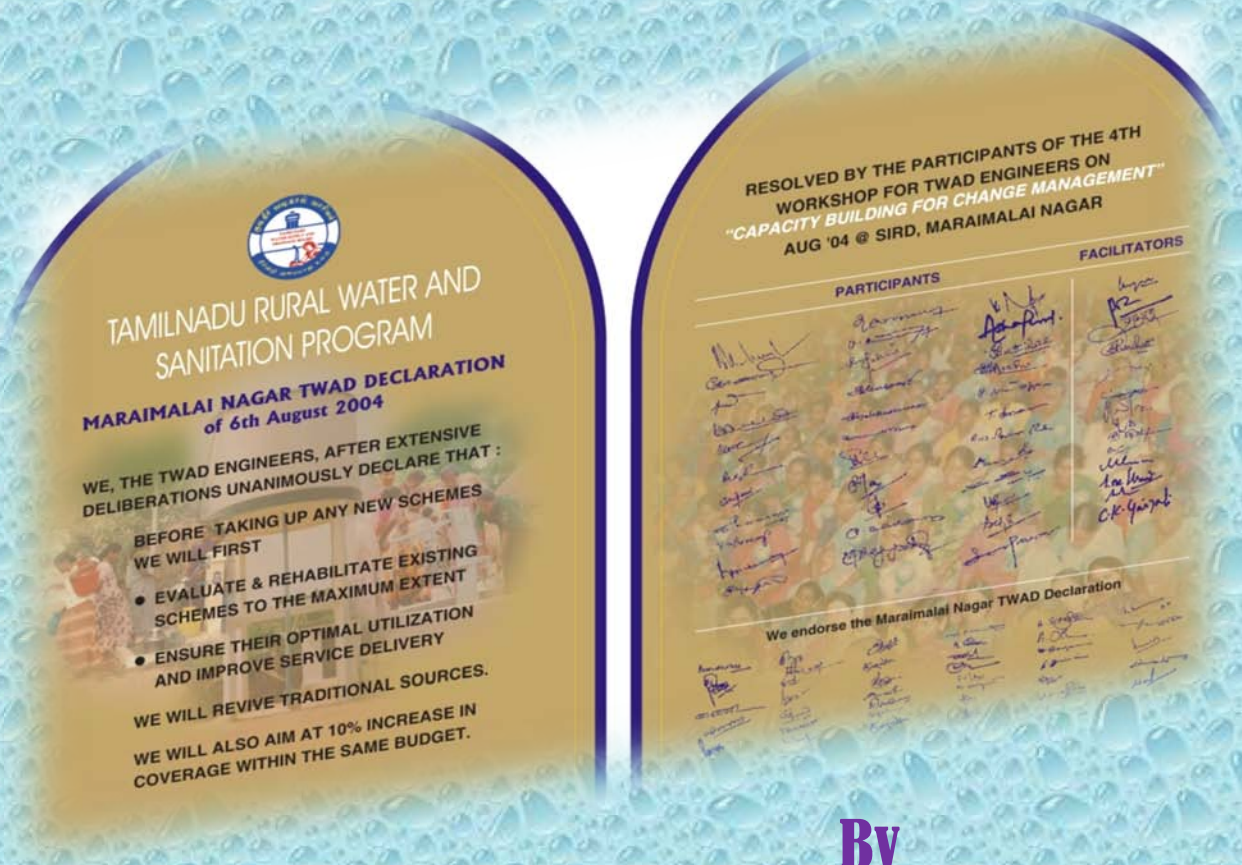
Reforms in Water Governance

Evaluation Reports



By

External Agencies

Center of Excellence for Change

(Mitigating the impacts Climate Change on Water & Food)

Chennai, India

www.waterandclimatefuture.com

QUANTIFIED PARTICIPATORY ASSESSMENT OF THE IMPACT OF CHANGE MANAGEMENT ON WATER DELIVERY

Supported by UNICEF - INDIA

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MAIN FINDINGS

1.1. INTRODUCTION

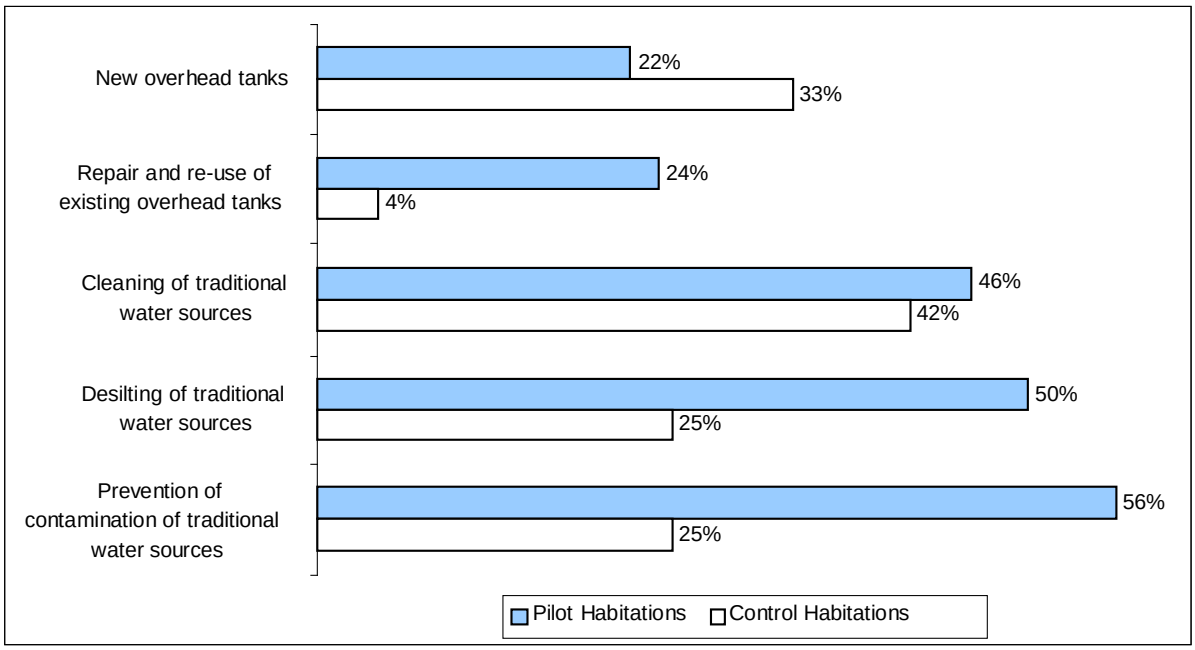
The main findings are grouped under five heads: (1) repairing existing infrastructure, (2) local water conservation, (3) engineer's attitudes and actions, (4) community participation in water supply services and (5) operation and maintenance. Each of these is discussed in greater detail below, while detailed findings are in Annexure 3.

