

There are no Words: The Humanization and Demystification of Science

Women, SHGs and Micro Enterprises



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Let this be a call to celebrate good things.



*...one hope for a pleasant beginning,
a strong continuation,
and never an ending.*

*There
are
no
words.*



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This project provides the conclusion that science is in desperate need of new insight, in place of pontification and inaccessible ideas. Science becomes a something that loses the value of the process and focuses **only** on conclusions, answers, and solutions, or a lack thereof. It is at this time that we must remember the process instead of its conclusion, and remember that science must occupy its natural role of “human-friendly” tool amongst those who wish to use it, a discipline blind of status in every sense of the word, and free of hidden motive and agenda. Perhaps a very simple but very effective illustration is necessary.

There are two very distinct pathways to be taken:
Approach #1 and **Approach #2**. (See Figs. 1&2).

Approach #1 produces a product that is the sum of ideas plus hidden motive/agenda and status, a sort of vertical transfer. This first approach establishes very clearly a sharp sense of status, of the haves and the have-nots; the all-knowing, and the seekers of knowledge. “**My Level**,” indicating the level of the scientists and those educated, must somehow manipulate the process so that status is maintained. Ideas are simplified to such a degree so that persons on “**Your Level**,” indicating the level of the uneducated and the seekers of ideas, are given almost completely separate and different information than what was originally intended to be conveyed. “**My Level**” views that the best way to maintain status is to bring themselves down to “**Your Level**.” This vertical exchange leaves no room for advancement and progress as one, forcing “**Your**

Level” to constantly play catch up to **“My Level.”** This method renders growth and progression as one an impossibility.

Approach #2 produces a product that is the difference of ideas minus hidden motive/agenda and status, a sort of horizontal transfer. This approach also establishes the concept of **“My Level”** and **“Your Level,”** although these two positions quickly become less black and white. The second approach focuses not on the haves and the have-nots, but instead dwells on the goal of progression and rejoices in the process of give and take. **“My Level”** allows itself to freely pull **“Your Level”** constantly and consistently upward, eventually placing **“Your Level”** on the same plane as **“My Level.”** In this way, status is eliminated entirely, and manipulation is unnecessary. This horizontal relationship allows for exchange of ideas in a setting free of motive, freely encouraging growth and progression as one.

The challenge is finding a community that adopts the second approach for any amount of time.

The search must begin.

The **M.S. Swaminathan Research Foundation** is one such community.



“The M.S. Swaminathan Research Foundation (MSSRF), an autonomous non-profit trust, was registered in 1988 at New Delhi with initial funds coming from the World Food Prize which Dr. M.S. Swaminathan received in 1987 (A Social Vision for Science, 3).”

With these funds the construction of the center began in Chennai, the capital city in the state of Tamil Nadu in southern India, because of the location's ideality in regards to addressing the goals of the center. (*See Fig. 3*).

This foundation is committed to **“organizing research and training (A Social Vision for Science, 3)”** with performance and projects conceived characterized by approach number two.

“It was emphasized that MSSRF should adopt neither a government nor corporate culture, but should foster a culture which considers that science and education should subserve a human and social purpose (MSSRF Twelfth Annual Report, 6).”



MSSRF prides itself in the integration of **old** and **new** ideas to better the progress of humanity in a humane fashion, while at the same time establishing a constant check and balance within a community composed of scientists and the people of rural India alike.



“The basic principle guiding these projects is the conviction that science occupies a central but not separate position in our culture, and that together with art, history, social sciences and the humanities, science can strengthen human values and unity (MSSRF Twelfth Annual Report, 4).”

Commencement of each new process of constant progression is viewed as another chance for improvement.

“This is based on MSSRF’s conviction that every calamity provides the opportunity to strengthen security (MSSRF Twelfth Annual Report, 3).”

MSSRF’s mission statement is as follows:

“The fostering of a *pro-nature, pro-poor, pro-women* and *pro-employment* orientation to technology development and dissemination in rural areas (A Social Vision for Science, 3).”

In discovering a solidly established organization that is so utterly complete and decided in mission and purpose, it becomes challenging to assume the role of outside investigator and researcher. However, there are always new ideas to contribute, new perspectives to consider, new processes to begin, and new conclusions to be drawn.

In considering this, it became clear that the role of innovator was still very much a possibility.

It is perhaps a greater privilege and calling to uncover the **new** amongst the **old**.

Within the mission statement of MSSRF, there are three very important main components:

- **Pro-nature**
- **Pro-poor**
- **Pro-women**

All three of these elements cover differing groups of people among the population of rural India. It would seem not entirely impossible for a particular group to become neglected or overlooked in the eyes of the foundation for any number of reasons. In this regard, **“pro-women”** seemed one of the most likely aspects of the mission to become ignored or prove to be, in fact, invalid.

The **thesis** and **objective** then become...

“To test the effectiveness of the programs of MSSRF as well as the validity of the ‘pro-women’ clause in the mission statement (through field study which includes interview, interaction and observation in the regions of the Kolli Hills, Pondicherry

and Kannivadi), in terms of erasing the Gender Barrier and providing a forum for promoting gender equality in the social and economic aspects.”

“To, in detail, become familiar with the Gender Dimension aspect of SHGs and the creation of micro-enterprises through field study (which includes interview, interaction and observation) in the regions of the Kolli Hills, Pondicherry and Kannivadi.”

In attempts to turn research into a tangible product, a plan and format must be chosen that provides **Total Insight**. (See Fig. 4).

With this in mind, a plan was devised that allowed for collection of data as well as the incorporation of external and internal watershed moments in research. The “**Total Insight**” **Process** is made up of three components: the “**Total Insight**” **Method** or **Field Study**, and two **Watershed** components: the **External** and **Internal**. The “**Total Insight**” **Method** of field study stresses the importance of person-to-person work before a conclusive goal can be reached. The three parts included in this method include **Interviews** (covering the verbal aspect of contact), **Interaction** (covering the physical and emotional aspect), and **Observation** (covering the visual aspect). The beauty of this format is that parts within the field study **Method** as well as between the three components of the **Process** can overlap and merge intentionally or unintentionally at any given time, allowing for assessment of the **whole person**. Resulting is an accurate piece that includes solid information as well as original components that demystify and humanize this information, therefore creating a work with the least aloof voice possible, a flexible document that weighs heavily in the process and is useful and inviting to **explore, utilize, and refine**.

*...There are no words...
Only eyes.*

In the absence of words

there is much to be said.

In void

there is much space.

In pause

there is much time.

In glancing

there is much to be seen.

In the eyes

there is much window.

In soul

there is that for one eternity.

Choose any given individual.

Make eye contact.

Study their gaze.
Can the look of the **studious** be discerned from that of the **intelligent**?
The **exhausted** separated from the **indifferent**?
The **valued** from the **used**?
In this way, can the hard working emerge from the very hardworking?
The **committed**?
The **loving**
...from the **loved**?
Do eyes reveal...
desperation?



Before absorbing the following, it is important to become sensitive towards this mindset, and to reflect upon these things:

- **Various methods of communication other than speech.**
- **The level of effectiveness in a message delivered through the eyes.**
- **Various methods of communication chosen by you as an individual.**
- **Factors that affect the nature and effectiveness of communication.**

...We have our clothes!!...

Bhavani picked us up promptly at four yesterday, and we went shopping. The ride into town almost made me cry, I was so happy to be experiencing India! Again, there were cars everywhere, India is so populated it chokes you. There was poverty so bad that it hurt. Sick men, I'm sure some with AIDS lying by the side of the road in the garbage piles, reaching up to the cars and passers-by. Men whom the dream of life had passed by. Men with shallow sunken eyes, with hopelessly warped bodies and diseased bones. These men stared at me with a lifeless stare. I like to call them the living dead. I saw a man just sitting on a street corner amongst the garbage, his arms no more than three inches thick crossed over his hopelessly swollen knees, a scrap of dirty cloth covering his body. His lips were almost gone, revealing his gums that were black with no food. His swollen belly was a testament to the muscle that was eating away at itself, letting his internal organs spill out into his gut with only skin left for support. This man gazed at me

with his terrifying stare and his skeleton hand outstretched. This was not a gesture of even hope. His arm rather represented the thin line that he would sink below just before death. I would not be surprised if this man was dead now, in the garbage of old Chennai, his eyes closed or wide open in the never-ending stare of starvation. No one will know his name; no one will care or inquire of his whereabouts. No friends or family.

