenmarmalade) with a cup of hot milk before going to bed. To make gulqand, take fresh petals from roses; add some honey and sugar and leave the ingredients for fifteen days. The gulqand is ready.

### **Diarrhea:**

Add two teaspoons of ispaghol husk in 100ml of curd and eat three times a day.

**Cough:**

*Remedy 1*

Take a teaspoon of honey and add a pinch of black pepper powder as cough relief.

*Remedy 2*

Take a teaspoon of honey and add some ginger juice, and eat bit by bit.

*Remedy 3*

Take a teaspoon of honey, a pinch of black pepper powder, some ginger juice and one green cardamom (powdered) as a cough remedy.

*Remedy 4*

Suck a small piece of licorice. It is very effective in relieving cough.

**Burns:**

*Remedy 1*

Cover the burnt surface with rock salt for ten minutes. This remedy is for common, ordinary burns.

*Remedy 2*

Dissolve some indigo in water and add salt. Cover the burnt surface for ten minutes.

**Freckles on face:**

Take equal quantities of mustard seeds, oat flour and rose petals and grind them into a paste. Add just enough water to turn the ingredients into a paste. Apply on the face every day for a month.

**Toothache:**

*Remedy 1*

Chew one or two cloves.

*Remedy 2*

Take equal quantities of mustard oil and salt and apply on teeth with a finger and then wash your mouth.

**Blood purification:**

Bitter gourd juice: Drink juice of one bitter gourd first thing in the morning for ten days.

**Indigestion:**

*Remedy 1*

Take a small piece of fresh ginger and boil in a quantity of water for five minutes so that you are left with one cup of ginger tea. Add sugar to taste and drink.

*Remedy 2*

A pinch of fennel seeds, two sprigs of mint without leaves and a pinch of cumin seeds. Add to water and boil for five minutes. Add sugar and drink. The preparation can be kept for a few hours and can be taken every three hours, for two to three times a day.

*Remedy 3*

Take 25 grams of pomegranate seeds; grind into a paste. Add some water to dilute it. Then strain, add a pinch of salt and drink.

**Dandruff:**

Mix an egg and some curd enough for the hair. Apply and massage.

**Hair fall:**

Take one kilogram of beetroot and cut it into small pieces. Add to one liter of mustard oil and let it simmer till the beetroot pieces turn black. Remove the burnt beetroot pieces. Let the oil become cool. Apply thrice a week.

**Head lice:**

Take neem seeds; crush them; add in mustard oil. Apply the oil on the hair.

**Summer Drinks:**

*Recipe 1*

**Sattu (oat flour drink):** Roast and pound oats. Take one glass of cold water; add locally made shakr (a kind of brown sugar) and drink. Pounded oats are kept at home in sizeable quantities and the drink is taken almost on a daily basis in the villages of central Punjab in Pakistan.

*Recipe 2*

**Raw mango drink:** Keep the raw mango on heat till it softens. Let it cool down. Then add the liquid to cold water and add sugar to taste. This is a very refreshing drink and is very effective for heat stroke.

*Recipe 3*

**Buttermilk:** Churn curd and remove the butter. Add cold water and a pinch of salt. The more watery the drink is, more refreshing it is.

*Recipe 4*

**Kacchi lassi** (diluted milk with water): Take a quarter of a glass of milk, fill the glass with cold water and add a pinch of salt.

## **Milk Animal Keeping**

### **Increase in milk production:**

#### *Recipe 1*

Cottonseed without soaking in water added in the feed is instrumental in increasing the milk production.

#### *Recipe 2*

Milk the animal under treatment. Add one and a half kilogram of sugar and then offer the animal to drink the sugared milk.

### **Early conception:**

If a cow/buffalo is given one to two kilograms of dry cottonseed daily until she has consumed forty kilograms, the animal gets pregnant faster. Otherwise, they sometimes don't conceive for up to two years.

### **Consideration of weather in preparing feed**

In winter, oilseed cake is boiled and given to the animal; while in the summer, oilseed cake is soaked in water in the morning and offered in the afternoon.

During summer, coarsely pounded oat is soaked in water and then given to the animal. Brown sugar water and oat flour drink is also given.

### **Loss of appetite in animals**

#### *Recipe 1*

Licking rock salt is a time-tested remedy for loss of appetite and is a great digestive. A piece of solid salt stone weighing ten to twenty kilograms is kept in the trough as a matter of routine.

*Recipe 2*

Ginger	250 grams
Onions	250 grams
Gur (dried mollasses)	1 kilogram
Salt	
Wheat flour	250 grams

Pound ginger, garlic and gur and then add salt and wheat flour. Shape the mixture into balls weighing approximately 150 grams each. Give a ball mixture to the animal in the evening.

*Recipe 3*

Take salt and white cumin seeds in equal quantities and grind into a coarse powder. This powder is put inside the mouth of the animal.