1.2. REPAIRING EXISTING INFRASTRUCTURE

Overhead tanks (OHTs) comprise the bulk of expenditure in water supply infrastructure provision in villages. A comparison of the approaches followed in Change Management Group (CMG) settlements and the control settlements (Figure 1) shows the following:

- A smaller proportion of new OHTs were constructed in CMG settlements.[1]
- A larger proportion of existing OHTs were repaired in CMG settlements

Figure 1: New and rehabilitated water supply infrastructure in villages



The findings on the cleaning, desilting and protection of traditional water bodies also bring out differences between the approaches followed in Pilot & Control habitations.

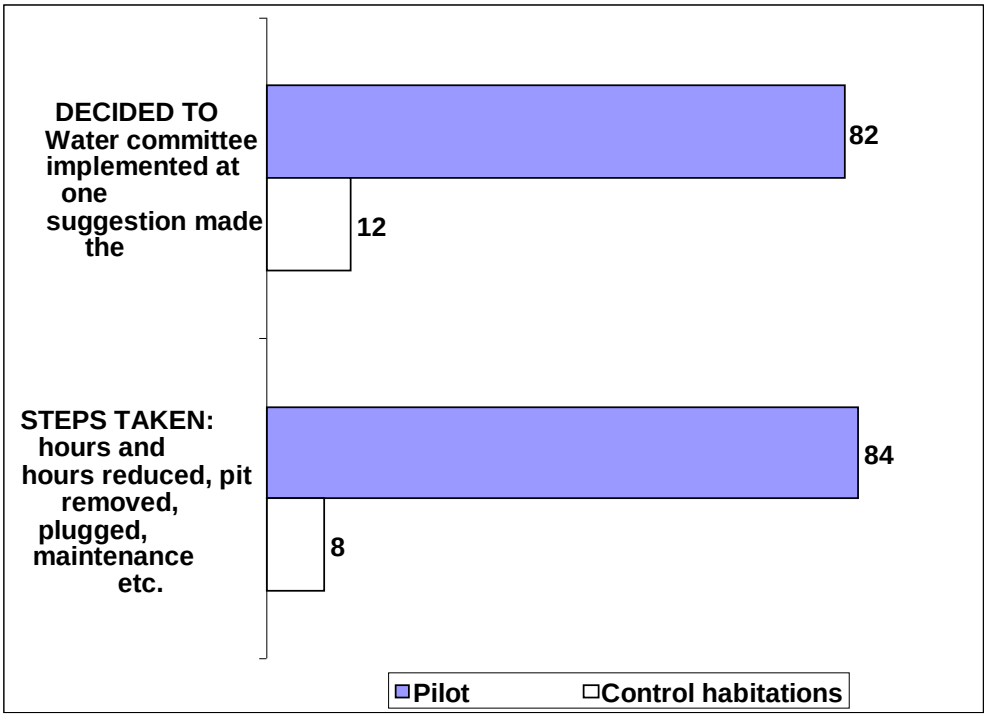
[1] Note that the term settlement is used to represent habitations where either pilot TNRWSP programme or the Swajaldhara national programme has been implemented. The term Village Panchayat (VP) is also used to represent these programme habitations.

While roughly the same proportion of traditional water bodies were cleaned in both CMG and control settlements, a larger proportion of traditional water bodies were desilted and protected in CMG settlements.
The fact that roughly the same proportion was cleaned may not be directly as a result of the Swajaldhara programme in the control settlements, but due to a Government Order in 2004 requiring all villages to clean traditional water bodies.

1.3. LOCAL WATER CONSERVATION

The findings on local water conservation are summarised to cover two key aspects: whether or not the village water supply committee (VWSC) has implemented the conservation suggestions made by the Engineer and what steps have been taken to implement these decisions of the VWSC (see Figure 2)

Figure 2: Decisions and actions taken for village water conservation Perception of VWSC members



The findings are that:

- The VWSC has decided to act on the suggestions of the Engineer in a significantly larger proportion of CMG settlements (82%) as compared to control settlements (12%).
- The VWSC has taken active steps to implement specific suggestions of the Engineer in a larger proportion of CMG settlements (84%) than Control settlements (8%).

1.4. ENGINEER'S ATTITUDES AND ACTIONS

Questions on the attitudes and actions of TWAD Board Engineers were put to both the women's groups and SC households in separate Focus Group Discussions. The findings from these are presented and discussed separately below.