NOONE. To be alone in the world is the most terrifying thing of all.

We passed more garbage piled waist high. Every breath inhaled is like hot coals and sparks firing in the lungs. My chest hurt so bad it began to affect my stomach. I wheezed in more and more, knowing that if I didn't breathe then I would faint, and if I did I would just have to choke. I wanted to cry out in pain as the smog continued to coat and burn my lungs.

I looked out to verify my reasoning, and was met with a sickly gray layer of poison that stretched up to the tallest restaurant. Even in my own bubble world of a taxi, my lungs screamed to be freed of the world of thousands of coughing vehicles and bikes, to suck in the sweeter air from above.

Never once did I get carsick. I am still amazed by the phenomenon of constant motion, smooth riding and refreshing. Amongst a population of millions, there were no traffic jams. NONE. Here I was amongst a population that makes New York City look like Mitchellville, and not once did I encounter jammed traffic.

Women with flowers in their hair. Children and young women selling those flowers, barefoot, in the street. A bright Indian grin flashed our way...and occasionally a toothless grin shot from a cackling old woman.

All around were movie posters with Indian beauties, and dashing Indian gentlemen.

Some were ripped down in front of cramped, rotting storefronts that were long forgotten, of still filled with black Indian faces, eager to peddle the undiscerning with helpful wares. Cows and chickens wandered through the streets, along with countless stray dogs, too thin even to be accounted for.

Countless auto-rickshaws carrying sometimes entire families filled the air with plenty of Tamil, and even more smog. How a motorized vehicle could ever hold that many people I will never know. Women on the backs of motorcycles, clutching their sons in one hand, and the driver in the other, and saris blowing in the wind. Oh, the Indian mothers, no less than miracle workers.

When the children are hungry they eat. When they cry, they are picked up. When the babies wail, they are comforted. "Remember, mother's milk is best for your child" read a sign in a grocery store.

I smelled something that reminded me of a smoggy breeze. An ocean breeze. An ocean breeze!!!!!!

“We are now reaching the Bay of Bengal,” crooned Bhavani. My heart was in my throat. All the pollution seemed to fade to the back of my memory, like an experience long past. All of a sudden I detected a sea.

Not one with a raging surf and full of water, but one full of black hair. There must have been an island of sand, and no water. Just vendors and small children and family groups. I had to remind myself that the beach was free.

Amidst the locust-plague of people, one seems to always have enough room. The beach was no exception to the rule. We walked along, amidst people everywhere, towards a direction that I assumed was the ocean. There were people lying on blankets, people sitting in the sand selling small bags of cotton candy.

There were groups of young men wearing tight jeans, their muscles spilling out of their holey tank tops. They looked at Kate and I affectionately and said with great pride, “Hi, how are you?” The only English that they knew. We smiled and said, “Hi, I’m fine!” The handsome Indian men then posed for a picture or giggled and then bragged to their friends about how they had spoken to an American girl. Sitting and smoking a foreign cigarette, or caressing and holding hands. Men whose black-brown eyes seemed to go on forever.

I have never seen eyes like Indian eyes. They are neverending. And then we stopped. I slowly turned and looked out ahead. The black heads parted. In all of its majestic beauty.

The Bay of Bengal.

There it was, as if I had woken up from a dream and it had been laid before me.

The dream ended here. I realized that I was in India, staring out at endless ancient waters, and a shoreline that lasted for miles. Tears welled up in my eyes, and I felt I stood before God.

...I was home...

In order to best utilize the “Total Insight” Process in addressing the objective and thesis, three regions of study also under supervision of MSSRF were chosen for research focus (See Fig. 3):

- **Region 1: Kolli Hills**
- **Region 2: Pondicherry**
- **Region 3: Kannivadi**

Region 1: Kolli Hills



...Why...

*Why may I taste of the sweet, yellow juice of Eden
when
the weight of the pulp poisons the hope of millions
for the moisture should soothe the cracks in their
impish feet
instead of flush health into my cheeks
Why?*

*Why must a hill be so high
stretching its length toward the sky
the mist listens to the silent treacherous groans of
millions
of pilgrims en route to their Mecca
Why?*

*Why should eyes be so hollow and white
like carrion before the vultures' feast
only alive but not at all well
another day
another day
we must look on*

... *Why not?*...

- **“Total Insight” Process areas covered:**
 - ✓ **“Total Insight” Method:** observation (visual aspect) and interaction (physical aspect/ emotional aspect)
 - ✓ **External/Internal Watersheds**
- **Elements of focus:**
 - ✓ **Organic Pineapple (cultivation and sale)**
 - ✓ **Millet (limited general study)**
- **Synopsis:**

Kolli Hills is a remote, relatively inaccessible area in Tamil Nadu. The region is entirely surrounded by hills and is mostly populated by the Malayali tribe, organized into kinship groups on the village level (“panchayats”) and the household and family unit level (“hamlets”). Fifty one percent of Kolli Hills land is used for agriculture purposes. There are two crop groups: **lowland vs. upland.** (*See Fig. 5*).



✓ **Millet (limited general study).**

The four main varieties of millet cultivated in the Kolli Hills include Little millet, Italian millet, Common millet, and Kodo millet. Presently, millet is cultivated only in impoverished areas, its production hindered by two factors:

- **Tapioca** (the main occupier of former millet land)
- **Inhabitants of the Kolli Hills** (men and women)



“Compared to rice, finger millet grain is eight times richer in calcium, four times in minerals and two times in phosphorus. The protein content of millets is more than that of rice and they have a well-balanced amino acid profile. They are a good source of methionine, cystine and lysine and are rich in important vitamins such as thiamine, riboflavine, folic acid and niacin. Lower incidence of cardiovascular diseases, duodenal ulcer and diabetes among populations consuming millets make millets ideal health foods. Pests and diseases are relatively low among millets and they respond well to lower levels of inputs and hence are environmentally friendly and sustainable (MSSRF Twelfth Annual Report, 70).”

✓ **Organic Pineapple (cultivation and sale).**



The people of the Kolli Hills region cultivate pineapple organically, and it can be seen growing in bulk in the graduating steepness of the hills. The crop is carried to and from market on foot in baskets atop the heads of the sellers, where one basket (generally weighing in between thirty to forty kilograms), will sell for a market price of Rs. 30 (just under one U.S. dollar), although sellers need to first bargain through middlemen for an appropriate price. At market, local fruits and vegetables are also sold independently by local farmers for profit in stalls surrounding the central market area.

In the eyes:

- **Exhaustion**
- **Desperation**

One SHG (self-help group) established by MSSRF, deals entirely with matters relating to the cultivation and sale of organic pineapple. The group manages books and finances dealing with the sale of the crop, as well as records of cultivation methods and patterns, with the continuous goals of maintaining financial security for members and developing a forum for emotional, social and moral support among peers.



In the eyes:

- **Focus**
- **Confidence**
- **Security**

Assessment:

Negative:

- **Exhaustion- drudgery.** There are many causes for the turning away from millet cultivation in the Kolli Hills, and upon asking why one will receive different explanations depending upon the sex of the person asked. (See Fig.6). MSSRF has implemented a millet machine to assist with processing of millet.

The machine given out on loan from MSSRF that has since been repaid, has increased the speed and volume during processing through reducing drudgery work.



Women despise the crop because of the hard pounding needed to process the millet for use. This is hard, difficult work; a drudgery task that can, in the short term, be readily eliminated with the switch to alternate crop cultivation, such as tapioca and/or paddy.

Men prefer the cultivation of other crops to millet because of the meager profit that millet fetches at market. Low value is a by-product of the vicious cycle: with a lack of cultivation comes a lack of demand.

Drudgery plays a very significant role in the organic pineapple cycle as well, where both men and women share the duty of carrying the crop to and from market, a very physically taxing job. Farmers will trek many miles to market, sometimes only to be met with the prospect of no sale. In any case, pineapple loads must again be carried back up into the hills at the end of market.