**Constipation:**

*Decoction of gur*

Gur (dried Molasses)	250 grams
Mustard oil	125 ml
Water	1 liter

Mix all the ingredients together; keep on the stove and keep it boiling until the decoction is reduced to approximately 250ml. Give it to the animal, as a laxative.

**Easy delivery and increase in milk production:**

Wheat porridge	1 kilogram
Dried molasses	1 kilogram
Bajra (pearl millet)	½ kilogram
Ghee	1 kilogram
Water	1 kilogram

Cook a very well done porridge and offer it to the animal in the evening. Delivery will take place with great ease.

**Foot and mouth disease:**

Soak oat flour in water and offer it to the animal. Keep giving this feed for three to four days.

Take a peel of *keekar* (babool/acacia) and *peepal* (Bo Tree/Ficus religiosa). At 1 kilogram each, boil in 10 kilograms of water; let it cool and wash the feet of the animal with it three times a day.

**Itchiness***Remedy 1*

This disease is caused when milk animals are kept in the same area along with the donkeys and when they sit in a place where there is donkey urine or excreta. The best precaution is to make sure that the donkeys are kept separate from milk animals. (*"But men do not listen to women easily"*, according to one respondent)

*Remedy 2*

Neem leaves	20 grams
Ajwain (carom seeds)	10 grams
Ghee	50 grams
Turmeric	10 grams

Keep all the ingredients in a shallow pan and put on a stove until all the ingredients are burnt and turned black. Separate the oil and apply on the body at night. Repeat in the morning.

**Gastritis**

Give saltish buttermilk to the animal. If the problem persists, give a quarter of a kilogram of mango pickle.

**Prolapse of uterus**

Pour wheat liquor on the prolapsed uterus.

## **Chemical pesticides and home remedies**

The women respondents of the study expressed concern that for certain ailments of the livestock, the traditional remedies are no longer working. As the symptoms of pesticide poisoning and certain other ailments are similar, they are worried about the ineffectiveness of their remedies in certain cases.

Literature from other countries also endorses the farmers' problem.



## **Validation of traditional knowledge**

Validation of that knowledge and practices is not necessary as it is still current and is successfully responding to the needs of the communities. There should, in fact, be a resistance to succumb to the pressure that traditional knowledge should fulfil the criteria of modern scientific method.

## **Conclusion and recommendations**

The fact that women are not represented in the knowledge systems. It is not only an epistemic and justice issue but has been contributing in the erosion of cultures of self-dependence on food, health management and safe environment. Making women's knowledge visible and commanding the recognition of their critical role in building and practicing knowledge is absolutely essential. Recognition entails power sharing. There must be concerted effort to get women included in all technology transfer programs by way of education, training and skills development especially in all historically women-centered technologies. Separate budget allocations should be made in order to ensure concrete results.

The departments of gender studies must include women's traditional knowledge as one area in their scheme of studies. In order to be representative of all rural and farming women who constitute a majority should be given their rightful space in the academic analysis and understanding of the issues involved.

The role of women in food and cloth processing is generally reduced to packing and packaging ignoring their traditional roles. It is strongly recommended that there should be quota allocation in employment for women in all tiers of jobs.

All ecological and sustainable agriculture programmes must include women from decision making to implementation levels. Women's perspective and knowledge can change the focus and complexion of the programmes in terms of the end products and the usage.

In order to develop result-oriented strategies to receive recognition, a deeper analysis of the root causes of keeping women's contribution as knowledge creators and practitioners invisible and unrecognised is a prerequisite.

As the subjugation of women is craftily woven, the root causes have to be understood and addressed through an organised movement.

Careful deliberations are required to develop innovative strategies that ensure women's fundamental right to own and control land and other resources. Secondly, women's roles and responsibilities need to be redefined from a woman's perspective. In the same spirit, the foundations of knowledge merit a review and screening from a standpoint of the communities, especially women; their problems, their needs and their aspirations.

This is a gigantic task that warrants a vibrant movement with participants and activists from all walks of life; and the process of discussion, analysis, debate, lobbying and advocacy is set in motion. Pressure groups are mandatory in order to see some change taking place.

The initial step to formalise the recommendations on alternative roles and responsibilities, the rights to land and resources and a new definition of knowledge that incorporates women's knowledge is to give these a legal cover through legislation. As is evident from the history of women's struggles, mere legislation is not enough; we need to be creative and devise new strategies to assert the rights and contributions of women.

In order to bring women's knowledge on board, a women's perspective and a gender policy on knowledge and the foundations of pro-people knowledge are required. These documents can provide a framework and guidelines for future planning and programming.

A database of women's traditional knowledge acknowledging the communities' ownership can act as a watchdog against the piracy that is taking place at the international level.

Media should be effectively used to highlight the realities and the issues, and for the projection of the desirable directions. Social events like women's festivals can be organized to bring to light their roles and contributions.