Figure 3: Engineers attitudes and actions: Perceptions of Women's Groups

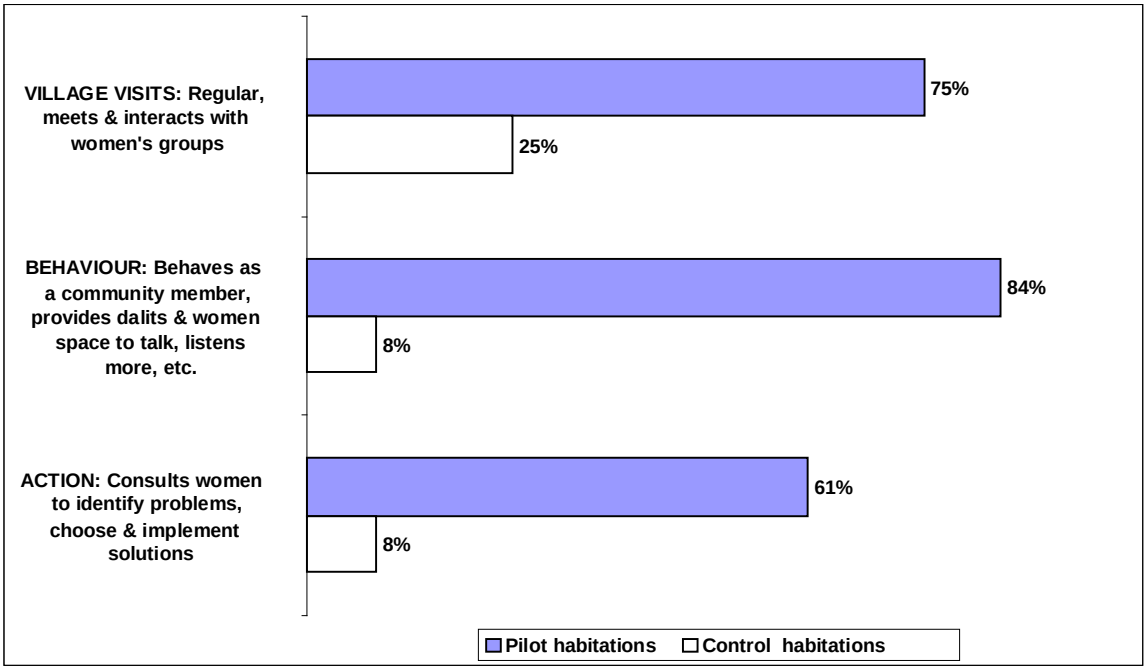
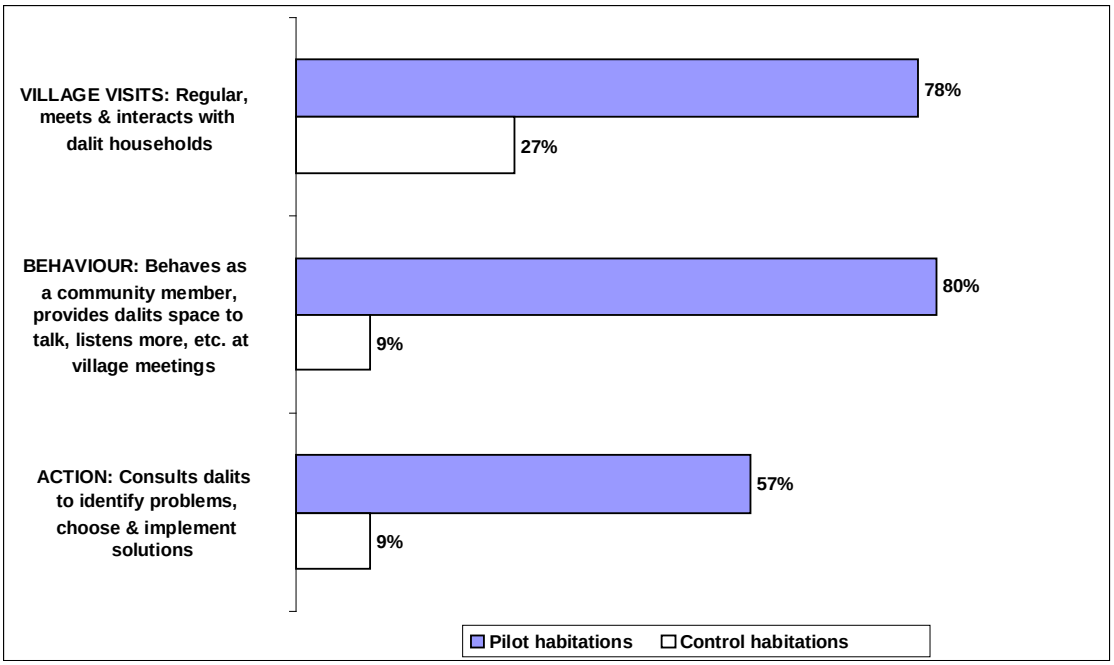


Figure 4: Engineers attitudes and actions: Perceptions of SC households



Both sets of focus group discussions revealed the following:

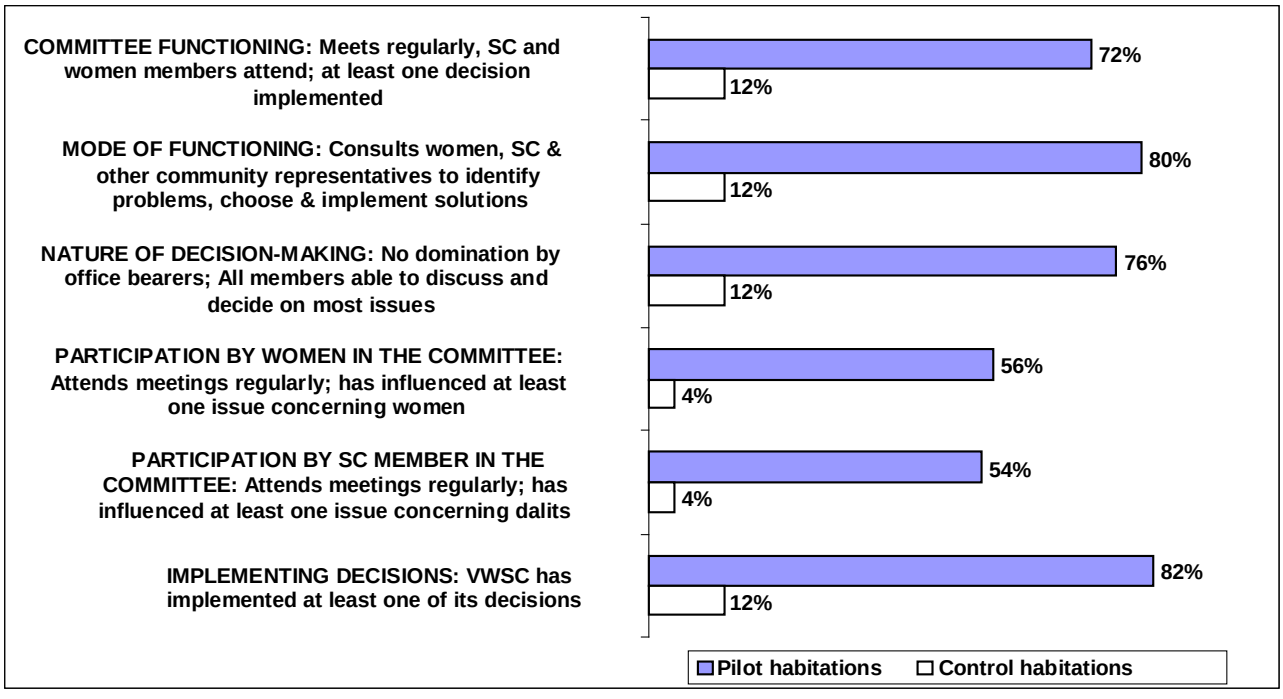
- Women and SC households in a larger proportion of CMG habitations (66-76%) felt that CMG engineers made greater efforts to meet with them separately and discuss water-related issues, than was the case in Control habitations (25-33%).
- Women in more CMG habitations (85%) felt that engineers behaved as part of the community and did not display the normal officious behaviour associated with government officials while visiting rural communities and participating in community meetings. This perception was shared by a significantly lower proportion of control habitations (8%). Also, SC households shared this view in a larger proportion of CMG habitations (45%) than Control habitations (11%).
- Women in a greater proportion of CMG habitations (61%) than Control habitations (8%) felt that CMG engineers made it a point to discuss water supply improvements with their groups, before actually carrying them out. SC households shared this view in a larger proportion of CMG habitations (34%) than Control habitations (22%).