Desperation- the process of sale. Once the surplus of pineapple reaches market, bargaining must take place in order to set an appropriate net price for the stock. This transaction involves both the farmer and middlemen, men that journey to market to assist with setting prices for sale. The challenge comes when no middlemen are present to negotiate, since the market process weighs heavily on the importance of sale versus a

- priority of purchase. For example, on one particular day visiting the market, a woman was unable to sell her pineapple because the middleman who usually arrived to converse with her was not present. His village had been severely affected with cholera, and she was unable to make the journey that day. In this case, there is no alternative recourse, rendering sale impossible.



When funds can be acquired, perhaps through the sale of vegetables at a stall, often men and women have different priorities regarding spending of profit.

Women generally take profit earned and spend it on needs for the family, such as food.

Men will often take this same profit and spend it at the pub or on personal effects.

Between the two sexes, there is an obvious case of lack of common mindset in this way.

Positive:

- **Focus- commitment to work.** Members of this SHG are focused during work. Each and every member understands that a focus and commitment to consistency produces results that foster change.
- **Confidence- peer reliability.** Women are able to relate to an audience of peers and friends, raising comfort level and creating a relaxed atmosphere that encourages discussion forums. Trust and sincerity in the execution of duties can then follow suit.
- **Security- Clarity and commonality of goal.** The women members of the SHG share a common goal that is clear and concise, and this assures that all steps taken towards both economic and social security are in a forward direction.

...Food World is an ironic name for a supermarket. I say this because of the number of individuals at work on the steps, leading to its entrance that opens to a world of nourishment, without a morsel to their name.

Amidst the activity, perhaps the lack thereof draws my attention to this woman. She was sprawled across her little cement corner that she had so carefully allotted herself, with a small box barely covered with a tiny soiled cloth. I thought of offices and cubicles and all things polished and clean and...huge and comfortable.

This woman wore no shoes, but a beautiful sari. Her feet bore those marks of many miles of walking with no end but a special cement corner. Her feet seemed to moan on their own, the loudest voice of human toil and strain. A few items of jewelry were the only things that saved her face from itself.

Her eyes.

Her eyes were a steady representation of what must be going on in her brain. Her current work represented one phase, although the rest was obvious to anyone taking the time to think. Must work to live, receive money, protect money at all costs, receive food, put in mouth, chew, must walk on, must work to live, etc. She was small, and she looked like she hadn't eaten in days. I didn't think of fatality right away, because this woman looked like she still had one leg up on the eventual end. Her bones showed, but some flesh still clung to them as if to say, yes, we're here, we'll make our appearance again if this phase doesn't end...

Her lips had long forgotten their function, and now hung as limp, useless features just before her sharp chin. An ugly pair of muscles that the rest of her body seemed jealous of because of their insane amount of fat content concentrated in this particular spot despite other parts of her body that were thirsty for weight.

Her thin, muscular hands engaged in one repetitive activity...pick up the flowers...a quick flick of the hands and they are wound into an endless chain of beauty. What had happened in between this woman's thought process and the creation of this beautiful product that seemed to mock her even as it lay there, in all of its glory, the separate, beautiful appendage of her distraught body. Grab flowers, wind.

There was no need to glance up. What or who would she be looking for?

There was no need to glance at her work. Either the sight of it sickened her, like a glance at prison, of the muscle-memory of what muscle was left in her sinewy hands had long since taken over. Probably both.

Then she saw me. The look in her yellow eyes made a thud in my soul where the glance of others is supposed to resonate. There was no energy to give; her whites seemed to wail at me. All hope gone, all health gone, all wish for anything gone. All

soul gone. All inhuman machine. The input is muscle memory, and the output is strands of flowers and accidental empty gazes. Only a machine that operates in phases.

Hardly another breath taken and another link in the strand completed.

Region 2: Pondicherry



- **“Total Insight” Process areas covered:**
 - ✓ **“Total Insight” Method:** observation (visual aspect), interaction (physical aspect/ emotional aspect), and interview (verbal aspect)
 - ✓ **External/ Internal Watersheds**

- **Elements of focus:**
 - ✓ **Biocenter/Biovillage** (See Fig. 10).
 - ✓ **Rural Knowledge Centers**
 - ✓ **Non-SHG Members** (See Fig. 7).

- **Synopsis:**

- ✓ **Biocenter/ Biovillage.**

MSSRF’s programs based out of Pondicherry fuel two movements: that of empowerment through enterprise training and of empowerment through information. Both movements are presented in a locale-specific, demand driven fashion, stressing always the importance of **“human-friendly”** approaches.

The Biocenter serves as the main headquarters of the Biovillage movement, a program initiated in 1994 based on the goal of empowerment of rural families through training in eco-enterprises.



“These villages were christened ‘Biovillages’ to stress that the basic approach to development is human-centered (Sustaining The Biovillage Program, 1).”

The Biocenter building itself has been in operation and in service to the rural poor since 1999.

“The Biocenter is currently functioning in a one hectare plot provided by the government of Pondicherry at Pillayarkuppam Village (Sustaining The Biovillage Program, 57).”

Surrounding the Center on this plot is the Biovillage itself, a collection of small areas of land dedicated to cultivate interest in and to promote training in a particular enterprise. Areas visited include a small section of land devoted to flower cultivation, and in the opposite corner of the plot a trichogramma hut used during the manufacture of pesticide (*See Fig. 12*). The Biocenter boasts ninety percent women involvement as well as completely organic farming methods. Bio fertilizers and bio pesticides such as trichogramma and azola are used in all areas on the Biovillage plot.

In addition to managing the Trichogramma enterprise on the compound, women are also in charge of the small section of land devoted to jasmine. The jasmine sells for around Rs.6-7 for one hundred grams, which provides the vendor about Rs. 40 at the end of the day (just under one U.S. dollar), although during religious festivals oftentimes the women can fetch a higher profit for the flowers.



...Jasmine...

How quickly ready contrast
adorns the silky head
but who truly holds the secret
and perfumes the heart instead?

It's five for morning's chain
Ten for evening again
the endless female cycle
the physical gain refrain?

We recognize the woman
not special newlywed
whose gladness of the heart and soul
'swhat weaves the strand instead

she may not own a silken sari
or have ten teeth to her name
she will not walk the path with soothing soles
for protection from the pain

And yet she will keep moving
her heart not cut in twain
'tis flowers of faith, hope and love
create her contagious smiling stain...

Items named here are just a few of the many training opportunities offered to rural persons on the assumption that eventually MSSRF staff will be able to withdraw, encouraging the emergence of new leaders in the rural society (Biovillages, 2). This "peer-training-peer" method, called a "horizontal transfer of knowledge," shows a direct parallel with approach two.

✓ **Rural Knowledge Centers.**



The information empowerment infrastructure is made up of a system of Rural Knowledge Centers: one main “hub” center, and eleven “sub-knowledge” centers. The main mission of the knowledge centers is to distribute quickly and effectively information that pertains directly to the lives and livelihoods of the rural poor on a day to day basis through the utilization of multiple mediums and local volunteers. Each center is dependant on a body of trained male and female volunteers from various villages in the region surrounding Pondicherry. Upon implementation of the program, free training in computer operation and data transmission techniques was offered to those individuals from villages interested in trying the program. Volunteers must manage the three plus computers at each sub-knowledge center as well as transmit information and supervise the community use of the center. Any individual in the village of any age who wishes to do so may use the services offered at the center free of charge, with the intent of encouraging value addition to otherwise leisure time.

Regions where it is identified that the bulk of the population lives on income of less than one U.S. dollar per day (around Rs. 47) are considered as prime candidates for the implementation of a new knowledge center. The community must also be able to provide rent-free space, electricity, and individuals interested in training; MSSRF supplies training and all other necessary materials. (Information Villages, 3).