<b>Documentation of Women's Indigenous Knowledge Semi Structured Interviews Questionnaire Respondents 50 years and above</b>	
<b>1 Respondents Profile</b>	
Village Name of Respondent Gender Age: (In complete years) Occupation Marital Status:	
<b>2 Daily work:</b>	
(Enlist major activities, involving substantial time span)	
<b>3 Farming</b>	
What is the difference between the agricultural practices of your childhood and the agricultural practices of today?	
What did you practice for the following: <ul style="list-style-type: none"> <li>• Soil fertility management-crop wise</li> <li>• Plant health (diseases, insects, fungus etc.)-crop wise</li> <li>• Increasing crop productivity-crop wise</li> <li>• Marketing the produce-crop wise</li> <li>• Storage of seeds and food grains and other food items-crop wise</li> </ul>	
<b>4 Livestock Keeping</b>	
What is the difference between the livestock practices of your childhood and the livestock practices of today? What were the problems faced in dealing with animal health?	

### **5 Health**

What were the health problems people faced in your village?

What home remedies were used in your family and the village?

What did you know and what did you do about the following?

- Problems women face during and after pregnancy
- Problems in raising children
- Common diseases like headache, stomach problems, blood pressure, diabetes etc.

Do you know the health problems caused by improper drainage and sanitation system in the village? What are possible problems?

What did you know how to treat poisoning-food, snake bite, poisonous plants, insects, animals?

Do you have access to clean drinking water?

### **6 Nutrition**

Do you know the properties of various food items like vegetables, fruits, milk, cereals and grains?

Do you know what diet is required for small babies?

Are you aware of the diet required by pregnant women?

Do you know how to save nutrition in food while cooking?

Do you know the food that can keep people healthy?

Are you aware of the presence of pesticides in your food?

How much do you know about human body and its food requirements?

**7 Cultural Practices**

What kind of food did you typically had in olden days?

What is the difference in eating habits?

Is there any difference in the clothes?

Is there any difference in consumption patterns? Do people spend more or less now?

How was wedding ceremony and the festivities like? What was the wedding feast like?

Was harvesting celebrated and how?

How were the meals were organised?

**8 Knowledge around Cooking-Properties of Foods and Recipes**

What were the every day dishes?

How did you cook those dishes?

What were the vegetable combinations you cooked?

Did you know the reason behind the combinations?

**9 Gender Relationships**

What are women's responsibilities, decision-making and work areas?

Are there gender differences in the work and rituals and ceremonies affecting all of the above areas?

**10 How do you compare the two systems of agriculture? What are the major problems in our present-day agriculture?**

Note:

The questionnaire was designed for free flowing interviews. It was not planned to be mechanical question-answer exercise. Instead of taking notes on the paper, a tiny sound recorder was used that was less threatening for the respondents and in the absence of a third strong element in between it was a free flow of ideas and a real dialogue. The strong rapport between the researcher and the respondents further reinforced the dialogue.

## **About the Author**

**Nasira Habib** is an educationist, an action researcher and a development practitioner. She has been working with grassroots rural women using alternative methodologies which are liberating and empowering. She believes in the holistic development and integrative education. She is the founder of Khoj - Society for People's Education. She has authored, in English and Urdu, numerous publications ranging from manuals for teachers to text books for learners and studies on a range of educational, gender and environmental issues, published in Pakistan, India, Malaysia, Germany and England.

**Khoj - Society for People's Education** started its grassroots work in 1995 and works for adult and children's education through an alternative approach and methodology inspired by the principles of relevance and gender equity. Its mission is to work with the "underserved communities, with a special focus on women in achieving major improvements in their lives." Khoj works using innovative methodologies directly with the communities, and with local and international partners who share its vision "to create just and peaceful societies where the disadvantaged people, especially women, can exercise their fundamental rights." To achieve this mission, Khoj engages in long-term development work through education for development, health and livelihoods.

Pesticide Action Network Asia and the Pacific (PAN AP) is one of the five regional centres of PAN, a global network dedicated to eliminating the harm caused to humans and the environment by pesticides and promoting biodiversity-based ecological agriculture.

PAN AP's vision is a society that is truly democratic, equal, just, and culturally diverse; based on the principles of food sovereignty, gender justice and environmental sustainability. It has developed strong partnerships with peasants, agricultural workers and rural women movements in the Asia Pacific region and guided by the strong leadership of these grassroots groups, has grown into a reputable advocacy network with a firm Asian perspective.

PAN AP's mission lies in strengthening people's movements to advance and assert food sovereignty, biodiversity-based ecological agriculture, and the empowerment of rural women; protect people and the environment from highly hazardous pesticides; defend the rice heritage of Asia; and resist the threats of corporate agriculture and neo-liberal globalisation.

Currently, PAN AP comprises 108 network partner organisations in the Asia Pacific region and links with about 400 other CSOs and grassroots organisations regionally and globally.

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