The chi-square test of the statistical significance of all these differences showed that the differences are statistically significant at the 99% confidence level. The fact that engineers working in Control habitations worked with the community are also partly due to the fact that some trained CMG engineers were later deputed to work in these villages or received Change Management training while in charge of these villages.

1.5. COMMUNITY PARTICIPATION IN WATER SUPPLY SERVICES

Focus group discussions were conducted with VWSC members on a range of issues connected with the functioning, representativeness and effectiveness of the VWSC with regard to decision-making (Figure 5).

Figure 5: Functioning, representativeness and effectiveness of VWSC decision-making: Perspective of VWSC members

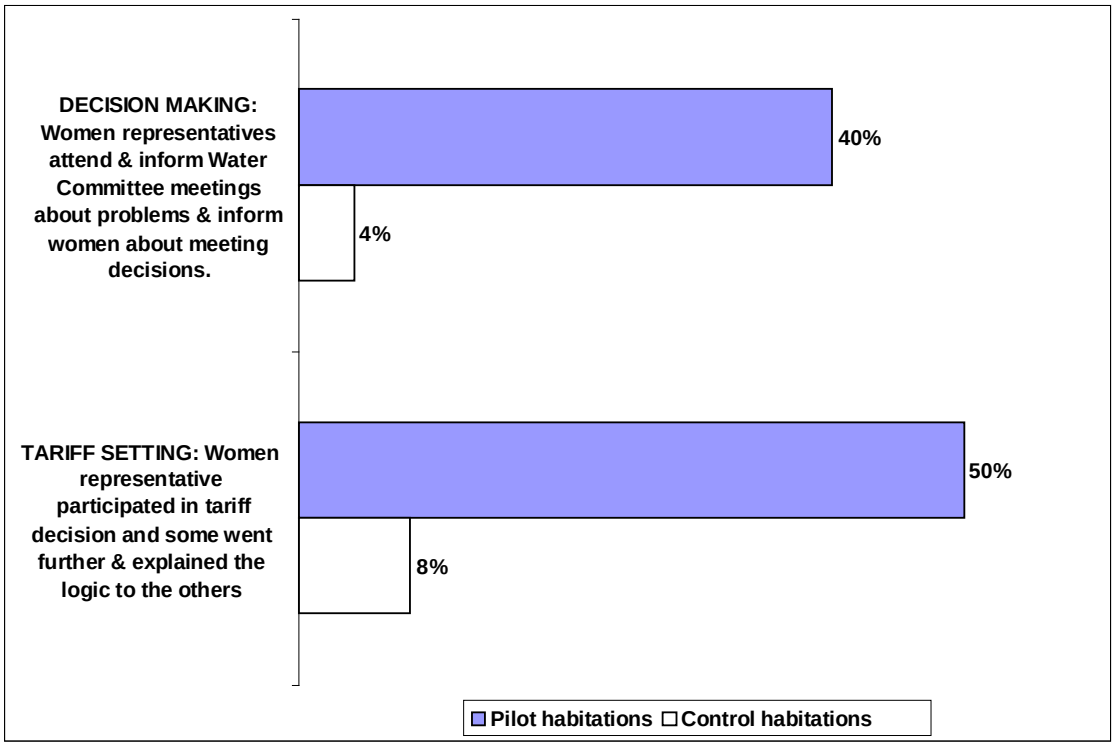


The main findings on community participation, based on the responses of VWSC members in focus group discussions, are the following:

- VWSCs meet more regularly and take decisions in the case of CMG VPs (72%) than in Control VPs (12%).
- More VWSCs in CMG VPs (80%) consult women and SC representatives and other community to identify problems and solutions concerning water supply than in VPs where Swajaldhara has been implemented (12%).
- Democratic decision-making, without domination by office bearers, takes place in a larger proportion of CMG VPs (76%) than in Control VPs (12%).
- The participation of women and SC representatives in VWSC decision-making is significantly higher in CMG VPs (54-56%) than in Control VPs (4%).

Specific questions were also asked in focus group discussions with women's groups on the extent to which their representatives were involved in meetings and proceedings of the VWSC, especially tariff setting, and their role in informing their respective groups about these decisions (Figure 6).

Figure 6: Participation of women's representatives in VWSC decision-making Perception of Women's Groups

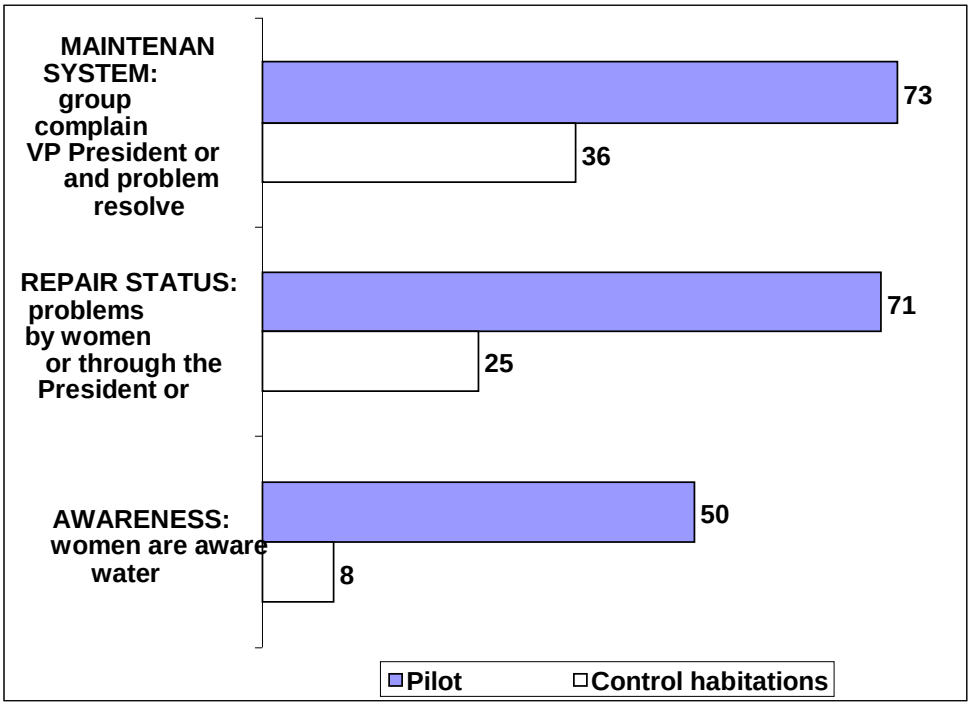


The main finding is that even women's groups felt that their representatives in the VWSC attend meetings and inform them about the proceedings, including tariff setting, in a larger proportion of CMG VPs (40-50%) than in Control VPs (4-8%).