Information is spread through three different mediums:

- **Computer**
- **Newspaper**
- **Loudspeaker**



Location generally determines which medium is chosen for information transmission. For example, in fishing villages, information about such things as wave height and fishing and weather patterns (knowledge crucial to everyday livelihoods) is transmitted directly to the fisherman through a loudspeaker that broadcasts throughout the entire village. Other information provided daily to various areas includes pre-harvest weather reports and regulated market info about the economy, fertilizers and pesticides. In addition to the three mediums, information tables are also set up in three marketplaces and operated by the volunteers for the benefit of the public. This distribution of knowledge creates savvy buyers and sellers who can become informed about appropriate market prices and make wise, well-informed decisions when faced with a transaction in the market.



One rural knowledge center visited in Embalam is run entirely by women volunteers. In addition to managing the center, the women are active in additional livelihoods, such as the creation of necklaces made from beads and local shells. This enterprise supplements a small amount of income for the volunteers. Interviews were conducted at the Biocenter, at the hub center, and at locations throughout Pondicherry chosen at random to gain perspective from non- SHG members.



In the eyes:

- knowledge
- curiosity
- pride



Assessment:

Positive:

- **Knowledge- information as a tool.** When information is used as a tool for the betterment of self and community, it becomes a tool not for manipulation, but for expansion. The result is the creation of an educated individual who delights in utilizing knowledge to perfect personal craft and who becomes excited about the prospect of lifelong learning.

- **Curiosity- stimulus of the brain.** When offered the opportunity for learning, questions begin to be asked as each individual contributes new ideas and inquires on an individual basis.
- **Pride- taking credit for accomplishments.** Women volunteers at the rural knowledge centers possess a certain degree of healthy pride in their work and perfection of skills. They enjoy taking credit for their accomplishments with the ready recognition of three things: growing and learning from situations of the past, realities of the present, and realization of personal potential for the future.

Region 3: Kannivadi



- **“Total Insight” Process areas covered:**
 - ✓ **“Total Insight” Method:** observation (visual aspect), interaction (physical aspect/emotional aspect) and interview (verbal aspect)
 - ✓ **External/Internal Watersheds**
- **Elements of focus:**
 - ✓ **Trichogramma**
 - ✓ **Trichoderma**
 - ✓ **Banana Waste Unit**

...An Answered Prayer...

*I know why they pray for rain.
the cool rivers caress the land
oozing over cracks*

*like the parched redness of a baby's chapped skin
that is cured by moisture and a soothing word
all is well once more because of the golden water,
and the cackling screams of the earth quieted
like a singer after a clearing of the throat and a
swig of the stuff
a clear tune resonates again*

*perhaps the tree on the first floor knows not of
greed
as the supply of the cool stuff builds up to
quench its roots in a swelling pool
perhaps the dawn will see the death of the tree's indulgence
but for now the plant will have its share
and only time will tell*

*The sound is of billions of drops hitting the new linoleum
of a million showers at once
and it may be that I have mistaken the Saturday night ritual
of a state entire
for a harmless thunderstorm
although tonight is not Saturday
but sure enough, the rain will cleanse millions*

*What of the woman with her empty plastic jug?
she will drink tonight
what of the brown jasmine?
It will glow a gleaming white upon the morn.
what of the farmer's aching bones that plow the
dusty countryside
perhaps they will ache less upon the morrow when the
till meets fresh
brown earth.*

*hydration will bring tears to the eyes of India
and once again a nation will be...
...cleansed...*

✓ **Trichogramma.**



Kannivadi proved to be an exiting mix of both revolutionary beginnings and well-established, perfected technique. Both the trichogramma pesticide production and the banana waste unit were well established in their ways, and no longer had the same concerns of SHGs only just beginning work. On the other end of the spectrum was the trichoderma pesticide group, which began work for the first time on the day of the visit, the most new and inexperienced of any group so far. The experience as a whole could be counted as rare and exiting, to see such contrast. Interviews were conducted with the trichogramma, trichoderma, and banana waste unit SHGs. (See Fig. 8 & 9).

The Kannivadi trichogramma SHG was originally initiated by MSSRF to provide rural, landless village women with financial security and a livelihood opportunity to add value to free time and time spent away from agriculture labor in the off season. (See Fig. 12).



“Time and labor being the two assets of the rural poor, the objective of the on-going programme is to add value to them (MSSRF Twelfth Annual Report, 99).”

The once brand-new Kannivadi group is now experienced in creating the pesticide, and its members are beginning to provide training to other village women in parts of Tamil Nadu.

“Nearly forty women belonging to two self help groups have emerged as trainers (MSSRF Twelfth Annual Report, 99).”

Trichogramma pesticide production seems to create a win-win situation for all: the insect trichogramma exists naturally in the field, and the production simply allows for environmentally friendly multiplication of the existing population, at the same time

providing jobs for a large number of rural women. Farmers lose less profit and women of the village are able to rely on a steady wage: the pesticide is cheaper and more effective for farmers, as spray pesticides do not eliminate all pests as trichogramma does. In addition, spray pesticides can be harmful to the health of the user as well as the consumer of the crop. (See Fig.7).

✓ **Trichoderma.**

Trichoderma is also another pesticide. Trichoderma itself is actually a fungus which, when dried and in powdered form, will encircle the root of the desired crop to prevent pests from entering. This SHG will also provide off-season employment and financial security for its women members. (See Fig. 11).



✓ **Banana Waste Unit.**

Known as the Jansirani SHG, the banana waste unit SHG in Sevenakarayanpatty is comprised of ten members, including two men. This SHG transforms waste from banana trees into various useful and marketable paper products. (See Fig.10).



Before the formation of the SHG, the landless women laborers in this village also lacked financial security in the agricultural off-season, and so were unable to provide for their needs without the assistance of moneylenders. Even though the women would eat fewer times per day, the lenders would still collect interest of up to sixty percent on everyday needs. These laborers requested that MSSRF intervene and help to establish a SHG in the area. Again, this set-up allows for a win-win for the environment and the SHG members. Presently, the laborers have full-time work, and marketing outlets for their products have been established throughout India and the world.



“The conversion of agricultural waste produced in the region, especially from banana fields, into paper and boards has been increasing gradually (MSSRF Twelfth Annual Report, 99).”



In the eyes:

- **Experience**
- **Leader**
- **Assured**

Assessment:

Positive:

- **Experience:** The voice of experience can tutor other peers in a helpful, progressive manner. These women have gained knowledge and skills that other SHG members may lack; they bring a rare sense of self-assurance and confidence based on trial and error.
- **Leader:** Because of their experience and confidence, these women can readily assume the role of leader to guide and tutor their peers, as well as pioneer the implementation of new programs.
- **Assured:** These women are assured of many things, mainly of what they have earned through their hard work: respect, a change in social status, job and financial security, and self-confidence and growth.

Conclusion:

Allow this to be the strongest voice in affirming the validity of all good things in this community embodied by M.S. Swaminathan Research Foundation.

In this community of innovators, a pleasant beginning has already been comfortably established.

Let this be a call to celebrate good things.

In this community of innovators, the strength of continuation in conviction and mission is most decidedly underway.

Let this be a call to celebrate good things.

In this community of innovators, perhaps the most astounding prospect is the near guarantee of the infinite wealth of idea and promise of countless new beginnings and realizations.

Above all, allow this to be the strongest voice in reminder of the value of the process, for in the treasuring of steps and progress, the prospect of an eventual conclusion of this project is no longer an inviting thought.

In this community of innovators, let this, therefore, serve as an **invitation** for **continuation**.

In order for the **process** to continue,

- **negatives** should be seen as opportunity,
and
- **positives** shouldn't be enough.

Within the **old** is an ideal place to foster the **new**.

- **Self-help groups** are a wonderful forum. They should be utilized more than they are at the moment, members often having significant social advantage over peers. For example, in the Kolli Hills, SHGs could rent out carts and battery-powered vehicles to farmers or entire communities, reducing drudgery and crippling physical taxation involved in the vicious cycle of pineapple. If this work cannot be avoided that it can be made less physically taxing.
- **Through interview** it can be discovered that most all individuals not participating in SHGs either know about them or want to become members in the future. Other members of the community look to SHGs for leadership and heavy moral support. When SHG members speak in public, they are therefore listened to and great weight is given to their words. It would seem that marketplaces and other community hubs of activity would be the ideal location to advertise the mission of SHGs annually, and not just during festival times. Speeches and plays about the SHGs at the market in the Kolli Hills, for example, given by members would best utilize the forced gathering of such a large crowd.