1.6. OPERATION AND MAINTENANCE

The Focus Group Discussions with women's groups in the surveyed villages addressed the issues of maintenance and repair status of tap stands and pipelines as well as the extent of their awareness about water tariffs (Figure 3.7).

Figure 3.7: Maintenance of repair status of tap stands and pipelines, and awareness about tariffs: Perceptions of Women's Groups



The main findings are the following:

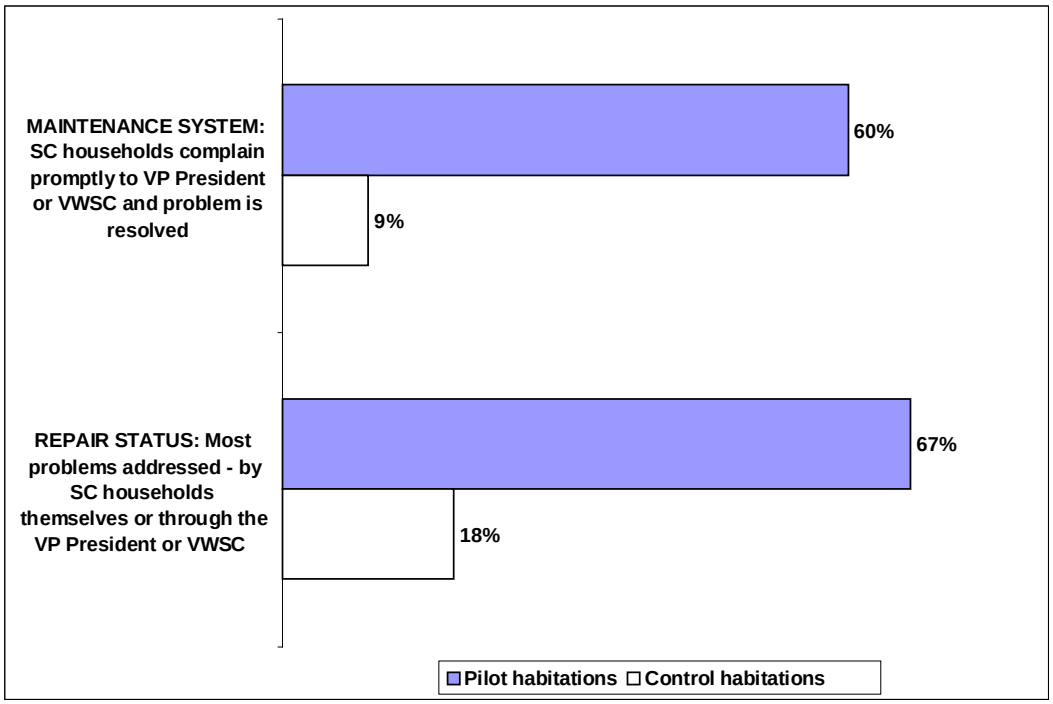
- Women's groups complain to the VP President of VWSC and resolve local-level problems with tap stands and pipelines in a greater proportion of CMG habitations (79%) than Control habitations (39%).
- Women in a larger proportion of CMG habitations (65%) than Control habitations (21%) carry out local repairs on their own or through the VP President or VWSC.
- Women in more CMG habitations (50%) were aware of water tariffs than in Control habitations (8%).

These differences when tested using a chi-square test were found to be statistically significant at the 99% confidence level. A point that needs to be noted in this context is that, although a relatively high proportion of control habitations report that women's group complain and resolve tap stand level problems, this is done directly and not through the institution of the VWSC. The lack of effective VWSCs in most Control habitations suggests institutional unsustainability, where effective maintenance and repair of local tap stand problems is left to 'strong' women leaders and not a representative institution

mandated to address such issues on behalf of the community. While strong individuals may be quite effective in the short run, there is greater institutional stability in a *system* of redressing water supply problems through the VWSC.

Focus Group Discussions with SC households in surveyed villages also addressed the issues of maintenance of tap stands and pipelines in their area, as well as the extent of their awareness about water tariffs (Figure 8).

Figure 8: Maintenance of repair status of tap stands and pipelines, and awareness about tariffs: Perceptions of SC Households



The main findings are the following:

- SC households complain to the VP President of VWSC and resolve local-level problems with tap stands and pipelines in a greater proportion of CMG habitations (45%) than Control habitations (22%).
- SC households in more CMG habitations (40%) were aware of water tariffs than in Control habitations (22%).

The differences between CMG and Control habitations were subjected to a chi-square test, and found to be statistically significant at the 95% confidence level. There are two main reasons why these differences between CMG and Control habitations are not as stark as in earlier cases.

  - **Pre-selection bias**: Control habitations were selected on the basis of a call to come forward and participate, and pay the 10% contribution that was required. Most, if not all, habitations that responded were, consequently, not only those that were progressive and strongly motivated, but also those that had strong leaders who undertook to carry the scheme in their habitations.

- **More SC habitations:** The Swajaldhara programme was implemented in only 1 habitation in a VP and a large proportion of these Control habitations are SC habitations, and a large proportion of these VPs had SC Presidents. This ensured not only better communication between SC habitations and the VP, but also ensured that remedial action on water supply problems was taken promptly in these habitations.

1.7. CONCLUDING OBSERVATIONS

There are clear, statistically significant differences between pilot villages where engineers with Change Management Training implemented the pilot programme since January 2004, and in control villages where engineers without Change Management Training had been implementing the national Swajaldhara programme. While some of the possible reasons behind these differences have been discussed in this section, more detailed analysis is presented in the following section.

2. DISCUSSION OF FINDINGS

There are significant differences between the field-level implementation of the national community-managed water supply programme called Swajaldhara and the TNRWSP Pilot Project based on the principles of Change Management. It could thus be argued that, as the fundamental principles of decentralized, demand-responsive community-based management of rural water supply are common between the two approaches, the significant difference identified in the field level implementation must be due to the unique Change Management Training provided to engineers working in the pilot habitations. The section concludes with an analysis of the field-level challenges faced by engineers in scaling up the pilot programme.

2.1. KEY DIFFERENCES IN IMPLEMENTATION APPROACHES

The detailed field-level assessment revealed three key differences between the two approaches to community-based management of local water supply in rural Tamil Nadu since January 2004.

- **The VWSC 'system' versus strong individuals:** While the Swajaldhara programme set up VWSCs, the survey found that a majority of these were not functional. VWSC members had stopped meeting and taking decisions to resolve water supply issues and in some cases the community was not even aware of the existence of such a committee. VWSCs were far more functional in pilot programme habitation, in contrast, and were meeting more regularly and taking decisions on a range of water supply related issues. However, field-level problems were being resolved even in Control villages, largely due to the initiative of active community leaders, including women's SHG leaders. As discussed in the previous section, however, resolving water supply problems through the institution of the VWSC sets up a more sustainable institutional mechanism for the resolution of such problems in future.
- **Change from 'within':** Change Management worked largely to re-align engineers' motivation and methodology of working with local village communities. While the Change Management workshops – and the management of the TNRWSP – deliberately did not set down a 'blueprint' for community mobilization and participation, a few common elements are visible:

- ***Engineer behaviour***: There is a marked difference in the manner in which trained engineers' interacted with village communities in pilot habitations, and the manner in which untrained engineers behaved in Control habitations. Not only were they more willing to behave as part of the community – without the normal officious approach of village-level government officials – but they also involved them in discussions on possible solutions to specific water supply problems.
- ***Involvement and awareness creation among target groups***: Trained engineers also made a special effort to spread awareness among women and SC households. This was largely achieved by discussing water supply issues separately with these two special interest groups within the village community. In addition, their insistence on maintaining records of water pumping hours, water supply hours and electricity meter readings, and their efforts to discuss water costs and tariffs and link these to costs of water supply, served to spread the awareness of these important aspects of water supply.
- ***Water conservation and tariffs***: The detailed discussions by trained engineers of costs and tariffs helped raise awareness of the need for water conservation and to collect water tariffs. In contrast, in Control habitations, water conservation and tariff collections was done largely on account of Government Orders to this effect, and had less to do with a conscious decision by the village community and their representatives to improve the water supply and reduce costs through conservation measures. Special mention must be made of the efforts by trained engineers to get communities to agree to pay a monthly charge of Rs. 10 for the use of public tap stands, and to remove 'pit taps', which is not paralleled in the Control habitations.

2.2. FUTURE CHALLENGES

Laudable as these achievements are, there are several challenges faced by trained engineers on the ground, which need to be addressed for further replication of the results of Change Management.

- **Relative neglect of SC Households**

The condition of SC households is generally worse than that of other households within pilot programme habitations. While their poverty, illiteracy and low awareness levels contribute to their lower participation in water supply issues, these factors are compounded by political complications and conflicts within their habitation. Generally, speaking, pulling up or bending of public stand posts are a common resort during conflicts among SC households (even on issues other than water). Further, SC households are an important political vote bank, and there are vested interests that seek to use of misuse this body of opinion to serve their own political agendas.

Since the political situation in the habitations colour the interactions of VP Presidents and the VWSC with the SC households and since the engineers have to work through the VP Presidents and the VWSC in each village, it is inevitable that existing political biases affect the nature of the interaction. Still, a greater effort is probably required by trained engineers to overcome these political biases and sensitize VP Presidents and VWSC to the need for integrating SC households more closely into the community-based water supply management in the habitations.

- **VP Presidents versus VWSC**

The focus group discussions with the VP President and the VWSC revealed an increased awareness about water issues, with most VP Presidents being quite enthusiastic about the increased accessibility and receptivity of TWAD engineers. But there is a perceptible gap between the enthusiasm and support from the VP Presidents and the VWSC. Much more

community support, not just from the VWSC but also from the SHGs and Youth Groups is needed to complement the efforts of the VP President and to ensure that community management principles are institutionalized sustainably within the VP. Engineers could play a support role here by sensitizing local politicians to lend their support to community-based water supply management.

- ***SHG Leaders versus others***

The detailed field evaluation showed that there is increased awareness and interest among women's SHGs, which is supported by visible improvements in water supply provision from tap stands and household connections. They are enthusiastic in supporting the VWSC and VP President in monitoring tap stands and household connections and reporting problems – or even resolving them on their own, and organising the collection of monthly household and tap stand tariffs (wherever it has started). There is, however, a perceptible difference between the SHG leader and the rest of the group, in terms of awareness, access to information and dynamism. More effort to spread awareness and interest *among* the rest of the women in the SHG is vital to sustain the work done so far.

- **Institutional and policy support for TWAD Engineers**

Most of the communities assessed reported that the trained engineers are serious about implementing the lessons of Change Management. Further, interactions with senior engineers revealed that the central messages of Change Management were 'filtering up', and the field results were being appreciated. There was, however, a need for much more support for these engineers, who were doing this work in addition to their normal duties and without any extra remuneration. Even senior engineers mentioned that official instructions to depute a certain number of (junior) engineers to this task of implementing Change Management principles during intensive field implementation, or to allow such engineers some time off from regular duties to attend to this work, would go a long way to enabling a significant scaling up of this pioneering effort.

Creating Champions - A Values Approach to Assessment of Change Management in the Water Sector in Tamil Nadu

- ***Working paper by S.Pahuja, World Bank, New Delhi, India.***

Extracts from the Independent Performance Assessment:

An evaluation of the impacts of this process on the performance of TWAD Board was conducted in 2006, covering 472 villages (in 29 districts) falling under the executive authority of TWAD engineers who had undergone the change management process. These results were compared against the existing baseline for TWAD The study showed that substantial reductions in government investments needed for the water supply (bucking the trend of increasing project costs over time), translating into 60% reduction in average project cost per household. , as the communities and TWAD engineers started working together to assess the possibilities of. More of project investments started going towards rehabilitation of existing schemes, as opposed to new schemes, again against the normal trend. Case-by-case savings ranged from 10% to 30%. Monthly operations and maintenance costs came down by 48%. The percentage of schemes catering to populations below the poverty line was as high as 65%. In addition the TWAD engineers in their work with the village communities went beyond their regular subject of work, and engaged in activities like rainwater harvesting, rehabilitation of water bodies, tree planting/watershed development, sanitation provision and waste management in villages. Note that these interventions entailed only the change management process – that being the only difference between the two groups. The TWAD engineers going through the change management process were not provided any additional resources, in terms of funding or executive powers, or any performance incentives.