- **SHGs** should operate on the philosophy of “quota-blind” admission...many individuals interviewed were intensely fascinated with the prospect of joining a SHG, although numbers were too many at the moment, and a certain amount of time would have to go by before any group was able to accept new members. Allowing individuals to form groups on an as needed basis, immediately upon request would add value to opinion and allow for implementation at a faster rate.
- **SHGs** should be required to meet at a much more frequent intervals, and time while in meetings should be strictly structured to best utilize what precious time there is when everyone gets together. Some Pondicherry individuals met only once or twice in a month, and during meetings, time was not structured and imbalanced from one issue to the next. Time should be allotted for personal and emotional concerns as well as those in the economic sector to better round out accomplishments during meetings and to further develop relationships among peers to develop an even greater sense of community.
- **It became increasingly evident** as research furthered that the most important element concerning financial security when women are the party in question is security rather than actual amount earned. It seems to be of more importance that a woman possesses a bank account in her name to manage her own funds as she chooses without the threat of those funds being touched by a spouse or community. As seen in Pondicherry, it is not at all appropriate for a woman who earns a few thousand rupees per month to be without a bank account in her name. Women are not empowered financially if their earnings from the SHG end up in their husband’s pockets.
- **There needs to be heavy emphasis** on mainstreaming spending priorities. There is strong differentiation between the sexes in terms of the planning of funds. One landless laborer in Pondicherry earned fifty percent more rupees than his wife in one month, and he spent fifty percent of this profit (or the equivalent of one hundred percent of his wife’s profit), on his own personal wants while his wife put one hundred percent of her funds, or the equivalent of his spending money, on the needs of the family.
- **Wage discrepancy is also a major problem.** When women receive as little as half of what men receive for the same labor, how can we expect to bridge the empowerment and financial gap?
- **MSSRF** has done an outstanding job in the training of individuals for SHG work in all disciplines. The knowledge bank and in depth understanding of what and why is very vast and thorough, although the amount of hesitation on the part of those being interviewed when asked ‘how’ is unacceptable. This is a proposal that the training program be taken one step farther in the future, so that those being trained are as familiar with how as they are with why and what. As MSSRF has already more than proven, level of education presents no barrier to ability.
- **Men’s and women’s** SHGs should get together frequently for no other reason than to share and update the other as to what activities are currently taking place in their SHG. This would create an element of empathy for the work done by a group of the opposite sex, and it may help with more free speech between groups.
- **Time** is perhaps the biggest enemy of a researcher. So often questions in interviews would have to be revised or eliminated because of the necessity of a

- full schedule. This created some holes in the research where not enough information was gathered to say one way or the other about a particular point.
- **Communication** and difference in language sometimes created an obstacle worth overcoming although not always was there the time to afford this kind of patience. Instead, the questions again had to be revised or cut, producing larger holes in the research. Sometimes a not-so-important question may have been answered in depth and an important one eliminated for whatever reason.
 - **Befriending** SHG members all over Tamil Nadu and becoming interested in their care and whereabouts as individuals was an added bonus that stirred empathy for those who call this research work. **It was simple to add value to this work when it was made abundantly clear through words and actions of individuals in the community of MSSRF that this project was valuable.**

I wish to expand upon the mission statement.

**There is a place...
where a community is gathered.**

**The pursuits of all minds respected,
and the spirit of humanity is cherished.**

**A marriage of science of the mind and heart,
for the good of the poor,
for the good of women,
and for the good of nature,
to create a common goal that surpasses the utmost level of progress.**

**There is a place...
For which there are no words.**

...only monumental insights.



Fig. 1

Approach #1:

Vertical Transfer

ideas + hidden motive/agenda and status = product

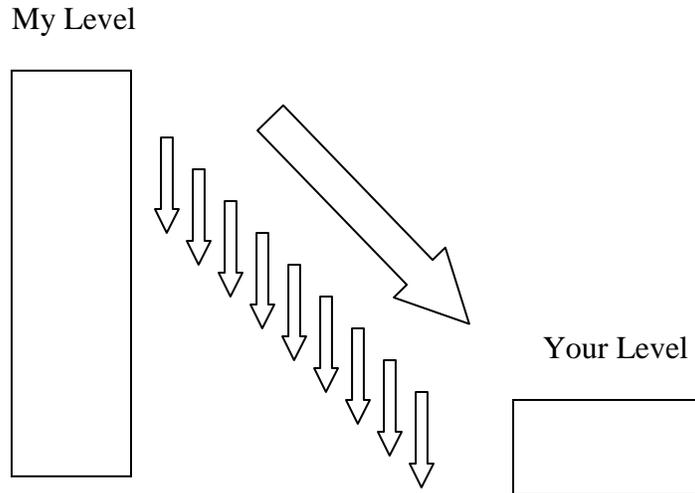


Fig. 2

Approach #2:

Horizontal Transfer

ideas – hidden motive/agenda and status = product

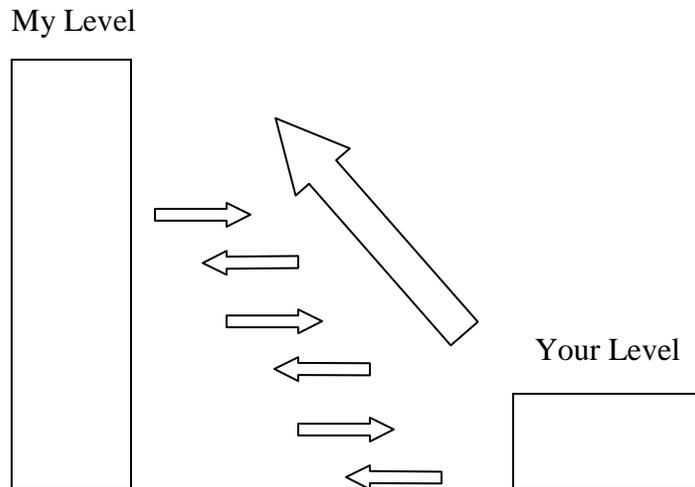
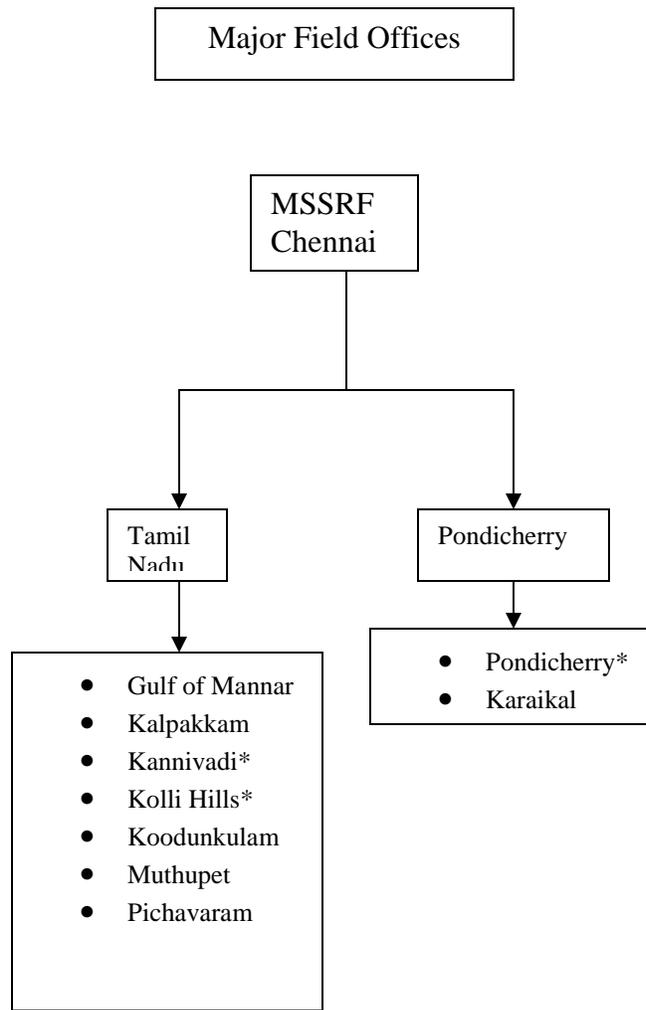


Fig. 3



Source: A Social Vision for Science

* denotes areas of study.