Furthermore, UNICEF supported an independent study with the objective of evaluating the village level interactions and outcomes of various CM interventions. The study was conducted in 100 Village Panchayats, covering all 29 districts of the state, and compared various dimensions of field-level performance in CM villages with control villages.

The impacts of these interventions in the cadres of a public agency received significant attention in India and abroad. Amongst other things, the Govt of India, the Department of Water supply and Sanitation of GoI convened a special meeting of states to present the TWAD Board experience, and a number of states are attempting to implement similar initiatives of change management.

Institutional reform is perceived as key to ensuring the sustainability of development investments. Both in theory and practice of development, institutional reforms are a now critical component of development projects, typically where reforms in a sector are often bundled with the investments. However while the history of institutional reforms attempts is very mixed – it is often considered to be the most difficult challenge of development.

The TWAD experience presents an interesting case in understanding the human dimension of change, and points to organizational interventions that act directly not at the organizational structure or processes but at the level of intrinsic values and motivations – the essentially non-economic drivers of human behavior. Also, in terms of understanding how excellence is achieved and maintained in essentially dysfunctional governance environments (Grindle, Walmsley), which is what characterizes the context of designing and implementing projects in most developing countries.

The classical view assumes that agents are driven by incentives, more specifically, external drives. While instinctively the significance of internal drivers of behavior is instinctively and informally acknowledged, it has not formed the premises of behavior dynamics till recently. While the art of inspiring the desired action has been tackled in treatises and texts in the contexts of social change and leadership from antiquity, its treatment in neo-classical economics is very recent (See Besley, for an exhaustive review).

The main objective of this assessment is to understand the behavioral dimensions of change in individuals and at organizational level in TWAD. Specifically,

this assessment utilizes the recent advances in psychology and behavioral sciences, on a systematic and cross-culturally validated understanding of values as drivers of behavior, and in assessment methods for analyzing the defining values of individuals. The specific tools used for this assessment is the Hall-Tonna Inventory of values. A preliminary discussion of the values and behavior link is presented in the following section (for details the reader is referred to (Values Shift, Brian Hall, 1994)

Values are defined as qualities that are evaluated high on an individual's list of priorities. Values define the way individuals perceive the world, and also underlie the way they behave in the world. Values therefore mediate a human being's inner and outer worlds, and can be seen as the ideals that are reflected through the priorities that individuals choose in their lives.

The concept of value is well-defined in economic contexts (as economic value) and is consequently familiar. The foundation of psychological and behavioral research on the subject of human values has its foundations in the works of Kohlberg, Maslow and Rokeach, conducted over the last 50 years. Over the last decade, Hall and Tonna developed a comprehensive approach to identification, assessment and measurement of values, based on a standardized set of 125 values that has been validated and tested across the world in different linguistic and cultural settings.

The 125 universal values, collectively known as the Hall-Tonna Inventory (HTI) of values, cluster into four different groups which correspond to stages of growth in values development. Each phase has an associated world view, and understanding these phases and the associated world views is key to understanding the inner drivers of human behavior. Quoting from Sue and Sue (1996), "World views are not only composed of our attitudes, values, opinions, and concepts, but also affect how we think, make decisions, behave and define events."

A simplified version of phases of growth and associated world views and primary values is presented in the following Table.

Elements of World View	PHASE I	PHASE II	PHASE III	PHASE IV
How the world is perceived by the individual	A mystery over which I have no control	A problem with which I must cope	A project in which I must participate	A mystery for which we must care
Human needs the individual seeks to satisfy	Physical needs: food, warmth, shelter	Social needs: acceptance, approval, achievement	Personal fulfillment: meaning, creativity, insight	World community: harmony through communal action
Key values	Self-preservation	Self-worth	Self-actualization	Truth, Wisdom, Ecority

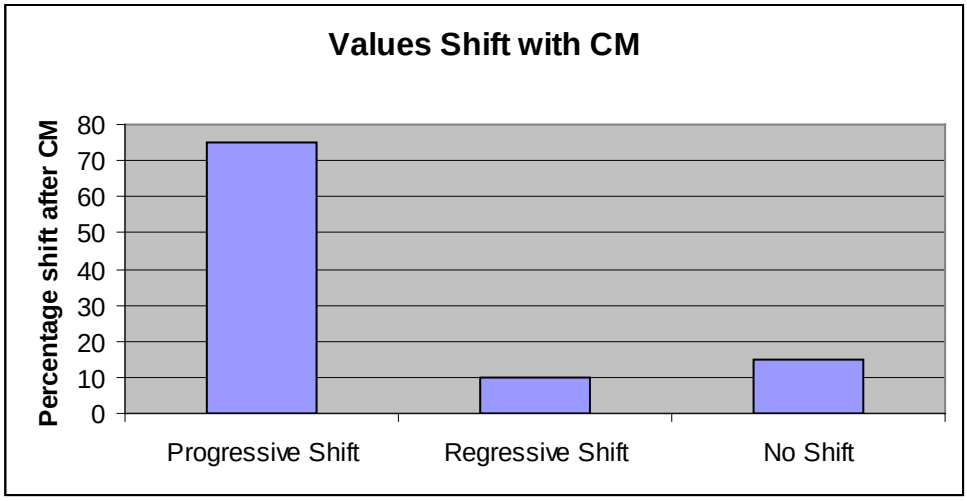
The standardized set of universally validated values conceptualized as HTI and the associated questionnaire instrumentation developed for identifying individual values provides a systematic approach for understanding the inner drivers of behavior and behavior change in the context of change management. The HTI questionnaires present respondents with structured groups of choice questions, and values profiles are elicited by a computer program based on consistent priorities indicated in the patterns of response. The use of HTI questionnaire as an instrument for eliciting individual values profiles has been extensively tested, and has been found to be consistent, sensitive, and robust to cheating.

For the purpose of this analysis, a cohort of 20 TWAD engineers undergoing the CM process were assessed on values inventory, before they participated in the first CM workshop and three months after the workshop. Another assessment was planned for six months after the workshop but could not be administered due to unavoidable circumstances.