Fig. 4

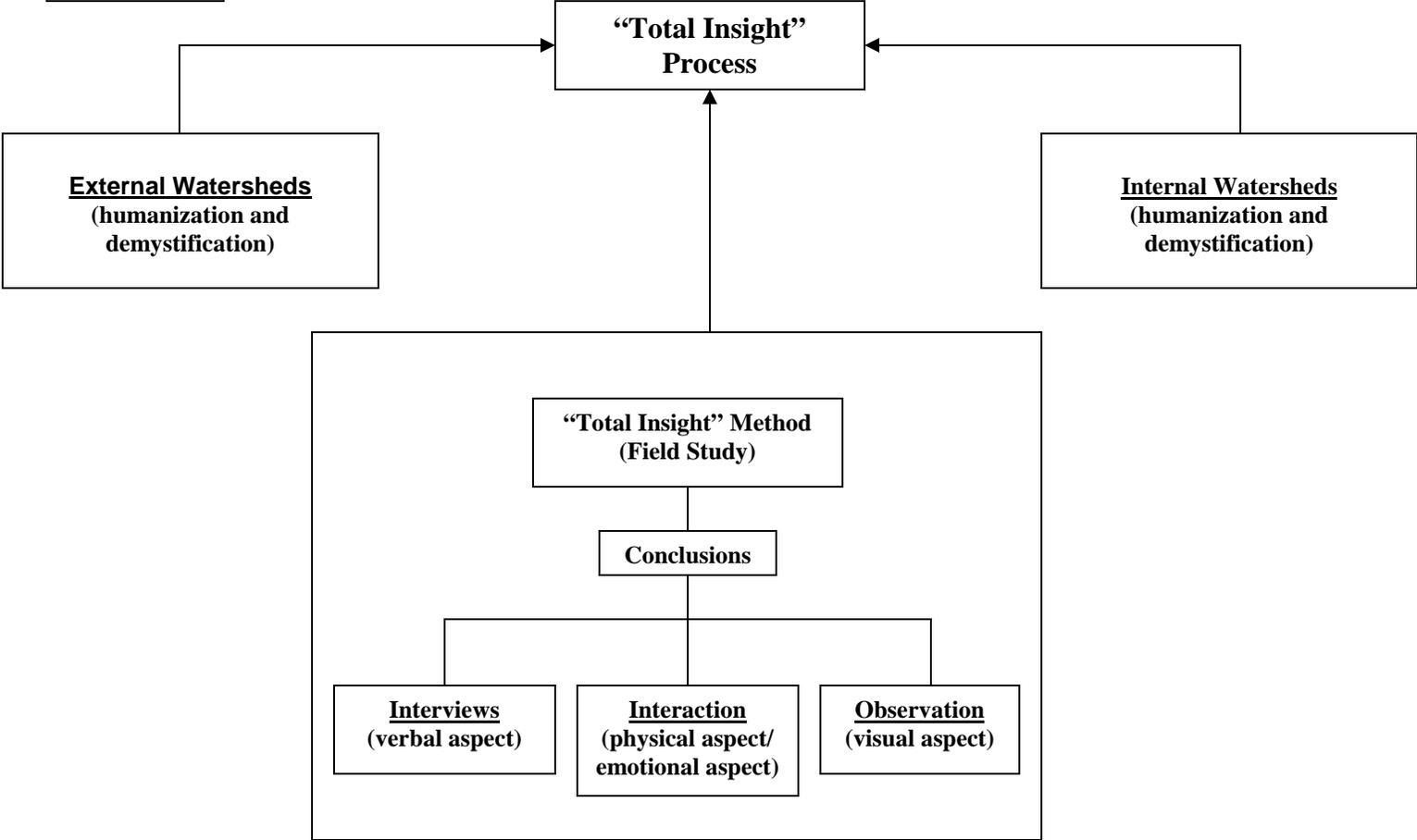


Fig. 5

<u>Kolli Hills: Cultivation Regions</u>	
Lowland <ul style="list-style-type: none">• Paddy• Rice	Upland <ul style="list-style-type: none">• Tapioca• Pineapples• Bananas• Coffee• Pepper• Citrus Fruits• Tamarind• Grains• Jackfruit

Fig. 6

<u>Kolli Hills</u> <u>Viewpoints:</u> <u>Millet Cultivation</u>	
<u>Women</u>	<u>Men</u>
View: opposed Cause: drudgery	View: opposed Cause: profit

Fig. 7

**Pondicherry
Male vs. Female; SHG vs. Non –SHG
Interviews**

name	sex	age	married	SHG	education	# in household (including self)	monthly income	spouse income	income spent on self	bank account in name
Veeraragan	M	27	N	Y	10 th standard	5	Rs. 2000	NA	Rs. 0	Y
Ramesh	M	35	Y	Y	10 th standard	4	Rs. 3500	NA	Rs. 0	Y
Pitchaikaran	M	37	Y	N	illiterate	5	Rs.1800	Rs. 900	Rs. 900	N
Angaama	F	35	Y	Y	5 th standard	6	Rs. 2000	NA; Rs. 500 to spouse	Rs. 5/day-jasmine	N
Jodhi	F	23	Y	N	5 th standard	6	Rs. 3000	Combined	Rs. 100-sari	N; spouse Y

Fig. 8

Kannivadi Interviews			
Name	SHG	empowerment	initiated by
Tamilselva	Paper Products	financial security	MSSRF
Angel	Trichoderma	financial security	MSSRF
Murugwari	Trichogramma	family status	MSSRF

Fig. 9

Kannivadi
(Paper Waste Unit, Trichoderma, Trichogramma)
Interviews

name	SHG	empowerment	initiated by
Tamilselva	Paper Products	financial security	MSSRF
Angel	Trichoderma	financial security	MSSRF
Murugwari	Trichogramma	family status	MSSRF

Fig. 10

Pondicherry
(Rural Knowledge Center, Biocentre/Biovillage)
Interviews

name	enterprise	empowerment	initiated by
Rani	fodder grass	financial	MSSRF
Mungai	Trichogramma SHG	financial	MSSRF
Kasthuri	Embalam	computer literacy	MSSRF

Fig. 11

Banana Waste to Paper Process

1. clean cotton waste-15 kg
2. add banana waste- 6 kg
3. add paper waste- 9kg
4. add color dye
5. mix everything together with water until a pulp
6. Pulp added to beater machine- 8hrs., stirring occasionally
7. Add 2 kgs. resin soap while mixing
8. pour pulp into bin
9. take pulp out of bin in buckets
10. pour into strainer, drain with foot pedal
11. take screen out of strainer; press fresh pulp face down onto cotton sheet
12. press fresh pulp again in press: remove excess water
13. after dry- press paper in machine to make smooth
14. cut paper
15. cut unused scraps to make new paper

Fig. 12

Trichoderma Process

1. Purchase mother culture from research center.
2. Make broth of water, yeast, and sugar cane.
3. Pour broth into inexpensive flasks.
4. Inoculate flasks with mother culture.

Fig. 13

Trichogramma Process

1. prepare food bowl-eggs mixed into food (Corcyra)-ready in 45 days
2. adult corcyra emerge in bowls
3. adult corcyra harvested in nets and put into cages
4. eggs laid by corcyra in cages are harvested
5. cages brushed to get excess eggs out
6. paste applied to cards; corcyra eggs sprinkled on top
7. corcyra eggs sterilized with UV light
8. eggs inoculated-(corcyra w/ trichogramma)- 5cc corcyra card placed with 1cc of trichogramma eggs in bag-trichogramma is black, corcyra is white
9. eggs stay in bag for 7 days- trichogramma parasitise the corcyra and taken into cold and back into heat to stop the growth- only eggs remain on the cards so that the adults do not fly away until they get into the fields

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Interview for Women's SHG Members
(Two to four members if possible)

Q: What is your name?

Q: What is your age?

Q: What is your level of education?

Q: Which SHG group are you a member of and what is the purpose?

Q: Do you feel that being a member of the SHG had empowered you as a person?

Q: In what ways?

Q: Do you enjoy your work in the SHG?

Q: Do you feel that being a member of your SHG places an additional burden on you?

Q: Have you started an enterprise of your own outside of your regular work and the SHG?

Q: How many people are included in your family unit? (Who is included in your family?)

Q: What village are you from?

Q: How big is your farm?

Q: Which crop do you cultivate?

Q: Why?

Q: Who manages knowledge of cultivation?

Q: How is knowledge about cultivation passed on from one generation to the next?

Q: Do you think that formation of women's SHGs is a good idea?

Q: Why?

Q: What generally happens in a typical SHG meeting?

Q: Which crop fetches the most profit?

Q: What is your average monthly income?

Q: Where does the money for monthly SHG savings come from?

Q: Do you have a bank account in your name?

Q: How do you spend the profit that you earn?

Q: Do you have any source of income other than cultivation?

Q: Do you spend a portion on your own personal needs/wants?

Q: Who manages the money that you earn? (Who has a say in how the money is spent?)

Q: What percentage of your income goes to your spouse? (How much of your profit?)

Q: How are daily duties split up in your household? (Who does what?)

Q: Does your spouse normally work alongside you in the field?

Q: Does your spouse normally work alongside you in the field in addition to regular chores?

Q: How much time do you spend in the field per day?

Q: How much time does your spouse spend in the field?

Q: Who is in charge of what job in the field?

Interview for Male-SHG Members

(Six members if possible)

Q: What is your name?

Q: What village are you from?

Q: What is your age?

Q: What is your level of education?

Q: How many people are included in your family unit? (Who is included in your family?)

Q: Do you own land?

Q: How big is your farm?

Q: Which crop do you cultivate?

Q: Why?

Who manages knowledge of cultivation?

Q: How is knowledge about cultivation passed on from one generation to the next? (What form does the information take?)

Q: How are daily duties split up in your household? (Who does what?)

Q: How much time do you spend in the field per day?

Q: How much time does your spouse spend in the field?

Q: Who is in charge of what job in the field?

Q: Does your spouse normally work alongside you in the field in addition to regular chores?

Q: Which crop fetches the most profit?

Q: What is your average monthly income?

- Q: How do you spend the profit that you earn?
- Q: Do you have a bank account in your name?
- Q: Do you have any source of income other than cultivation?
- Q: Who manages the money that you earn? (Who has a say in how the money is spent?)
- Q: What percentage of your income goes to your spouse? (How much of your profit?)
- Q: Do you spend a portion of your profit on you own personal needs/wants?
- Q: Which SHG are you a member of and what is the purpose?
- Q: What generally happens in a typical SHG meeting?
- Q: Do you feel that becoming a member of the SHG has empowered you as a person? (Has there been a change in your social status?)
- Q: In what ways?
- Q: Do you enjoy your work in the SHG?
- Q: Where does the money that you contribute into the monthly group savings come from?
- Q: Do you feel that being a member of your SHG places an additional burden on you?
- Q: Have you started an enterprise of your own outside of your regular work and the SHG?
- Q: Do you think that the formation of women's SHGs is a good idea?
- Q: Why?
- Q: Do you have any friends that are non-SHG members?
- Q: Are they supportive of your involvement in the SHG?
- Q: Have you ever invited any of your friends to become members of your SHG?
- Q: How many have you asked?
- Q: How many have joined?

Q: What was their reason for joining?

Q: How many have declined?

Q: What was their reason for declining?

Interview for Women- (non-SHG members)
(six individuals if possible)

Q: What is your name?

Q: What is your age?

Q: What village are you from?

Q: How many people are included in your family unit? (Who is included in your family?)

Q: What is your level of education?

Q: How big is your farm?

Q: Which crop do you cultivate?

Q: Why?

Q: Who manages knowledge of cultivation?

Q: How are daily duties split up in your household? (Who does what?)

Q: Who is in charge of what job in the field?

Q: Does your spouse normally work alongside you in the field?

Q: Does your spouse normally work alongside you in the field in addition to regular chores?

Q: How much time do you spend in the field per day?

Q: How much time does your spouse spend in the field?

Q: How is knowledge about cultivation passed on from one generation to the next? (What from does the information take?)

Q: Which crop fetches the most profit?

Q: What is your average monthly income?

Q: How do you spend the profit that you earn?

Q: Do you spend a portion of your profit on your own personal needs/wants?

Q: Who manages the money that you earn? (Who has a say in how the money is spent?)

Q: What percentage of your income goes to you spouse? (How much of your profit?)

Q: Do you have a bank account in your name?

Q: Do you have any source of income other than cultivation?

Q: Have you started an enterprise of your own outside of your regular work?

Q: Are you aware of the functions and purpose of a SHG?

Q: Do you think that the formation of women's SHGs is a good idea?

Q: Why?

Q: Do you have any friends that are SHG members?

Q: Do they enjoy their work in the SHG?

Q: Have you seen a change in their social status?

Q: Are you supportive of their involvement in the SHG?

Q: Have any of your peers/friends ever asked you to join their SHG?

Q: For what reasons did you reject their suggestion?

Interview for Men- (non-SHG members)
(six individuals if possible)

Q: What is your name?

Q: What is your age?

Q: What village are you from?

Q: How many people are included in your family unit? (Who is included in your family?)

Q: What is your level of education?

Q: How big is your farm?

Q: Which crop do you cultivate?

Q: Why?

Q: Who manages knowledge of cultivation?

Q: How are daily duties split up in your household? (Who does what?)

Q: Who is in charge of what job in the field?

Q: Does your spouse normally work alongside you in the field?

Q: Does your spouse normally work alongside you in the field in addition to regular chores?

Q: How much time do you spend in the field per day?

Q: How much time does your spouse spend in the field?

Q: How is knowledge about cultivation passed on from one generation to the next? (What form does the information take?)

Q: Which crop fetches the most profit?

Q: What is your average monthly income?

Q: How do you spend the profit that you earn?

Q: Do you spend a portion of your profit on your own personal needs/wants?

Q: Who manages the money that you earn? (Who has a say in how the money is spent?)

Q: What percentage of your income goes to your spouse? (How much of your profit?)

Q: Do you have a bank account in your name?

Q: Do you have any source of income other than cultivation?

Q: Have you started an enterprise of your own outside of your regular work?

Q: Are you aware of the functions and purpose of a SHG?

Q: Do you think that the formation of women's SHGs is a good idea?

Q: Why?

Q: Do you have any friends that are SHG members?

Q: Do they enjoy their work in the SHG?

Q: Have you seen a change in their social status?

Q: Are you supportive of their involvement in the SHG?

Q: Have any of your peers/friends ever asked you to join their SHG?

Q: For what reasons did you reject their suggestion?

Interviews- Pondicherry

#1: Biocenter/Biovillage area:

Q: What is your name?

A: Rani.

Q: What is your job?

A: I am a SHG member. It is an old group, consisting of nine members. I am the secretary of the group, and my job is to monitor the group activity and to direct the meeting. I am the local manager.

Q: How much money do you have put away in savings?

A: I put away Rs. 50 in savings, which is an increase from before when it was only Rs. 20. I have been able to acquire cows to produce milk.

Q: What work were you regularly involved in before the formation of the SHG?

A: I used to work at home, where I would have some leisure time in the afternoon.

Q: How did your husband react when you said that you were going to be a part of this all-woman group?

A: At first, my husband would not let me attend the meetings, but once he found out that I was earning money and a source of income, he was happy to let me attend.

#2:

Q: What is your name?

A: My name is Mungai.

Q: What is your age?

A: I am 29.

Q: What is your job?

A: I am a member of the Trichogramma SHG.

Q: Are you married?

A: Yes.

Q: Do you have any children?

A: I have two children: one boy; he is nine, and one daughter; she is twelve years old.