Values Assessment Results and Analysis:

- Based on an analysis of shifts in energy distributions over the values map, 75% of the engineers showed a shift in energy to higher values. For one-third of these engineers (25% of the cohort), this positive shift in values development occurred in spite of apparent increases in security/family diverting energy to the expression of early foundational stage values from the expression of higher values.

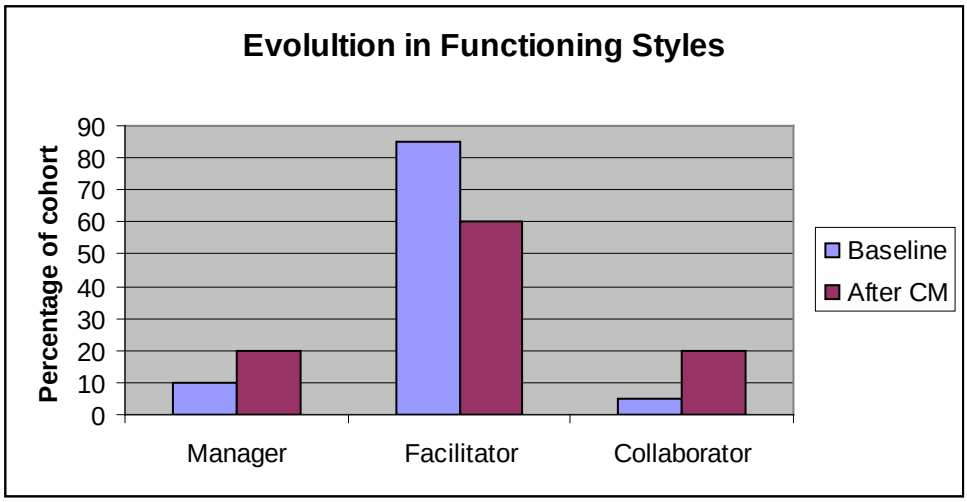
- The significance of the shift is that it marks a moving away from the individual seeing themselves as subject, obedient, duty-bound, to the rules of a managerial culture, seeing themselves instead as sharing responsibility for taking initiatives to realize goals that they own, and doing so in facilitative/collaborative ways.
- 10% of the engineers showed regressive shifts in values and this was associated with apparent increased attention to family and/or security.



Functioning Styles:

- A detailed analysis of results is conducted in terms of the trajectory of competency and leadership development, outlined as three main styles of functioning, called the Manager, Facilitator and Collaborator. The corresponding results, before and after the intervention, for the 20 respondents are as follows:

Functioning Style	**Manager**	**Facilitator**	**Collaborator**
Baseline	10%	85%	5%
After CM	20%	60%	20%



- The number of individuals falling under the “Collaborator” functioning style goes up from 5% to 20%. These individuals prefer a participative style of management and they are oriented towards innovation, change and development. indicating a process that is encouraging leadership from people with values aligned with the
- An interesting shift is also seen in number of individuals falling under the “Manager” functioning style, which increases from 10% to 20%. These individuals will exhibit resistance to change, will prefer to follow the rules and established ways of doing things, and are most comfortable with an autocratic leadership style. This increase is consistent with the values regression noted in 10% of the cohort.
- Based on the detailed analysis of the cohort’s results distribution, it is concluded that the overall percentage of people that are the most likely to be open to change and new development goes up from 45% to 65%, between Run 1 and 2. These individuals are still likely to experience a pull between new and old ways of doing things. They may lack the skills needed to know what changes to make and how to make them. In this case, it would be helpful for them to work collaboratively with a larger group of experienced people or a consultant. They would also need the skills like empathy and active listening to mobilize others to cooperate with them.
- Is this the tipping point?

There are two different explanations for the change in performance outcomes at TWAD. One explanation of the change in individual and organizational performance of TWAD engineers is that the sustained interventions have effected a values shift (to different degrees) in sufficiently large number of individuals. A competing explanation is based on the organizational ecology model, which posits that the individuals in the organization can, for sake of simplicity, be divided into three broad categories: individuals deeply committed to values of integrity and public service; individuals deeply entrenched in serving their self-interest; and individuals with a range of values that is dominated by the survival value of "follow-the-way-the wind-is-blowing". According to the organizational ecology model, the interventions have created a supporting environment for conscientious and public-spirited TWAD engineers, who, while always having been a part of the organization, are now coming alive as they receive signals from the leadership which are positive and supportive of their work ethic. The opposite process is going on at the corresponding extreme of the values spectrum, whereby corrupt or non-performing individuals within the organization have been sidelined from the central organizational culture space due to the same leadership signals. Since the behavior of the majority of the individuals in the organization is based on "follow-the-way-the wind-is-blowing" strategy, they have just fallen in line with the dominant paradigm. Hence the organizational ecology model posits an internal shuffling in the population, leading to a different set of individuals in influential positions. Specifically, this model does not require that individuals experience a shift in their values.

The objective, therefore, is to investigate values shift, and establish it as a viable explanation of the behavioral change leading to improved performance outcomes.

(a) values may have shifted not because of an awareness of values aspirations brought to consciousness by the results from completing the inventory, but by responding to the signals of the orientation workshop. (i.e. values shift might

be indicated but the cause of it may not be determined. This means that two control groups are needed make this discrimination: one with the orientation workshop and no values inventory; one with values inventory and no workshop. Are we sure that everybody in the tested population went to the workshop?)

(b) Individuals identified as having shifted from “obedience-for-survival” (marked by strong responses to survival and obedience values in pre-orientation run) to Stage 5-6 values (or even earlier developmental values) suggests values shift as causal, *from whatever stimulus,* especially if the values are sustained and applied outside the work context. (But this is not something we test.) Shifts from “the way the wind is blowing” would, similarly, be discerned by a move from security/compliance values to self-realization and vocational values. Anecdotal stuff.

(c) While aggregated evidence of developmental values shifts by members of the test group would indicate challenge to the ecology hypothesis, identification of individuals as falling into one of the three categories identified by the ecology model and, *for each of them*, tracking movement out of those categories seems important to securing the strongest evidence possible from the data.

(d) Most particularly, with aggregate data, we cannot identify whether *any* member of the group is of the compliant categories identified in the ecology model because there are values in steps 6-8 that do not correspond to these behaviors and are foundational for higher values.

(e) This suggests that individual data are necessary to classify first run returns into the ecology model categories and check for each whether there has been a shift.

(f) For now, the group data can be offered as being suggestive. But we do need to analyze the individual data. And, ideally for your purposes, we need control groups. (Orientation without feedback from values analysis; analysis with feedback; orientation and analysis with feedback.)