Q: How did you become involved in the SHG?

A: In my leisure time in the afternoon, I was also just sitting idle. The peer pressure from my friends got me involved.

Q: What is your annual income?

A: I earn Rs. 50 per month.

Q: Has the SHG taken out any loans recently?

A: Yes, we recently took out a loan at a local bank. Because of the formation of the SHG, the bank will lower the interest rates on the loans. Previously, a loan for Rs. 100 would have to be paid back with Rs. 120 extra for interest. Now, when the SHG takes out a loan, only Rs. 36 need to be paid for interest on the Rs. 100.

Q: Would you have been able to take out a loan of this nature prior to the formation of the SHG?

A: On, no! Before, the women refused to even set foot in a bank.

#3: Rural Knowledge Center:

Q: What is your name?

A: Kasthuri.

Q: What is your age?

A: I am 33.

Q: What village are you from?

A: I am from Embalam.

Q: What is your education?

A: I am educated up through the tenth standard.

Q: What is your job?

A: I work at the all-woman run rural knowledge center in Embalam. I help to identify the information needs (of the village people), and I help with the sharing of the information.

Q: How many computers are generally at the information village?

A: Four computers.

Q: What types of information do you provide?

A: There are different categories of village people. The farmers get information about the agriculture market, the women are provided with health-related information, the children receive information concerning their education, and the young adult members receive information about employment opportunities.

Q: Who runs the information village (% of men/women)?

A: The information village is completely run by women.

Q: What type of reaction did the men in your village have toward this knowledge center at first?

A: The men were happy to see that the women were more knowledgeable although because the women were running the center, the men questioned it at first. Then they started accepting it.

Q: How does this information empower women?

A: We are now more respected members of the village. We are now the masters of running the computers!

Q: How has this job improved your life?

A: Before I used to fear to come near a computer, and now I am highly educated in computer literacy. This empowers me.

Interviews- Kannivadi area

#1: Banana waste unit:

Q: What is your name?

A: Tamilselva.

Q: What is your age?

A: I am 33.

Q: Are you married?

A: Yes.

Q: Do you have any children?

A: I have one girl.

Q: What is your education?

A: I am educated through the 10th standard.

Q: What products are manufactured at this mill?

A: All paper products- banana sheets, paper bags, folders, notebooks, visiting cards, office cards, screen-printing, invitation cards, etc.

Q: How does the use of banana waste help the environment?

A: Now we collect the shoots and stems, sundry them, and burn them before making paper. Before, they just collected at the roadside and bred insects and germs.

Q: How much annual income is generated by the group?

A: Each member makes Rs. 30/day, and there are fifteen workdays in each month. Before, we were earning about Rs. 400 to 450/ month, and now we earn Rs. 600/ month. There is no work in the summertime, because of the shortage of water needed to make paper.

Q: How is the income divided/ who is it shared with?

A: 50% of the income goes to our husbands, and 50% goes to the family.

Q: How has this livelihood improved your quality of life?

A: I earn Rs. 30/day, and I work for a month. This provides job security, although it is only seasonal work.

Q: Why is this group made up of all women?

A: The men do the farming, although we have provided jobs for two men.

Q: How does this job empower women in the SHG?

A: M.S. Swaminathan Research Foundation helped to establish this group, and now the women in the village have a way to earn money.

Q: What did a typical day look like for you before joining the SHG?

A: I used to do a lot of weeding...mostly cultivating vegetables/fruits...mainly agricultural labors. Drudgery was involved because of the physical strain and the time that it took. This paper unit is less taxing on our energy, and we can do it at a convenient time.

Q: How much paper is made annually by this group?

A: We manufacture about 1,500- 2,000 sheets/ month.

Q: What are some goals for the group?

A: We want to expand our marketing and our employment. Over the past three years we haven't seen any increase in either of these areas, because the group was just getting underway. It will take another couple of years before either of these areas can expand.

#2: Trichoderma:

Q: What is your name?

A: Angel

Q: What is your job?

A: I work at this Trichoderma unit, and everyone helps with all duties. There are twelve members total.

Q: How often/how many hours do you come to work at this unit?

A: We work in shifts. We are outside from 8 AM to 2 PM. 10 AM to 12 PM is one shift when six members come. 12 PM to 2 PM, there is no work, and then from 2 PM to 4 PM another six members come, and so on.

Q: How did you find out about this/how did you become involved?

A: M.S. Swaminathan Research Foundation approached us about being involved.

Q: In addition to this job, what are your other tasks during the day?

A: In addition to trichoderma, we have our regular daily chores, although the evening shifts help with this. We view this as our main occupation right now because of the drought, but once the drought leaves, we will consider this a secondary occupation.

Q: How has this job helped empower you as a person?

A: This trichoderma provides much job security. It is a steady income.

Q: How has this job helped to empower other women in the SHG?

A: This task provides job security that we didn't have before.

Q: What are some risks involved with this job?

A: Contamination of the culture, although this is factored into the production cost. The marketing is handled in Chennai, although if there is no rain, then finding a market can be a problem.

Q: Do you have an understanding of what you're doing/why?

A: The powdered trichoderma is mixed with crops like seed, groundnut, etc., to control certain diseases/ pests. The fungus encircles the root so pests and disease cannot get into the plant.

#3: Trichogramma:

Q: What is your name?

A: My name is Murugwari.

Q: How old are you?

A: I am 34.

Q: What is your job?

A: I am the leader of this Trichogramma group, and there are ten members in this group.

Q: Are there individual jobs?

A: This Trichogramma production unit is considered a side job. Weekly, two people work in the unit and perform all of the tasks involved. We also have twelve members that do seed production, which involves going to the market. Our main jobs during the day involve working in the fields in the hot sun, doing physically taxing and drudgery work. Working with the Trichogramma increases our income and provides job security.

Q: When was this group started?

A: This group was started ten years ago, with all ten original members.

Q: Do you understand why/how the whole process works?

A: The trichogramma is an egg parasite that is harmful to other insects in the field.

Q: Why is trichogramma an improvement over the spray pesticides used previously?

A: The spray is harmful to humans, and there was a risk of contamination of the food used for consumption. The spray was a pollutant, was poisonous, and was also very expensive.

Q: What problems have the group faced in manufacture and marketing?

A: The biggest problem was the farmers that objected at first to using the trichogramma in their fields. We had to convince the farmers to start using trichogramma. Also the insect tribolium can contaminate the bowls. The insect lays its eggs in the wings of corcyra, and then eats the mixture in the bowls. To help stop the problem, we put cards dipped in flour and water in a bowl with the mixture. The tribolium collect on the cards, and then we brush them into a bowl full of kerosene to kill them.

Q: Does tribolium affect the expenses of the group?

A: Only about half of a tray infested with tribolium is good to use, and so this would cut our normal production of 500 to 700 ccs in half.

Q: How has this micro enterprise improved your quality of life?

A: Becoming involved in the trichogramma production has raised our family status.

Q: Does the livelihood provide job security throughout the year?

A: In the off-season, we concentrate more on getting market demand, and we find other work.

Q: Do you think that this trichogramma production unit could ever become a full time job?

A: We always have other work to do aside from the trichogramma.

Q: Were the men in your village supportive of starting this group?

A: They like it that we are contributing money to our families. All of the money goes towards both family and education.

Q: How much did each member earn monthly prior to the formation of the SHG?

A: Before, we were earning about Rs. 300 to 400/month per member, and now with the trichogramma we earn about Rs. 700 to 800/ month.

Q: Do you want to expand this micro enterprise?

A: Yes, we always want to find new marketing and we want to find a way to provide employment for more people.

Acknowledgements

Let this be a call to give thanks for good things.

...one thanks for a pleasant beginning,

*The World Food Prize Foundation
The Ruan Foundation
Ambassador Kenneth Quinn
Ms. Lisa Fleming*

a strong continuation,

*The M.S. Swaminathan Research Foundation
Professor M.S. Swaminathan
Ms. Mina Swaminathan
Dr. P.C. Kesavan
Ms. R.V. Bhavani*

and never an ending.

*Ms. Katherine Pottebaum
World Family
World Friends*